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Via Email to losangeles@waterboards.ca.gov

May 15, 2022
Information Technology Unit
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, California 90013

Subject: First Quarter 2022 NPDES Discharge Monitoring Report
Compliance File CI-6027 and NPDES No. CA0001309
Santa Susana Field Laboratory
Ventura County, California

The Boeing Company (Boeing) hereby submits this Discharge Monitoring Report (DMR) for the Santa Susana Field Laboratory (Santa Susana Site) for the period of January 1 through March 31 (First Quarter 2022). This DMR was prepared as required by, and in accordance with, the National Pollutant Discharge Elimination System Permit No. CA0001309 (NPDES Permit) issued by the Los Angeles California Regional Water Quality Control Board (Regional Board) in 2015. The NPDES Permit covers the entire Santa Susana Site, which includes approximately 2,400 acres owned by Boeing, approximately 450 acres owned by the United States and administered by the National Aeronautics and Space Administration (NASA), and approximately 472 acres of Boeing's land for which the Department of Energy (DOE) has assumed responsibility for soil remediation.

An electronic version of this DMR is located at: http://www.boeing.com/principles/environment/santa-susana/monitoring-reports.page

FIRST QUARTER 2022 DMR CONTENTS

This DMR includes the following sections and appendices:

- **Discharge and Sample Collection Summary:** This section describes the number of rain events, the number of samples collected, sample dates, and sample locations during the First Quarter 2022. Table I summarizes the First Quarter 2022 sampling record by outfall or location, sample frequency, and sample type collected per the requirements of the NPDES Permit.
- **Summary of Exceedances and/or Non-Compliance:** This section summarizes the First Quarter 2022 sample results that exceeded NPDES Permit Limits, Benchmarks, and Receiving Water Limits, and the potential causes thereof.
- **Stormwater Treatment System at Outfall 011 Activities:** This section summarizes the First Quarter 2022 activities at the stormwater treatment system (SWTS) at Outfall 011.
- **Stormwater Treatment System at Outfall 018 Activities:** This section summarizes the First Quarter 2022 activities at the SWTS at Outfall 018.

- **Stormwater Pollution Prevention Plan/Best Management Practice Activities:** This section presents the Santa Susana Site-wide Stormwater Pollution Prevention Plan (SWPPP) and Best Management Practice (BMP)-related activities implemented in the First Quarter 2022 as well as activities associated with NASA, DOE, the Stormwater Expert Panel (Expert Panel), and the Outfall 001/002 BMP Compliance Report. Table II summarizes typical BMP-related activities that occur at outfalls every quarter. Table III summarizes specific BMP activities completed during the First Quarter 2022 by location. Table IV summarizes Expert Panel-related activities completed during the First Quarter 2022 by location.
- **Figure 1** shows the stormwater collection and conveyance system, the Bell Creek Receiving Water sampling location (RSW-001, Outfall 002), and Santa Susana Site features; **Figure 2** shows the Arroyo Simi Receiving Water sampling location (RSW-002, Frontier Park) and upstream monitoring location.
- **Appendix A** summarizes the rainfall measured at the Santa Susana Site during the First Quarter 2022.
- **Appendix B** tabulates waste shipments during the First Quarter 2022.
- **Appendix C** presents chemical analytical results from the First Quarter 2022 stormwater and/or receiving water sample discharge monitoring in tabular form by outfall locations, constituents evaluated (analytes), sample dates, and data validation qualifiers.
- **Appendix D** summarizes the NPDES Permit limit, benchmark, and Receiving Water Limit exceedances.
- **Appendix E** contains copies of the laboratory analytical reports, chain-of-custody forms, and data validation reports (if validation was performed).
- **Appendix F** tabulates the Reasonable Potential Analysis.
- **Appendix G** presents the observations of the receiving water monitoring program required by the NPDES Permit.
- **Appendix H** presents laboratory methods and State Water Resources Control Board (SWRCB) Environmental Laboratory Accreditation Program (ELAP) renewal certifications for all laboratories.

DISCHARGE AND SAMPLE COLLECTION SUMMARY

The Santa Susana Site had two qualifying rain events during the First Quarter 2022 that measured greater than 0.1 inch of rainfall within a 24-hour period and were preceded by at least 72 hours of dry weather (Appendix A). Rain events beginning in 2021 produced continuous flow greater than 7 days in duration that continued into 2022 and additional samples were collected during these extended events. Automated flow-weighted composite samplers (autosamplers) were set in preparation for all rain events and following the 7 days of continuous flow. One of the two qualifying rain events produced stormwater discharges. Stormwater samples were collected at Outfalls 001, 002, 009, 011, and 018 during one or more of the following sample events this quarter: a qualifying rain event, a 7-day continuous flow event, or a stormwater treatment system discharge event. There were no changes in the discharge as described in the NPDES Permit during the reporting period.

In addition to outfall sampling, receiving water samples were collected. An offsite receiving water sample was collected at the Arroyo Simi location (RSW-002, Frontier Park; see Figure 2) and an onsite receiving water sample was collected at the Bell Creek location (RSW-001, Outfall 002; see Figure 1). Additional offsite receiving water grab samples were collected at the Arroyo Simi-Frontier Park and Bell Creek locations to calculate the geometric mean in compliance with the Receiving Water Requirements in Attachment E of the NPDES Permit.

Table I summarizes the First Quarter 2022 sampling record by outfall or location, sample frequency, and sample type collected per NPDES Permit requirements, and results are included in Appendix C.

TABLE I: Sampling Record during the First Quarter 2022

Sample Date	Outfall/Location	Sample Frequency	Sample Type
1/3 – 1/4/2022	Outfall 002	Routine, 7-Day	Grab, Composite
	Outfall 009	Routine, Semiannual, 7-Day	Grab, Composite
	Outfall 018	Annual, Quarterly, Routine, Toxicity, 7-Day	Grab, Composite
1/4 – 1/5/2022	Outfall 002	Routine, Dry Weather SWTS 018 Discharge	Grab, Composite
	Outfall 002 (RSW-001)	Geometric Mean	Grab
	Outfall 018	Routine, Dry Weather SWTS 018 Discharge	Grab, Composite
1/10/2022	Outfall 002 (RSW-001)	Geometric Mean	Grab
1/13/2022	Outfall 002 (RSW-001)	Geometric Mean	Grab
1/18 – 1/19/2022	Outfall 001	Annual, Quarterly, Routine, Toxicity, Dry Weather SWTS 011 Discharge	Grab
	Outfall 002	Annual, Quarterly, Routine, Toxicity, Geometric Mean	Grab, Composite
	Outfall 011	Annual, Quarterly, Routine, Toxicity, Dry Weather SWTS 011 Discharge	Grab, Composite
1/21/2022	Outfall 002 (RSW-001)	Geometric Mean	Grab
2/15/2022	Arroyo Simi Receiving Water (RSW-002, Frontier Park)	Geometric Mean	Grab
2/18/2022			Grab
2/22/2022			Grab
2/25/2022			Grab
2/28/2022			Grab
3/3/2022			Grab
3/15/2022		Annual, Quarterly, Geometric Mean	Grab
3/18/2022		Geometric Mean	Grab
3/22/2022			Grab
3/25/2022			Grab
3/29/2022			Grab

Notes:

Routine = 1 per discharge event.

Toxicity is required during the 1st and 2nd Rain Event.

Geometric mean samples were collected in compliance with the Receiving Water Requirements in Attachment E of the NPDES Permit.

7-day = If an outfall discharges, following a qualifying rain event and flows for 7 consecutive days, then another sample is required.

All analyses were conducted at analytical laboratories certified by the State Water Resources Control Board (SWRCB) for such analyses (i.e., all have current certification from the Environmental Laboratory Accreditation Program [ELAP] established by the California Environmental Laboratory Improvement Act) or have been approved by the SWRCB Executive Officer in accordance with current U.S. Environmental Protection Agency (EPA) guideline procedures or as specified in the NPDES Permit. Laboratory analytical reports, including validation reports and notes (if validation was performed), are included in Appendix E. Attachment H of the NPDES Permit presents the SWRCB's minimum levels laboratories are expected to achieve for reporting and determining compliance with NPDES Permit limits. The analytical laboratory achieved these minimum levels in the First Quarter 2022 except when reporting limits were above the minimum levels (generally because of matrix interference). In cases where the NPDES Permit limit was lower than the reporting limit and minimum level or there was no minimum level specified in the NPDES Permit, the reporting limit was used to determine compliance.

The annual requirement to include reporting limits, method detection limits, laboratory analytical methods, SWRCB ELAP renewal certifications for all laboratories, and associated laboratory quality assurance and quality control (QA/QC) procedures are included in Appendix H.

FIRST QUARTER 2022 SUMMARY OF EXCEEDANCES AND/OR NON-COMPLIANCE

As summarized in Appendix D, the First Quarter 2022 exceedances of Daily Maximum Benchmarks, Daily Maximum Permit Limits, Receiving Water Limits (Appendix D), or other non-compliance included:

- *Escherichia coli* (*E. coli*) at Arroyo Simi – Frontier Park (RSW-002); and
- Iron at Outfall 018.

Arroyo Simi – Frontier Park (RSW-002)

Bacteria

On February 15, February 18, and March 29, 2022, *E. coli* was detected at 920, 460, and 2,000 most probable number per 100 milliliters (MPN/100mL), respectively, in samples collected offsite at the Arroyo Simi – Frontier Park (RSW-002) location, approximately 4 miles downstream of Outfall 009. These three samples were above the single sample maximum Receiving Water Limit of 235 MPN/100mL. Boeing conducted two rounds of geometric mean sampling between February 15, 2022 and March 29, 2022, and those samples were used to calculate two geometric mean values for *E. coli* in the First Quarter 2022. The calculated geometric mean for the first round of *E. coli* (97 MPN/100mL) was below the geometric mean Receiving Water Limit of 126 MPN/100mL. The calculated geometric mean for the second round of *E. coli* (138 MPN/100mL) was above the geometric mean Receiving Water Limit of 126 MPN/100mL.

Given that Outfall 009 was not discharging during this time, any bacteria detected at Arroyo Simi – Frontier Park (RSW-002) were from natural wildlife and other upgradient sources (e.g., a dog park), and not human sources from the Santa Susana Site.

Outfall 018

Metals: Iron

On January 5, 2022, a stormwater sample was collected from Outfall 018 during the stormwater treatment system discharge event. The analytical laboratory initially reported iron at 0.530 milligrams per liter (mg/L), above the Daily Maximum Permit Limit of 0.3 mg/L. However, the analytical laboratory reanalyzed the sample and iron was not detected. The laboratory believes the exceedance may be due to laboratory contamination, see corrective action report in Appendix E.

STORMWATER TREATMENT SYSTEM AT OUTFALL 011 ACTIVITIES

The SWTS located near R-1 Pond (SWTS 011) discharges through Outfall 011. In addition to maintaining electrical systems, painting, and improving safety, the following activities were completed in the First Quarter 2022:

- Replaced the outlet valve for Bag Filter 101.
- Installed stainless steel ball valves for the chemical injection points in ChemBoxes 1 and 2.
- Replaced the pH probe and cord for the influent and outlet boards.

SWTS 011 operated one time during the First Quarter 2022. Operational data are summarized below:

1st Operational Event:

- The SWTS operated on January 18, 2022 and discharged for approximately 8 hours;
- No solids were generated by operation of SWTS 011; and
- The total amount of water treated and discharged from R-1 Pond was approximately 252,500 gallons.

STORMWATER TREATMENT SYSTEM AT OUTFALL 018 ACTIVITIES

The SWTS located at Silvernale Pond (SWTS 018) discharges through Outfall 018. In addition to maintaining electrical systems, painting, and improving safety, the following activities were completed in the First Quarter 2022:

- Installed gate valves on the suction side of the intake pumps.
- Replaced the analog output board on the Screw Press controlling the polymer pump.
- Replaced the 24-volt controller valve for the waterline on the Screw Press.
- Replaced the belt for air compressor A-102.
- Removed the camlock fitting on the intake line and installed a blind flange.
- Trenched across the front of the gravel lot and buried a new water line and electrical line for two new fire hydrant locations.

SWTS 018 operated one time during the First Quarter 2022. Operational data are summarized below:

1st Operational Event:

- The SWTS operated from January 3 through January 7, 2022, and discharged for approximately 100 hours;
- The total amount of solids generated by operation of SWTS 018 was approximately 80 cubic yards; and
- The total amount of water treated and discharged from Silvernale Pond was approximately 6,345,100 gallons.

STORMWATER POLLUTION PREVENTION PLAN/BEST MANAGEMENT PRACTICE ACTIVITIES

Boeing, NASA, and DOE each took actions during the First Quarter 2022 to control erosion and sediment transport on each party's property and/or area of responsibility. Boeing implemented significant BMP activities in compliance with the Site-wide SWPPP (Haley & Aldrich, 2021) to assist in improving stormwater quality and compliance at the Santa Susana Site. Table II summarizes typical BMP-related activities that occur at outfalls every quarter.

TABLE II: Routine Quarterly Outfall BMP Activities

BMP Activities	Outfalls											
	001	002	003	004	005	006	007	008	009	010	011	018
Conducted erosion and sediment control, and drainage stabilization inspections and performed maintenance around the perimeter of the outfall, the drainage/watershed, and areas of disturbance or sparse vegetation.	X	X	X	X	X	X	X	X	X	X	X	X
Inspected the flume for sediment/debris.	X	X	X	X	N/A	X	N/A	X	X	X	N/A	X
Inspected the weir for sediment/debris.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	X	N/A
Cleaned the sample box of sediment and debris, checked for the presence of animals, and performed weed abatement as needed.	X	X	X	X	X	X	X	X	N/A	X	X	X
Checked the flow meter control box for the presence of debris and/or animals.	X	X	X	X	N/A	X	N/A	X	X	X	X	X
Cleaned the outfall area of sediment and debris and performed weed abatement as needed.	X	X	X	X	X	X	X	X	X	X	X	X
Reset the flow meter and replaced the tape monthly.	X	X	X	X	N/A	X	N/A	X	X	X	X	X
Conducted maintenance inspections of the stormwater conveyance system.	N/A	N/A	X	X	X	X	X	N/A	N/A	X	X	X
Conducted maintenance inspections of the stormwater retention system.	N/A	N/A	X	X	X	X	X	N/A	N/A	X	X	X
Conducted maintenance inspections of the flow-through structure.	N/A	N/A	X	X	N/A	X	N/A	N/A	N/A	X	X	N/A

Notes:

X = BMP activity is applicable to the outfall and was completed in First Quarter 2022.

N/A = BMP activity is not applicable to the outfall because the outfall does not have a flume, sample box, flow meter, retention system or flow-through structure, or is not part of the stormwater conveyance system.

Table III summarizes the additional activities completed during the First Quarter 2022 by outfall or BMP location.

TABLE III: Additional First Quarter 2022 BMP Activities

Outfall, Watershed, BMP, or Other Location	BMP Activities During First Quarter 2022
001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 014, 018	Performed weed abatement in and around the outfalls.
Perimeter Pond	Performed weed abatement and brush clearance along the Perimeter Pond conveyance line.
28 Tank Area	Performed weed abatement and brush clearance around the poly tank.
Area IV	Installed a water bar by the G Street drainage channel, which is the main drainage channel in Area IV. Re-established an old drainage channel to divert water off the road and into a drainage channel.
408 Contractor Staging Area	Removed sediment from the back check structure behind the contractors' trailers.
Upper Parking Lot	Installed straw wattles and rip rap along the eastern curb to prevent soil migration into the parking lot.
407 Yard	Installed straw wattles along the slope by the 436 weather station. Sloped the old road behind the 407 Yard to divert water to a recently cleaned out check structure. Installed straw wattles along the old road and installed a water bar at the top of the road.
Area I Road	Removed sediment and debris from along the swale.

In addition to Site-wide SWPPP-related activities, specific BMP projects included: NASA, DOE, Expert Panel, and Outfall 001/002 BMP Compliance Report activities. These are discussed in more detail below.

NASA-Related Activities

Demolition BMPs and stormwater activities covered by NASA's Construction SWPPP for the Bravo area are inspected in accordance with the Construction General Permit (CGP; NASA, 2021). During the First Quarter 2022, NASA maintained fiber rolls as perimeter and linear sediment controls, applied hydroseed, and maintained silt fencing and gravel/rip rap in areas within these sites where construction activities have been completed.

DOE-Related Activities

Demolition BMPs and stormwater activities covered by DOE's Construction SWPPP for the CLIN008 area were inspected in accordance with the CGP (North Wind, 2020). Wattles were installed around the site and around all debris piles. A Notice of Termination was submitted and was accepted by the Regional Board and the permit was terminated on March 28, 2022. All DOE SWPPP permits associated with demolition activities have been terminated.

Expert Panel-Related Activities

The BMP activities discussed in Table IV were performed, commenced, or completed during the First Quarter 2022 in coordination with the Expert Panel.

TABLE IV: Expert Panel-Related First Quarter 2022 Activities

Outfall, Watershed, BMP, or Other Location	BMP Activities During First Quarter 2022
Culvert Modifications (CM)	Performed BMP Inspections. Removed sediment and debris from the drop inlet of CM-9.
NASA Expendable Launch Vehicle (ELV) Area BMPs	Performed BMP Inspections.
Well 13 Road	Performed BMP Inspections. Cleaned all the check structures along the road, removing sediment and leaf litter.
B-1 Area	Performed BMP Inspections.
Upper Parking Lot Media Filter	Performed BMP Inspections. Conducted weed abatement in the media bed and removed sediment, leaf litter, and debris.
Former Building 1436 Detention Bioswales	Performed BMP Inspections.
Lower Lot Biofilter (Sedimentation Basin and Biofilter)	Performed BMP Inspections. Conducted weed abatement.
Administration Area Inlet Filters	Performed BMP Inspections.
Former Shooting Range	Performed BMP Inspections. Lengthened the sandbag and felt berm along the silt fence to prevent water from undercutting the fence. Installed rip rap in place of the sandbags across the road.
Northern Drainage BMPs	Performed BMP Inspections.
NASA and Boeing BMP Monitoring-Related Activities	In addition to activities performed in coordination with the Expert Panel described above, BMP performance monitoring samples were collected in the watershed associated with Outfalls 001, 002, and 009 during the First Quarter 2022. These sampling results will be reported by the Expert Panel in their 2022 Annual Report.

Outfall 001/002 BMP Compliance Report Related Activities

Boeing and the Expert Panel will continue to monitor and evaluate the effectiveness of BMPs within the watersheds of Outfalls 001 and 002. Recommendations for these watersheds were provided in the 2021 Expert Panel Annual Report (Geosyntec and the Expert Panel, 2021). The First Quarter 2022 activities included BMP inspections.

REASONABLE POTENTIAL ANALYSIS

Stormwater discharges from the Santa Susana Site occurred at Outfalls 001, 002, 009, 011, and 018 during the First Quarter 2022. Analytical results from this quarter were added to the Reasonable Potential Analysis dataset (Appendix F). Boeing believes that the analytical results for the First Quarter 2022 did not trigger a reasonable potential for any other constituent not already regulated under the current NPDES Permit.

CONCLUSIONS

Boeing is committed to fulfilling the requirements of the NPDES Permit and continues to implement, maintain, and monitor wide ranging control practices intended to improve water quality at stormwater discharge locations at the Santa Susana Site through methods designed to preserve the natural conditions in the watershed to the maximum extent feasible by implementing distributed, sustainable erosion control/restoration measures. The Expert Panel is reviewing the data collected and will make BMP and monitoring recommendations that will be communicated in the Expert Panel's 2022 Annual Report.

FACILITY CONTACT

If there are any questions regarding this report or its enclosures, you may contact Mr. Jeffrey Wokurka of Boeing at (818) 466-8800.

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on the 15th of May 2022 at The Boeing Company, Seal Beach, California Site.

Sincerely,

Kim O'Rourke

Kim O'Rourke
Global Remediation and Due Diligence Program Manager
Global Enterprise Sustainability – Environment

Enclosures:

References
Figure 1 – Site Map with Stormwater Collection and Conveyance System and Site Features
Figure 2 – Arroyo Simi Receiving Water (RSW-002, Frontier Park) Sampling Location and Upstream Monitoring Point
Appendix A – First Quarter 2022 Rainfall Data Summary
Appendix B – First Quarter 2022 Waste Shipment Summary Tables
Appendix C – First Quarter 2022 Discharge Monitoring Data Summary Tables
Appendix D – First Quarter 2022 NPDES Permit Limit Exceedances and/or Non-Compliance
Appendix E – First Quarter 2022 Analytical Laboratory Reports, Chain of Custody Forms, and Validation Reports
Appendix F – First Quarter 2022 Reasonable Potential Analysis Tables
Appendix G – First Quarter 2022 Receiving Water Surveys
Appendix H – First Quarter 2022 Analytical Laboratory Methods, Method Detection Limits, Reporting Limits, QA/QC Procedures, and ELAP Certifications

c: Los Angeles Regional Water Quality Control Board; Attn: Mr. Duong H. Trinh
Los Angeles Regional Water Quality Control Board; Attn: Ms. Kelly Bronwyn
California Department of Toxic Substances Control; Attn: Mr. Mark Malinowski

REFERENCES

1. California Regional Water Quality Control Board, Los Angeles Region, 2015. Waste Discharge Requirements for The Boeing Company, Santa Susana Field Laboratory (Order No. R4-2015-0033, NPDES No. CA0001309). 12 February.

2. Geosyntec and the Expert Panel, 2021. Santa Susana Field Laboratory Site-wide Stormwater Annual Report, 2020/21 Reporting Year, Ventura County, California (NPDES No. CA0001309, CI No.6027). October.

3. Haley & Aldrich, Inc., 2015. Initial Toxicity Reduction Evaluation Work Plan. 30 June.

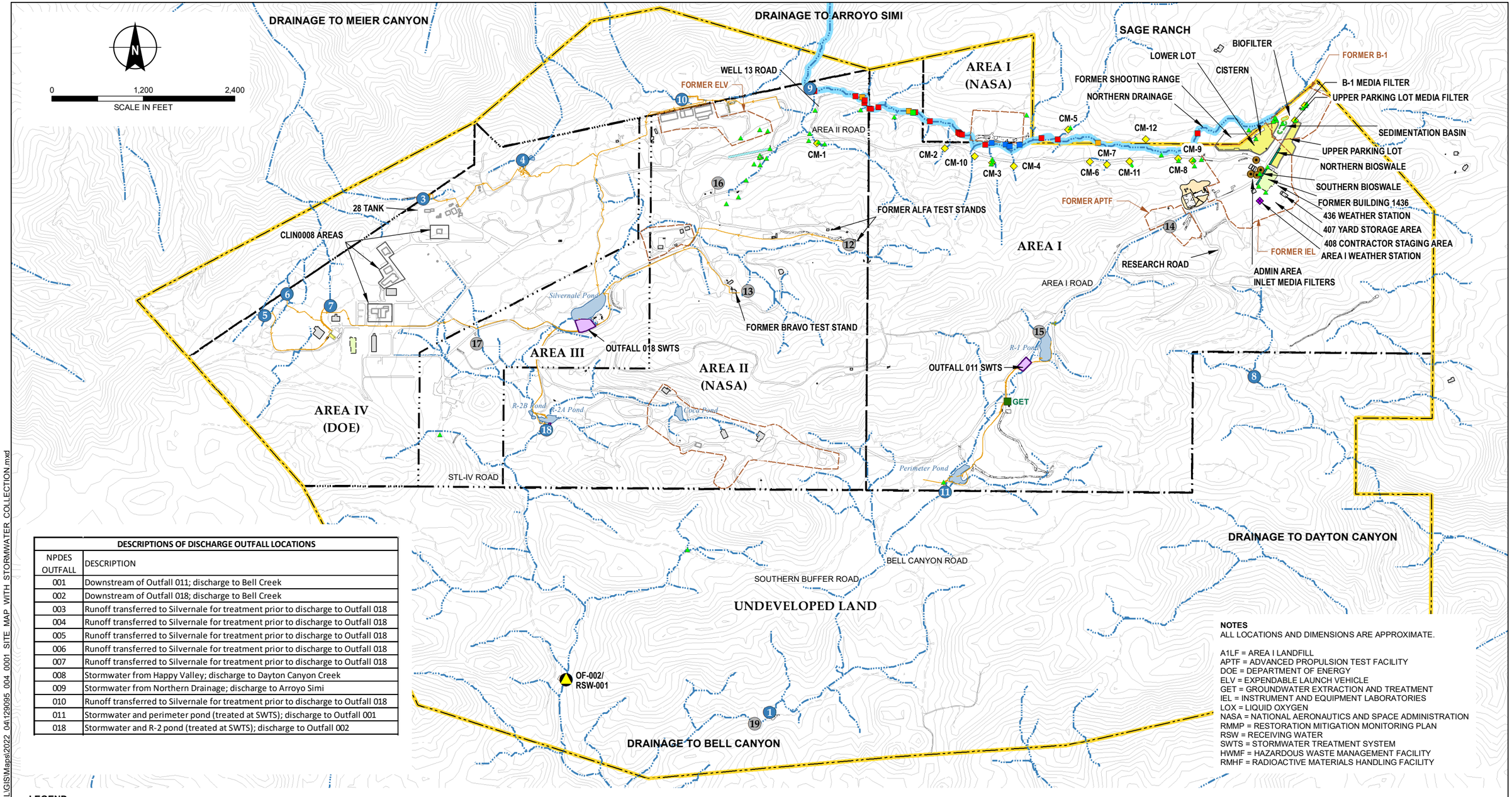
4. Haley & Aldrich, Inc., 2017. Northern Drainage 2017 Annual Report, Clean Water Act Section 401 Water Quality Certification, File No. 12-001, Cleanup and Abatement Order No. R4-2007-0054, Streambed Alteration Agreement No. 1600-2003-5052-R5, Streambed Alteration Agreement No. 1600-2015-0079-R5, U.S. Army Corps of Engineers SPL-2012-00015, Santa Susana Field Laboratory, Ventura County, California. 13 December.

5. Haley & Aldrich, Inc., 2021. Stormwater Pollution and Prevention Plan (Version 7 for Compliance with 2015 NPDES Permit). 7 December.

6. National Aeronautics and Space Administration, 2021. Stormwater Pollution and Prevention Plan for the Pacific Region MATOC FY21 Facilities Reduction Program at the NASA Santa Susana Field Laboratory (Phase 5 – Bravo Test Area Demolition), Ventura County, California. July.

7. North Wind, 2020, Stormwater Pollution Prevention Plan for CLIN 008 Phase I Decommissioning and Demolition, U.S. Department of Energy, Energy Technology Engineering Center – Area IV, Santa Susana Field Laboratory, Ventura County California, December.

FIGURES



DESCRIPTIONS OF DISCHARGE OUTFALL LOCATIONS	
NPDES OUTFALL	DESCRIPTION
001	Downstream of Outfall 011; discharge to Bell Creek
002	Downstream of Outfall 018; discharge to Bell Creek
003	Runoff transferred to Silvernale for treatment prior to discharge to Outfall 018
004	Runoff transferred to Silvernale for treatment prior to discharge to Outfall 018
005	Runoff transferred to Silvernale for treatment prior to discharge to Outfall 018
006	Runoff transferred to Silvernale for treatment prior to discharge to Outfall 018
007	Runoff transferred to Silvernale for treatment prior to discharge to Outfall 018
008	Stormwater from Happy Valley; discharge to Dayton Canyon Creek
009	Stormwater from Northern Drainage; discharge to Arroyo Simi
010	Runoff transferred to Silvernale for treatment prior to discharge to Outfall 018
011	Stormwater and perimeter pond (treated at SWTS); discharge to Outfall 001
018	Stormwater and R-2 pond (treated at SWTS); discharge to Outfall 002

NOTES
ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

A1LF = AREA I LANDFILL
APTF = ADVANCED PROPULSION TEST FACILITY
DOE = DEPARTMENT OF ENERGY
ELV = EXPENDABLE LAUNCH VEHICLE
GET = GROUNDWATER EXTRACTION AND TREATMENT
IEL = INSTRUMENT AND EQUIPMENT LABORATORIES
LOX = LIQUID OXYGEN
NASA = NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
RMMP = RESTORATION MITIGATION MONITORING PLAN
RSW = RECEIVING WATER
SWTS = STORMWATER TREATMENT SYSTEM
HWMF = HAZARDOUS WASTE MANAGEMENT FACILITY
RMHF = RADIOACTIVE MATERIALS HANDLING FACILITY

LEGEND

- ACTIVE NPDES OUTFALL LOCATION
- FORMER NPDES OUTFALL LOCATION
- BELL CREEK RECEIVING WATER (RSW-001) SAMPLING LOCATION AND OUTFALL 002
- SLOPE DRAIN DISCHARGE POINT TO NORTHERN DRAINAGE
- CULVERT MODIFICATION (CM-12)
- INLET MEDIA FILTER
- BMP MONITORING LOCATION
- GET SYSTEM
- STORMWATER TREATMENT SYSTEM
- FORMER STUDY AREA
- RMMP LOCATION
  - CHECK STRUCTURE - MOSTLY NATURAL SANDSTONE, SOME RIP RAP
  - CHECK STRUCTURE - RIP RAP
  - CHECK STRUCTURE - VEGETATED RIP RAP
  - SLOPE DRAIN WITH UNDERLYING CHECK STRUCTURE AND ENERGY DISSIPATING GRAVEL AT INFLUENT END
- DRAINAGE
- NORTHERN DRAINAGE
- ASPHALT SWALE
- PAVED ROAD
- DIRT ROAD
- 25' ELEVATION CONTOUR
- VEHICLE PARKING AREA
- BIOFILTER
- SEDIMENT BASIN
- STORAGE TANK
- BIOSWALE
- GRAVEL
- SURFACE WATER POND
- EXISTING BUILDING/STRUCTURE
- FORMER BUILDING FOOTPRINT
- CONCRETE SLAB IN PLACE
- LANDFILL AREA
- SANTA SUSANA SITE PROPERTY BOUNDARY
- ADMINISTRATIVE AREA BOUNDARY

HALEY ALDRICH

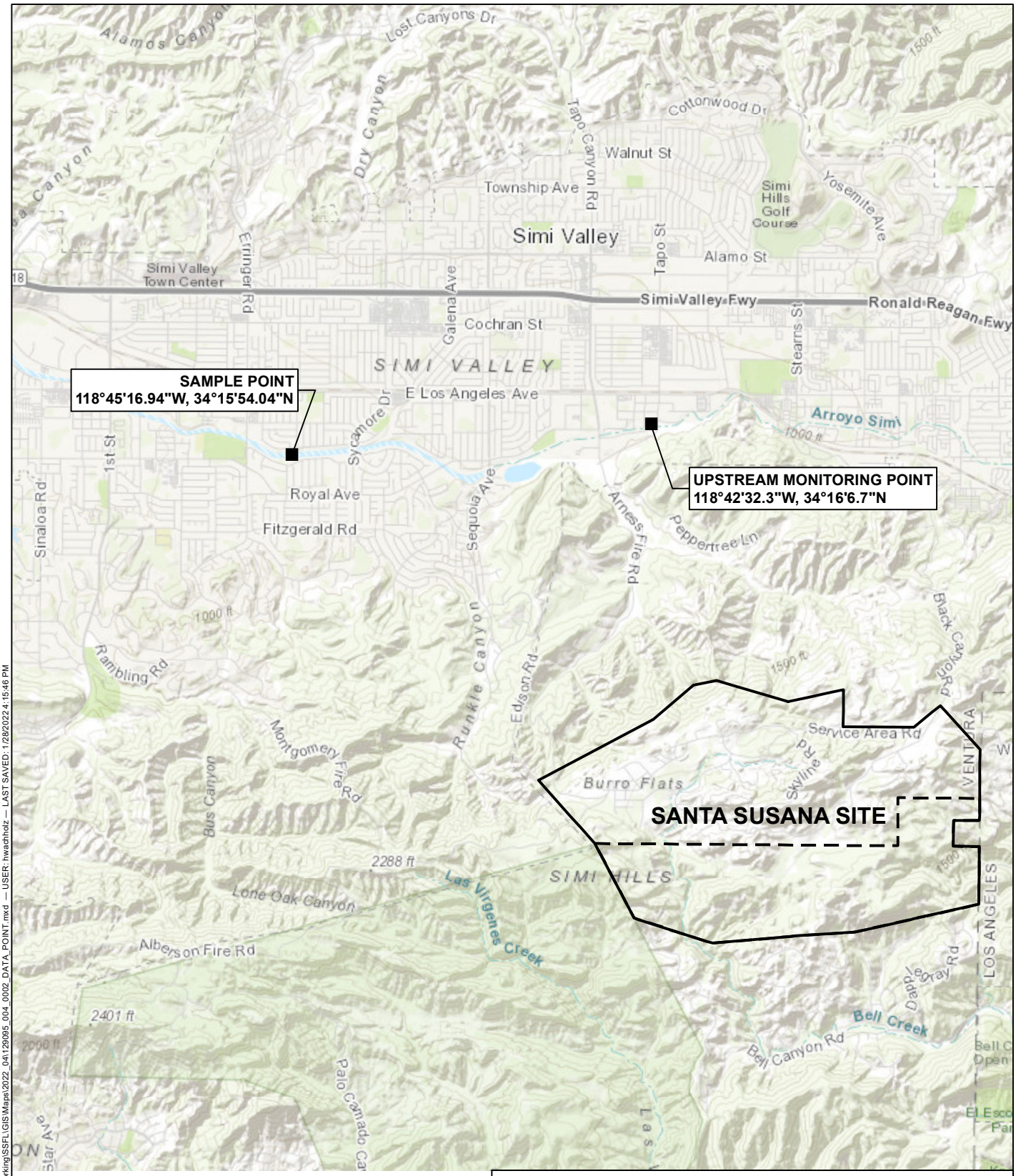
NPDES PERMIT COMPLIANCE FIRST QUARTER 2022
DISCHARGE MONITORING REPORT
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

SITE MAP WITH STORMWATER COLLECTION AND CONVEYANCE SYSTEM AND SITE FEATURES

MAY 2022

FIGURE 1

C:\Users\thwadhol\Documents\working\SSFLGIS\Maps\2022_04\129095_004_0001_SITE_MAP_WITH_STORMWATER_COLLECTION.mxd



NOTES

1. THE SAMPLE POINT IS FOR QUARTERLY WATER QUALITY AND ANNUAL SEDIMENT SAMPLING.

2. THE UPSTREAM SAMPLE POINT LOCATION WAS CHOSEN BASED ON IT BEING UPSTREAM OF ALL POSSIBLE DISCHARGE FROM THE SANTA SUSANA SITE.

N

0 0.5 1

SCALE IN MILES

HALEY ALDRICH

NPDES PERMIT COMPLIANCE FIRST QUARTER 2022
DISCHARGE MONITORING REPORT
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

ARROYO SIMI RECEIVING WATER (RSW-002, FRONTIER PARK) SAMPLING LOCATION AND UPSTREAM MONITORING POINT

MAY 2022

FIGURE 2

GIS FILE PATH: C:\Users\hwachholz\Documents\working\SSFL\GIS\Maps\2022_04\129095_004_0002_DATA_POINT.mxd — USER: hwachholz — LAST SAVED: 1/28/2022 4:15:46 PM

APPENDIX A

First Quarter 2022 Rainfall Data Summary

APPENDIX A

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TABLE A
DAILY RAINFALL SUMMARY

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Station: AREA 1
Parameter: Inches of Rain
Month/Year: January 2022

HOUR OF THE DAY, PACIFIC STANDARD TIME

DAY OF THE MONTH	HR-BEG 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
	HR-END 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
	DAY																								Total
	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	d	0.00
	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Y	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F	13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
T	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06	0.01	0.00	0.00	0.00	0.00	0.09
H	16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
E	17	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.05	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.12
	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
M	19	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
O	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
N	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
T	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
																								Monthly Total	0.22

Flags: d = Off-line part of hour. Invalid hour due to data polling error. For the off-line event, the rain gauge at Sage Ranch did not record rainfall on January 4 during hour 2300-2400.

TABLE A
DAILY RAINFALL SUMMARY

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Station: AREA 1
Parameter: Inches of Rain
Month/Year: February 2022

HOUR OF THE DAY, PACIFIC STANDARD TIME

DAY OF THE MONTH	HR-BEG 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
	HR-END 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
	DAY																								Total
	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	d	0.00
	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Y	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F	13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
T	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H	16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
E	17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
M	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
N	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
T	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
																								Monthly Total	0.00

Flags: d = Off-line part of hour, invalid hour due to skipped data record. For the off-line event, the rain gauge at Sage Ranch did not record rainfall on February 5 during hour 2300-2400.

TABLE A
DAILY RAINFALL SUMMARY

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Station: AREA 1
Parameter: Inches of Rain
Month/Year: March 2022

HOUR OF THE DAY, PACIFIC STANDARD TIME

DAY OF THE MONTH	HR-BEG 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
	HR-END 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
	DAY																								Total
	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Y	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F	13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
T	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H	16	0.00	0.00	0.00	0.00	0.00	0.00	d	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
E	17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
M	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.03	0.07
O	20	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
N	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
T	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	28	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.16	0.32	0.27	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06	0.01	0.00	0.00	0.92
	29	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
																							Monthly Total		1.02

Flags: d = Off-line part of hour. Invalid hour due to calibration (March 16). For the off-line event, the rain gauge at Sage Ranch did not record rainfall on March 16 during hour 0600-0700 PST.

APPENDIX B

First Quarter 2022 Waste Shipment Summary Tables

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TABLE B
WASTE SHIPMENT SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
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TYPE OF WASTE	MATRIX	QTY.	UNITS	TRANSPORTER 1	TRANSPORTER 2	DESTINATION
Non RCRA Hazardous Waste	Liquid	230	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
UN3077, Hazardous Waste	Solid	218	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Environmental Services, Inc. 2247 South Highway 71 Kimball, NE 69145
NA3082 Hazardous Waste	Liquid	4,995	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
UN3077, Hazardous Waste	Solid	53	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Environmental Services, Inc. 2500 West Lokern Road Buttonwillow, CA 93206
Non RCRA Hazardous Waste	Solid	32	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Grassy Mountain LLC 3 Miles East 7 Miles North of Knolls Grantsville, UT 84029
Non RCRA Hazardous Waste	Solid	290	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
UN2922, Corrosive Liquids, Toxic, N.O.S.	Liquid	77	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061		Clean Harbors Grassy Mountain LLC 3 Miles East 7 Miles North of Knolls Grantsville, UT 84029
UN1993, Waste Flammable Liquids	Liquid	15	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
UN3262, Corrosive Solid, Basic, Inorganic, N.O.S.	Solid	85	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
UN3262, Corrosive Solid, Basic, Inorganic, N.O.S.	Solid	21	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Environmental Services, Inc. 2500 West Lokern Road Buttonwillow, CA 93206
Non RCRA Hazardous Waste	Solid	14	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Environmental Services, Inc. 2500 West Lokern Road Buttonwillow, CA 93206
Non Hazardous, Non D.O.T. Regulated Material	Solid	2,379	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
Non Hazardous, Non D.O.T. Regulated Material	Solid	7,153	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Environmental Services, Inc. 2500 West Lokern Road Buttonwillow, CA 93206
UN2800, Batteries, Wet, Non-Spillable	Solid	10	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744

TABLE B
WASTE SHIPMENT SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
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TYPE OF WASTE	MATRIX	QTY.	UNITS	TRANSPORTER 1	TRANSPORTER 2	DESTINATION
Non Hazardous Waste	Liquid	55,000	G	Southwest Processors, Inc. 4120 Bandini Boulevard Vernon, CA 90058	n/a	Southwest Processors, Inc. 4120 Bandini Boulevard Vernon, CA 90058
UN3077, Hazardous Waste, N.O.S.	Solid	396	Y	E&A Trucking	n/a	Chemical Waste Management (WMI-Kettleman Hills) 35251 Old Skyline Road Kettleman Hills, CA 93239
UN3077, Hazardous Waste, N.O.S.	Solid	1,296	Y	Araiza Trucking	n/a	Chemical Waste Management (WMI-Kettleman Hills) 35251 Old Skyline Road Kettleman Hills, CA 93239
UN3077, Hazardous Waste, N.O.S.	Solid	324	Y	INC Trucking	n/a	Chemical Waste Management (WMI-Kettleman Hills) 35251 Old Skyline Road Kettleman Hills, CA 93239
UN3077, Hazardous Waste, N.O.S.	Solid	252	Y	Atiland Logistics	n/a	Chemical Waste Management (WMI-Kettleman Hills) 35251 Old Skyline Road Kettleman Hills, CA 93239
UN3077, Hazardous Waste, N.O.S.	Solid	126	Y	AD Transport Inc	n/a	Chemical Waste Management (WMI-Kettleman Hills) 35251 Old Skyline Road Kettleman Hills, CA 93239
UN3077, Hazardous Waste, N.O.S.	Solid	270	Y	Delta Express Inc	n/a	Chemical Waste Management (WMI-Kettleman Hills) 35251 Old Skyline Road Kettleman Hills, CA 93239
UN3077, Hazardous Waste, N.O.S.	Solid	360	Y	Rene Gomez Jr. Trucking	n/a	Chemical Waste Management (WMI-Kettleman Hills) 35251 Old Skyline Road Kettleman Hills, CA 93239
UN3077, Hazardous Waste, N.O.S.	Solid	72	Y	Central Cal Logistics	n/a	Chemical Waste Management (WMI-Kettleman Hills) 35251 Old Skyline Road Kettleman Hills, CA 93239
UN3077, Hazardous Waste, N.O.S.	Solid	144	Y	Los Gomez Transport Inc.	n/a	Chemical Waste Management (WMI-Kettleman Hills) 35251 Old Skyline Road Kettleman Hills, CA 93239
UN3077, Hazardous Waste, N.O.S.	Solid	126	Y	BTI Tank Rentals	n/a	Chemical Waste Management (WMI-Kettleman Hills) 35251 Old Skyline Road Kettleman Hills, CA 93239

TABLE B
WASTE SHIPMENT SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

TYPE OF WASTE	MATRIX	QTY.	UNITS	TRANSPORTER 1	TRANSPORTER 2	DESTINATION
Non RCRA Hazardous Waste	Solid	3,000	P	Star Resources Corporation	n/a	Clean Harbors Grassy Mountain LLC 3 Miles East 7 Miles North of Knolls Grantsville, UT 84029
UN3077, Hazardous Waste, N.O.S.	Solid	4,000	P	Patriot Environmental Services 508 East E Street Wilmington, CA 90744-6023	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	Clean Harbors Aragonite, LLC 11600 North Aptus Road Grantsville, UT 84029
UN3077, Hazardous Waste, N.O.S.	Solid	80	Y	Ecology Control Industries	n/a	US Ecology Beatty US Hwy 95, 11 Miles South of Beatty Beatty, NV 89003
NA3082 Hazardous Waste, liquid, NOS, (Water)	Liquid	650	G	Patriot Environmental Services 508 East E Street Wilmington, CA 90744-6023	n/a	US Ecology INC (Vernon), 5375 S Boyle Ave, Los Angeles, Ca 90059
UN3077, Hazardous Waste, NOS, (F002 Rock Drilling Solids)	Solid	150	P	Patriot Environmental Services 508 East E Street Wilmington, CA 90744-6023	n/a	US Ecology Beatty US Hwy 95, 11 Miles South of Beatty Beatty, NV 89003
NA3082 Hazardous Waste, Liquid (Water)	Liquid	9,000	P	Ecology Control Industries	n/a	US Ecology INC (Vernon), 5375 S Boyle Ave, Los Angeles, Ca 90059
Non D.O.T. Regulated Radioactive Material	Solid	669,440	P	RUST and Sons Trucking 15353 Olde Hwy 80 El Cajon, Ca 92091	n/a	Energy Solutions, LLC Clive Disposal Site, I-80 Exit 49 Clive, UT 84029
Non Hazardous Waste	Liquid	1,750	G	American Integrated Services	n/a	Crosby & Overton, Inc. 1630 W. 17th Street Long Beach, CA 90813

Notes:
n/a = Not Applicable
G = Gallons
P = Pounds
Y = Yards

APPENDIX C

First Quarter 2022 Discharge Monitoring Data Summary Tables

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REPORTING SUMMARY NOTES
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Not all of the following notes, abbreviations, symbols, or acronyms occur on every table:

1. 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) toxic equivalents (TEQs) for the purpose of determining permit compliance are the sum of the products of the detected dioxin congener concentration multiplied by that congener's toxicity equivalency factor (TEF) and bioaccumulation equivalency factor (BEF). The resulting compliance TCDD TEQ does not include those congener concentrations that are reported as detected but not quantified (DNQ), as specified on page 26 of the NPDES permit (Water Board, 2015).

2. Temperature, total residual chlorine (TRC), dissolved oxygen (DO), and pH are measured in the field and are not validated.

3. pH and temperature are identified on the table as daily maximum discharge limits. The NPDES permit limit has an instantaneous minimum (6.5) and maximum (8.5) for pH and an instantaneous maximum of 86°F for temperature.

4. Exceedances are defined on page 6 of the NPDES permit as constituents in excess of daily maximum benchmark limits, daily maximum permit limits, or receiving water limits. Analytical concentrations or calculations to determine compliance to the NPDES permit are compared to the same number of significant figures as the daily maximum benchmark limits, daily maximum permit limits, or receiving water limits.

5. Priority pollutants sampled once every five years, at Arroyo Simi Receiving Water sampling location (RSW-002, Frontier Park) were analyzed during the First Quarter 2018.

6. Dissolved metals are filtered by the laboratory and reported as "Metal, dissolved". Total metals are not filtered by the laboratory and reported as "Metal".

7. Abbreviations, symbols, and acronyms:

-92.9 +/-200	A negative radiochemical analytical result indicates the count rate of the sample was less than the background condition. Radiological results are presented as activity plus or minus total uncertainty.
%	Percent.
$	Reported result or other information was incorrectly reported by the laboratory; result was corrected by the data validator.
--	Based on validation of the data, a qualifier was not required.
-	No NPDES permit limit established for daily maximum or receiving water limit.
<(value)	Analyte not detected at a concentration greater than or equal to the detection limit (DL), method detection limit (MDL), or laboratory reporting limit (RL); see laboratory report for specific detail.
>(value)	Greater than most probable number.
*	Result not validated.
**	Flow for each outfall is calculated over the 24-hour period when the outfall autosampler is operating to collect the composite sample. See definition of "Daily Discharge" on page A-2 of attachment A of the NPDES permit.
*1	Improper preservation of sample.

REPORTING SUMMARY NOTES
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*2	The inductively coupled plasma (ICP)/matrix spike (MS) parts per billion (ppb) check standard was recovered above the control limit; therefore, the constituent detected was qualified as estimated (J).
*3	Initial and or continuing calibration recoveries were outside acceptable control limits.
*5	Blank spike/blank spike duplicate relative percent difference was outside the control limit.
*10	Value was estimated detect or estimated non-detect (J, UJ) due to deficiencies in quantitation of the constituent including constituents reported by the laboratory as estimated maximum possible concentration (EMPC) values.
*11	No calibration was performed for this compound; result is reported as a tentatively identified compound (TIC).
*III	Unusual problems found with the data that have been described in the validation report.
ANR	Analysis not required; e.g., constituent or outfall was not required by the NPDES permit to be sampled and analyzed over the reporting period (annual, semi-annual, etc.).
Avg	Average.
B	Laboratory method blank contamination.
BA	Relative percent difference out of control.
BEF	Bioaccumulation equivalency factor.
BU	Analyzed out of holding time.
BV	Sample received after holding time expired.
C	Calibration percent relative standard deviation (%RSD) or percent difference (%D) were noncompliant.
CaCO3	Calcium carbonate
Chromium VI	Hexavalent chromium
Comp	Composite sample type.
C5	Calibration verification percent recovery (%R) was outside method control limits.
CEs/100 ml	Cell equivalents per 100 milliliters.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
%D	Percent difference between the initial and continuing calibration relative response factors.
Deg C	Degrees Celsius.
Deg F	Degrees Fahrenheit.
DL	Detection limit.
DNQ	Detected but not quantified (constituent value greater than or equal to the laboratory method detection limit and less than the laboratory reporting limit).
E	E in validation qualifier indicates that duplicates show poor agreement.

REPORTING SUMMARY NOTES
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EB	Equipment blank.
EMPC	Estimated maximum possible concentration.
F	The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample.
FB	Field blank.
F1	Matrix spike (MS) and/or matrix spike duplicate (MSD) recovery is outside acceptance limits.
ft/sec	Feet per second.
G	Gallons.
gpd	Gallons per day.
H	Holding time was exceeded.
Hardness	Equivalent of calcium carbonate (CaCO3).
Hp	Hepta.
Hx	Hexa.
ICP	Interference check solution results were unsatisfactory.
J	Estimated value.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
J, DX	Estimated value, value < lowest standard method quantitation limit (MQL), but > than method detection limit (MDL).
K	The sample dilution's set-up did not meet the oxygen depletion criteria of at least 2 milligrams per liter (mg/L); therefore, the reported result is an estimated value only.
L	Laboratory control sample percent recovery (%R) was outside control limits.
L1	Laboratory control standard (LCS)/laboratory control standard duplicate (LCSD), relative percent difference (RPD) was outside the control limit.
L2	The laboratory control sample percent recovery (%R) was below the method control limits.
LBS/DAY	Pounds per day.
LCS	Laboratory control standard.
LCSD	Laboratory control standard duplicate.
LQ	Laboratory control standard (LCS)/ laboratory control standard duplicate (LCSD) recovery above method control limits.
M1	Matrix spike (MS) and/or matrix spike duplicate (MSD) were above the acceptance limits due to sample matrix interference.
M2	The matrix spike (MS) and/or matrix spike duplicate (MSD) were below the acceptance limits due to sample matrix interference.
Max	Maximum.
MB	Analyte present in the method blank.
MDA/MDC	Minimum detectable activity/minimum detectable concentration.

REPORTING SUMMARY NOTES
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MDL	Method detection limit.
Meas	Measure sample type.
MFL	Million fibers per liter.
MGD	Million gallons per day.
MHA	Due to high level of analyte in the sample, the matrix spike (MS)/matrix spike duplicate (MSD) calculation does not provide useful spike recovery information.
mg/L	Milligrams per liter.
mg/kg	Milligrams per kilogram.
ml/L	Milliliters per liter
ml/L/hr	Milliliters per liter per hour.
MPN/100 mL	Most probable number per 100 milliliters.
MQL	Method quantitation limit.
MS	Matrix spike.
MSD	Matrix spike duplicate.
mS/cm	MilliSiemens per centimeter
NA	Not applicable; no NPDES permit limit established for the constituent and/or outfall or analyte not required per receiving water monitoring requirements.
ND	Analyte not detected.
NJ	The analyte has been "tentatively identified" or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.
NM	Not measured or determined or minimum detectable activities (MDAs) are not calculated as there is no statistical method for combining MDAs.
NPDES	National Pollutant Discharge Elimination System.
NR	Not reported by laboratory by the deadline of this report.
NTU	Nephelometric turbidity unit.
OCDD	Octa CDD.
OCDF	Octa CDF.
P	Pounds.
ppb	Parts per billion.
pCi/L	PicoCuries per liter.
Pe	Penta.
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio; the measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.
Q	Matrix spike (MS) recovery outside of control limits.
Q1	Matrix spike (MS)/matrix spike duplicate (MSD) relative percent difference (RPD) was outside the control limit.
R	As a validation qualifier, results are rejected; the presence or absence of analyte cannot be verified.
(R)	Percent recovery (%R) for calibration not within control limits.
RL	Laboratory reporting limit.

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RL-1	Reporting limit raised due to sample matrix effects.
RPD	Relative percent difference.
%R	Percent recovery.
%RSD	Percent relative standard deviation.
% Normal/Alive	Percent normal and alive.
% Survival	Percent survival.
S	Surrogate recovery was outside control limits.
s.u.	Standard unit.
TCDD	2,3,7,8-tetrachlorodibenzo-p-dioxin.
TCDF	2,3,7,8-tetrachlorodibenzo-p-furan.
TEQ	Toxic equivalent.
TIC	Tentatively identified compound
TIE	Toxicity identification evaluation
TOC	Total organic carbon
T	Presumed contamination, as indicated by a detect in the trip blank.
U	Result not detected.
µg/L	Micrograms per liter.
µg/g	Micrograms per gram.
µg/kg	Micrograms per kilogram.
µmhos/cm	Micromhos per centimeter.
UJ	Result not detected at the estimated reporting limit.
WHO TEF	World Health Organization toxic equivalency factor.
w/out	Without.
^	Analysis not completed due to hold time exceedance or insufficient sample volume.
#	Per Order No. R4-2015-0033, page 16, Footnote 1. The effluent limitations for total suspended solids and settleable solids are not applicable for discharges during wet weather. During wet weather flow, a discharge event is greater than 0.1 inch of rainfall in a 24-hour period. No more than one sample per week need be obtained during extended periods of rainfall or the discharge of collected stormwater. A storm event must be preceded by at least 72 hours of dry weather.
(1)	Based on the NPDES permit, table E-3a footnote 2, receiving water samples for pH, hardness, and priority pollutants must be collected on the same day as effluent samples.
(2)	Additional sample, not required by the NPDES permit.
(4.0)3.1	Represents (dry weather limit) wet weather limit / monthly average limit.
(3)	Secondary maximum contaminant level.

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(4)	The drinking water maximum contaminant level of 3.00E-05 µg/L is for the dioxin congener 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD). TCDD Toxic Equivalent (TEQ) without detected but not quantified (DNQ) values is the sum of the products of the detected dioxin congener concentration multiplied by that congener's toxic Equivalency factor (TEF) and bioaccumulation equivalency factor (BEF). There are 17 dioxin congeners.
(a)	Based on Order No. R4-2015-0033, page 17, footnote 7, sampling event is a dry discharge and the NPDES Permit Limit for cadmium is 4.0 ug/L and 3.93 lbs/day at OF001,002,011,018 and 0.24 lbs/day at OF008.
(b)	Based on Order No. R4-2015-0033, page 17, footnote 7, sampling event is a wet discharge and the NPDES Permit Limit for cadmium is 3.1 ug/L and 3.05 lbs/day at OF001,002,011,018 and 4.91 lbs/day at OF008.
(c)	Based on Order No. R4-2015-0033, page 16, footnote 1, sampled during wet weather flow. The effluent limitations for total suspended solids and/or settleable solids are not applicable for discharges during wet weather.
(d)	Based on Order No. R4-2015-0033, page 16, footnote 1, sampled during dry weather flow. The effluent limitations for total suspended solids and/or settleable solids are applicable for discharges during dry weather.
(e)	Based on Order No. R4-2015-0033, page 17, footnote 8, sampling event is a dry discharge and the NPDES Permit Limit for selenium is 5 ug/L and 4.91 lbs/day.
(f)	Based on Order No. R4-2015-0033, page 17, footnote 8, sampling event is a wet discharge and the NPDES Permit Limit for selenium is 8.2 ug/L and 8.06 lbs/day.
(g)	The composite sample was collected as a grab sample from the stream due to insufficient flow.
(h)	Total Ammonia is reported in wet weight units milligrams per kilogram (mg/kg).
(i)	Total organic carbon (TOC) is reported in dry weight units. Permit asks for TOC units in % dry weight, but data is provided in dry unit milligrams per kilogram (mg/kg).
(j)	Analyte does not have a receiving water limit for Bell Creek Receiving Water (RSW-001, OF002).
(k)	Field parameter noted on field notes rather than COC.
(l)	When field staff arrived onsite to collect the composite sample, they discovered that the autosampler had malfunctioned and had not collected "sips." Field staff repaired the autosampler, reset it, determined it was functioning properly, then returned the next day to collect the composite sample.
(m)	The composite sample was collected as a grab sample from the sample box due to insufficient flow.
(n)	The grab sample was collected at the first opportunity given the short duration and low-flow at this Outfall.
(o)	Unsafe conditions all day prevented access to the Outfall.
(p)	Various constituents were analyzed due to field or laboratory error.

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(q)	Minimum levels met with the exception of 2-chlorovinyl ether. The minimum level is 1.0 µg/L, while the laboratory reported with an MDL of 1.1 µg/L due to an updated MDL study.
(r)	The sampling frequency of this constituent is increased from once per year to once per discharge until four consecutive sample results demonstrate compliance per the NPDES permit. The corresponding dissolved metal also increased in sampling frequency to once per discharge.
(s)	Analyte does not have a daily maximum permit limit for OF002.
(t)	Reanalysis
(u)	Boeing voluntarily samples and analyzes for TSS at an increased frequency of 1/ Discharge at OF009 based on recommendation from the Expert Panel.

ARROYO SIMI
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				3/15/2022 07:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
POLLUTANTS WITH LIMITS						
4,4'-DDD	µg/L	0.0014	1/Quarter	Grab	ND < 0.0044	U*
4,4'-DDE	µg/L	0.001	1/Quarter	Grab	ND < 0.0019	U*
4,4'-DDT	µg/L	0.001	1/Quarter	Grab	ND < 0.0016	U*
Aroclor 1016	µg/L	0.0003	1/Quarter	Grab	ND < 0.044	U*
Aroclor 1221	µg/L	0.0003	1/Quarter	Grab	ND < 0.044	U*
Aroclor 1232	µg/L	0.0003	1/Quarter	Grab	ND < 0.044	U*
Aroclor 1242	µg/L	0.0003	1/Quarter	Grab	ND < 0.044	U*
Aroclor 1248	µg/L	0.0003	1/Quarter	Grab	ND < 0.044	U*
Aroclor 1254	µg/L	0.0003	1/Quarter	Grab	ND < 0.052	U*
Aroclor 1260	µg/L	0.0003	1/Quarter	Grab	ND < 0.052	U*
Chlordane	µg/L	0.001	1/Quarter	Grab	ND < 0.026	U*
Chlorpyrifos	µg/L	0.02	1/Quarter	Grab	ND < 0.0069	U*
Diazinon	µg/L	0.16	1/Quarter	Grab	ND < 0.0052	U*
Dieldrin	µg/L	0.0002	1/Quarter	Grab	ND < 0.0013	U*
pH (Field)	s.u.	6.5-8.5	1/Quarter	Grab	6.74	*
Toxaphene	µg/L	0.0003	1/Quarter	Grab	ND < 0.054	U*
POLLUTANTS WITHOUT LIMITS						
Hardness (as CaCO3)	mg/L	-	1/Quarter	Grab	660	*
Priority Pollutants	NA	-	1/5 Years	ANR	ANR	ANR
Temperature (Field)	Deg F	-	1/Quarter	Grab	55.1	*
TCDD - Equivalents	µg/L	-	1/Year	Grab	ND	*
Total Suspended Solids	mg/L	-	1/Year	Grab	4.8	*
Water Velocity	ft/sec	-	1/Quarter	Meas	0.0	*

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ARROYO SIMI
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

					3/15/2022 07:30 (Grab)			
ANALYTE	**SAMPLE FREQUENCY**	**1998 WHO TEF**	**BEF GREAT LAKES WATER QUALITY INITIATIVE**	**UNITS**	**LAB MDL**	**LAB RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**TCDD EQUIVALENT (w/out DNQ Values)**
1,2,3,4,6,7,8-HpCDD	1/Year	0.01	0.05	µg/L	4.8E-07	ND	U (B)	ND
1,2,3,4,6,7,8-HpCDF	1/Year	0.01	0.01	µg/L	4.6E-07	ND	U (B)	ND
1,2,3,4,7,8,9-HpCDF	1/Year	0.01	0.4	µg/L	6.5E-07	ND	U	ND
1,2,3,4,7,8-HxCDD	1/Year	0.1	0.3	µg/L	5.4E-07	ND	U (B)	ND
1,2,3,4,7,8-HxCDF	1/Year	0.1	0.08	µg/L	4.5E-07	ND	U	ND
1,2,3,6,7,8-HxCDD	1/Year	0.1	0.1	µg/L	5.7E-07	ND	U	ND
1,2,3,6,7,8-HxCDF	1/Year	0.1	0.2	µg/L	4.1E-07	ND	U	ND
1,2,3,7,8,9-HxCDD	1/Year	0.1	0.1	µg/L	4.6E-07	ND	U	ND
1,2,3,7,8,9-HxCDF	1/Year	0.1	0.6	µg/L	4.6E-07	ND	U (B)	ND
1,2,3,7,8-PeCDD	1/Year	1.0	0.9	µg/L	1.0E-06	ND	U	ND
1,2,3,7,8-PeCDF	1/Year	0.05	0.2	µg/L	5.9E-07	ND	U	ND
2,3,4,6,7,8-HxCDF	1/Year	0.1	0.7	µg/L	3.8E-07	ND	U	ND
2,3,4,7,8-PeCDF	1/Year	0.5	1.6	µg/L	6.3E-07	ND	U	ND
2,3,7,8-TCDD	1/Year	1.0	1.0	µg/L	5.8E-07	ND	U	ND
2,3,7,8-TCDF	1/Year	0.1	0.8	µg/L	4.5E-07	ND	U (B)	ND
OCDD	1/Year	0.0001	0.01	µg/L	9.8E-07	ND	U (B)	ND
OCDF	1/Year	0.0001	0.02	µg/L	6.7E-07	ND	U (B)	ND

TCDD TEQ w/out DNQ Values (POLLUTANTS WITHOUT LIMITS)[4]	ND

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

ARROYO SIMI
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

		E. Coli (MPN/100mL)		
SAMPLE DATE & TIME	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
2/15/2022 08:20	235	Grab	920	--
2/18/2022 07:10	235	Grab	460	--
2/22/2022 07:15	235	Grab	74	*
2/25/2022 07:15	235	Grab	21	*
2/28/2022 08:20	235	Grab	7.8	*
3/3/2022 08:15	235	Grab	160	*
Geomean	126	Calc	97	*
3/15/2022 07:30	235	Grab	40	*
3/18/2022 07:15	235	Grab	93	*
3/22/2022 07:15	235	Grab	100	*
3/25/2022 07:20	235	Grab	68	*
3/29/2022 07:45	235	Grab	2,000	--
Geomean	126	Calc	138	*

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OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/19/2022 10:30[m]		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	0.099643	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	mg/L	30	1/Discharge	Composite	ND < 2.0	U*
Oil & Grease	mg/L	15	1/Discharge	Grab	ND < 0.53	U*
pH (Field)	s.u.	6.5-8.5	1/Discharge	Grab	7.80	*
Total Suspended Solids#	mg/L	45	1/Discharge	Composite	3.5[d]	*
PRIORITY POLLUTANTS						
1,1-Dichloroethene	µg/L	6.0	1/Discharge	Grab	ND < 0.33	U*
1,2-Dichloroethane	µg/L	0.5	1/Discharge	Grab	ND < 0.15	U*
2,4,6-Trichlorophenol	µg/L	13	1/Discharge	Composite	ND < 0.16	U*
2,4-Dinitrotoluene	µg/L	18	1/Discharge	Composite	ND < 0.11	U*
alpha-BHC	µg/L	0.03	1/Discharge	Composite	ND < 0.00080	U*
Antimony	µg/L	6.0	1/Year	Composite	0.69	J (DNQ*)
Arsenic	µg/L	10.0	1/Year	Composite	ND < 8.9	U*
Beryllium	µg/L	4.0	1/Year	Composite	ND < 0.44	U*
Bis (2-Ethylhexyl) Phthalate	µg/L	4.0	1/Discharge	Composite	ND < 1.8	U*
Cadmium	µg/L	(4.0) 3.1	1/Discharge	Composite	ND < 0.25	U*
Chromium VI (Hexavalent)	µg/L	16	1/Year	Composite	ND < 0.25	U*
Copper	µg/L	14	1/Discharge	Composite	3.9	*
Cyanide	µg/L	8.5	1/Discharge	Composite	ND < 2.5	U*
Lead	µg/L	5.2	1/Discharge	Composite	ND < 0.50	U*
Mercury	µg/L	0.1	1/Discharge	Composite	ND < 0.12	U*
Nickel	µg/L	94	1/Year	Composite	ND < 5.0	U*
N-Nitrosodimethylamine	µg/L	16	1/Discharge	Composite	ND < 0.14	U*
Pentachlorophenol	µg/L	16.5	1/Discharge	Composite	ND < 0.11	U*
Selenium	µg/L	(5) 8.2	1/Discharge	Composite	ND < 0.50	U*
Silver	µg/L	4.1	1/Year	Composite	ND < 0.50	U*
Thallium	µg/L	2.0	1/Year	Composite	ND < 0.20	U*
Trichloroethene	µg/L	5.0	1/Discharge	Grab	ND < 0.17	U*
Zinc	µg/L	119	1/Discharge	Composite	ND < 12	U*
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	mg/L	10.1	1/Discharge	Composite	0.129	J (DNQ*)
Barium	mg/L	1.0	1/Year	Composite	0.021	*
Chloride	mg/L	150	1/Discharge	Composite	30	*
Chlorine, Total Residual (Field)	mg/L	0.1	1/Year	Grab	0.0	*
Chronic Toxicity	Pass or Fail and % Effect	Pass or % Effect <50	1st & 2nd rain event/Year	Composite	Pass, 9.73	*
Detergents (as MBAS)	mg/L	0.5	1/Discharge	Composite	0.16	*
Fluoride	mg/L	1.6	1/Year	Composite	ND < 0.20	U*
Iron	mg/L	0.3	1/Discharge[r]	Composite	0.15	*
Manganese	µg/L	50	1/Discharge[r]	Composite	21	*
Nitrate - N	mg/L	8	1/Discharge	Composite	1.5	*
Nitrate + Nitrite as Nitrogen (N)	mg/L	8	1/Discharge	Composite	1.5	*
Nitrite - N	mg/L	1	1/Discharge	Composite	ND < 0.024	U*
Perchlorate	µg/L	6.0	1/Discharge	Composite	ND < 0.95	U*
Settleable Solids#	ml/L	0.3	1/Discharge	Grab	ND < 0.10	U*
Sulfate	mg/L	300	1/Discharge	Composite	29	*
Temperature (Field)	Deg F	86	1/Discharge	Grab	51.6	*
Total Dissolved Solids	mg/L	950	1/Discharge	Composite	150	*
REMAINING PRIORITY POLLUTANTS						
1,1,1-Trichloroethane	µg/L	-	1/Year	Grab	ND < 0.25	U*
1,1,2,2-Tetrachloroethane	µg/L	-	1/Year	Grab	ND < 0.20	U*
1,1,2-Trichloroethane	µg/L	-	1/Year	Grab	ND < 0.17	U*
1,1-Dichloroethane	µg/L	-	1/Year	Grab	ND < 0.39	U*
1,2,4-Trichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.13	U*
1,2-Dichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.13	U*
1,2-Dichlorobenzene	µg/L	-	1/Year	Grab	ND < 0.16	U*

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OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/19/2022 10:30[m]		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
1,2-Dichloropropane	µg/L	-	1/Year	Grab	ND < 0.17	U*
1,2-Diphenylhydrazine/Azobenzene	µg/L	-	1/Year	Composite	ND < 0.069	U*
1,3-Dichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.13	U*
1,3-Dichlorobenzene	µg/L	-	1/Year	Grab	ND < 0.16	U*
1,4-Dichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.13	U*
1,4-Dichlorobenzene	µg/L	-	1/Year	Grab	ND < 0.11	U*
2,4-Dichlorophenol	µg/L	-	1/Year	Composite	ND < 0.097	U*
2,4-Dimethylphenol	µg/L	-	1/Year	Composite	ND < 0.13	U*
2,4-Dinitrophenol	µg/L	-	1/Year	Composite	ND < 4.6	U*
2,6-Dinitrotoluene	µg/L	-	1/Year	Composite	ND < 0.13	U*
2-Chloroethyl vinyl ether[q]	µg/L	-	1/Year	Grab	ND < 1.1	U*
2-Chloronaphthalene	µg/L	-	1/Year	Composite	ND < 0.14	U*
2-Chlorophenol	µg/L	-	1/Year	Composite	ND < 0.082	U*
2-Methyl-4,6-dinitrophenol	µg/L	-	1/Year	Composite	ND < 4.0	U*
2-Nitrophenol	µg/L	-	1/Year	Composite	ND < 4.1	U*
3,3'-Dichlorobenzidine	µg/L	-	1/Year	Composite	ND < 1.6	U*
4,4'-DDD	µg/L	-	1/Year	Composite	ND < 0.00080	U*
4,4'-DDE	µg/L	-	1/Year	Composite	ND < 0.00050	U*
4,4'-DDT	µg/L	-	1/Year	Composite	ND < 0.0016	U*
4-Bromophenyl phenyl ether	µg/L	-	1/Year	Composite	ND < 0.077	U*
4-Chloro-3-methylphenol	µg/L	-	1/Year	Composite	ND < 0.12	U*
4-Chlorophenyl phenyl ether	µg/L	-	1/Year	Composite	ND < 0.091	U*
4-Nitrophenol	µg/L	-	1/Year	Composite	ND < 3.6	U*
Acenaphthene	µg/L	-	1/Year	Composite	ND < 0.086	U*
Acenaphthylene	µg/L	-	1/Year	Composite	ND < 0.084	U*
Acrolein	µg/L	-	1/Year	Grab	ND < 4.6	U*
Acrylonitrile	µg/L	-	1/Year	Grab	ND < 1.4	U*
Aldrin	µg/L	-	1/Year	Composite	ND < 0.00070	U*
alpha-Endosulfan	µg/L	-	1/Year	Composite	ND < 0.00070	U*
Anthracene	µg/L	-	1/Year	Composite	ND < 0.073	U*
Aroclor 1016	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1221	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1232	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1242	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1248	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1254	µg/L	-	1/Year	Composite	ND < 0.052	U*
Aroclor 1260	µg/L	-	1/Year	Composite	ND < 0.052	U*
Benzene	µg/L	-	1/Year	Grab	ND < 0.28	U*
Benzidine	µg/L	-	1/Year	Composite	ND < 2.3	U*
Benzo(a)anthracene	µg/L	-	1/Year	Composite	ND < 0.070	U*
Benzo(a)pyrene	µg/L	-	1/Year	Composite	ND < 0.20	U*
Benzo(b)fluoranthene	µg/L	-	1/Year	Composite	ND < 0.10	U*
Benzo(g,h,i)perylene	µg/L	-	1/Year	Composite	ND < 0.13	U*
Benzo(k)fluoranthene	µg/L	-	1/Year	Composite	ND < 0.077	U*
beta-BHC	µg/L	-	1/Year	Composite	ND < 0.0017	U*
beta-Endosulfan	µg/L	-	1/Year	Composite	ND < 0.00050	U*
Bis (2-Chloroethoxy) Methane	µg/L	-	1/Year	Composite	ND < 0.15	U*
Bis (2-Chloroethyl) Ether	µg/L	-	1/Year	Composite	ND < 0.098	U*
Bis (2-Chloroisopropyl) Ether	µg/L	-	1/Year	Composite	ND < 0.092	U*
Bromoform	µg/L	-	1/Year	Grab	ND < 0.25	U*
Bromomethane	µg/L	-	1/Year	Grab	ND < 0.22	U*
Butyl benzylphthalate	µg/L	-	1/Year	Composite	ND < 0.98	U*
Carbon tetrachloride	µg/L	-	1/Year	Grab	ND < 0.28	U*
Chlordane	µg/L	-	1/Year	Composite	ND < 0.0065	U*
Chlorobenzene	µg/L	-	1/Year	Grab	ND < 0.19	U*
Chlorodibromomethane	µg/L	-	1/Year	Grab	ND < 0.15	U*
Chloroethane	µg/L	-	1/Year	Grab	ND < 0.29	U*

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OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/19/2022 10:30[m]		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Chloroform	µg/L	-	1/Year	Grab	ND < 0.19	U*
Chloromethane (Methyl Chloride)	µg/L	-	1/Year	Grab	ND < 0.30	U*
Chromium	µg/L	-	1/Year	Composite	ND < 2.5	U*
Chromium III (Trivalent)	µg/L	-	1/Year	Composite	ND < 0.50	U*
Chrysene	µg/L	-	1/Year	Composite	ND < 0.058	U*
cis-1,3-Dichloropropene	µg/L	-	1/Year	Grab	ND < 0.30	U*
delta-BHC	µg/L	-	1/Year	Composite	ND < 0.0011	U*
Dibenzo(a,h)anthracene	µg/L	-	1/Year	Composite	ND < 0.14	U*
Dichlorobromomethane	µg/L	-	1/Year	Grab	ND < 0.19	U*
Dieldrin	µg/L	-	1/Year	Composite	ND < 0.00050	U*
Diethyl phthalate	µg/L	-	1/Year	Composite	ND < 0.13	U*
Dimethyl phthalate	µg/L	-	1/Year	Composite	ND < 0.072	U*
Di-n-butyl phthalate	µg/L	-	1/Year	Composite	ND < 1.9	U*
Di-n-octyl phthalate	µg/L	-	1/Year	Composite	ND < 0.64	U*
Endosulfan sulfate	µg/L	-	1/Year	Composite	ND < 0.00060	U*
Endrin	µg/L	-	1/Year	Composite	ND < 0.00070	U*
Endrin aldehyde	µg/L	-	1/Year	Composite	ND < 0.0051	U*
Ethylbenzene	µg/L	-	1/Year	Grab	ND < 0.25	U*
Fluoranthene	µg/L	-	1/Year	Composite	ND < 0.097	U*
Fluorene	µg/L	-	1/Year	Composite	ND < 0.081	U*
gamma-BHC (Lindane)	µg/L	-	1/Year	Composite	ND < 0.00090	U*
Heptachlor	µg/L	-	1/Year	Composite	ND < 0.00070	U*
Heptachlor epoxide	µg/L	-	1/Year	Composite	ND < 0.00040	U*
Hexachlorobenzene	µg/L	-	1/Year	Composite	ND < 0.094	U*
Hexachlorobutadiene	µg/L	-	1/Year	Composite	ND < 0.17	U*
Hexachlorocyclopentadiene	µg/L	-	1/Year	Composite	ND < 0.098	U*
Hexachloroethane	µg/L	-	1/Year	Composite	ND < 0.15	U*
Indeno(1,2,3-cd)pyrene	µg/L	-	1/Year	Composite	ND < 0.12	U*
Isophorone	µg/L	-	1/Year	Composite	ND < 0.089	U*
m,p-Xylenes	µg/L	-	1/Year	Grab	ND < 0.17	U*
Methylene chloride	µg/L	-	1/Year	Grab	ND < 0.57	U*
Naphthalene	µg/L	-	1/Year	Composite	ND < 0.098	U*
Naphthalene	µg/L	-	1/Year	Grab	ND < 0.33	U*
Nitrobenzene	µg/L	-	1/Year	Composite	ND < 0.097	U*
N-Nitroso-di-n-propylamine	µg/L	-	1/Year	Composite	ND < 0.17	U*
N-Nitrosodiphenylamine	µg/L	-	1/Year	Composite	ND < 0.096	U*
o-Xylene	µg/L	-	1/Year	Grab	ND < 0.15	U*
Phenanthrene	µg/L	-	1/Year	Composite	ND < 0.074	U*
Phenol	µg/L	-	1/Year	Composite	ND < 0.81	U*
Pyrene	µg/L	-	1/Year	Composite	ND < 0.080	U*
Tetrachloroethene	µg/L	-	1/Year	Grab	ND < 0.21	U*
Toluene	µg/L	-	1/Year	Grab	ND < 0.23	U*
Toxaphene	µg/L	-	1/Year	Composite	ND < 0.013	U*
trans-1,2-Dichloroethene	µg/L	-	1/Year	Grab	ND < 0.24	U*
trans-1,3-Dichloropropene	µg/L	-	1/Year	Grab	ND < 0.18	U*
Trichlorofluoromethane	µg/L	-	1/Year	Grab	ND < 0.29	U*
Vinyl chloride	µg/L	-	1/Year	Grab	ND < 0.47	U*
Xylenes (Total)	µg/L	-	1/Year	Grab	ND < 0.17	U*
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS						
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	-	1/Quarter	Grab	ND < 0.33	U*
1,2-Dichloro-1,1,2-trifluoroethane	µg/L	-	1/Year	Grab	ND < 0.58	U*
1,4-Dioxane	µg/L	-	1/Year	Composite	ND < 0.55	U*
Boron	mg/L	-	1/Year	Composite	0.095	*
cis-1,2-Dichloroethene	µg/L	-	1/Year	Grab	ND < 0.21	U*
Cobalt	µg/L	-	1/Year	Composite	ND < 2.8	U*
Conductivity at 25 C	µmhos/cm	-	1/Discharge	Grab	250	*
Cyclohexane	µg/L	-	1/Year	Grab	ND < 0.79	U*

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OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/19/2022 10:30[m]		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Diesel Range Organics (DRO C13-C28)	mg/L	-	1/Year	Grab	0.049	*
Dissolved Oxygen (Field)	mg/L	-	1/Discharge	Grab	19.32	*
E. Coli	mpn/100mL	-	1/Year	Grab	9.7	--
Gasoline Range Organics (GRO C4-C12)	mg/L	-	1/Year	Grab	ND < 0.030	U*
Hardness (as CaCO3)	mg/L	-	1/Year	Composite	62	*
Monomethyl hydrazine	µg/L	-	1/Year	Composite	ND < 0.31	U*
Total Organic Carbon	mg/L	-	1/Year	Composite	10	*
Turbidity	NTU	-	1/Discharge	Composite	3.1	*
Vanadium	µg/L	-	1/Year	Composite	ND < 2.1	U*
ADDITIONAL POLLUTANTS[2]						
Antimony, dissolved	µg/L	-	Additional/Year	Composite	0.72	J (DNQ*)
Arsenic, dissolved	µg/L	-	Additional/Year	Composite	ND < 8.9	U*
Barium, dissolved	mg/L	-	Additional/Year	Composite	0.022	*
Beryllium, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.44	U*
Boron, dissolved	mg/L	-	Additional/Year	Composite	0.094	*
Cadmium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.25	U*
Chromium, dissolved	µg/L	-	Additional/Year	Composite	ND < 2.5	U*
Cobalt, dissolved	µg/L	-	Additional/Year	Composite	ND < 2.8	U*
Copper, dissolved	µg/L	-	Additional/Discharge	Composite	4.9	*
Hardness, dissolved (as CaCO3)	mg/L	-	Additional/Year	Composite	64	*
Human Bacteroides	CEs/100mL	-	Additional/Year	Grab	ND < 150	U*
Iron, dissolved	mg/L	-	Additional/Discharge[r]	Composite	ND < 0.050	U*
Lead, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U*
Manganese, dissolved	µg/L	-	Additional/Discharge[r]	Composite	7.0	J (DNQ*)
Mercury, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.12	U*
Nickel, dissolved	µg/L	-	Additional/Year	Composite	ND < 5.0	U*
Selenium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U*
Silver, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.50	U*
Thallium, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.20	U*
Vanadium, dissolved	µg/L	-	Additional/Year	Composite	ND < 2.1	U*
Zinc, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 12	U*

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

					1/19/2022 10:30 (Composite)[m]			
ANALYTE	**SAMPLE FREQUENCY**	**1998 WHO TEF**	**BEF GREAT LAKES WATER QUALITY INITIATIVE**	**UNITS**	**LAB MDL**	**LAB RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**TCDD EQUIVALENT (w/out DNQ Values)**
1,2,3,4,6,7,8-HpCDD	1/Discharge	0.01	0.05	µg/L	2.8E-07	8.6E-06	U (B)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	0.01	0.01	µg/L	4.2E-07	3.3E-06	U (B)	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	0.01	0.4	µg/L	4.0E-07	1.4E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	0.1	0.3	µg/L	4.7E-07	2.2E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	0.1	0.08	µg/L	3.4E-07	9.9E-07	U (B)	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	0.1	0.1	µg/L	6.3E-07	1.4E-06	U (B)	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	0.1	0.2	µg/L	3.8E-07	1.0E-06	U (B)	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	0.1	0.1	µg/L	5.2E-07	1.5E-06	U (B)	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	0.1	0.6	µg/L	3.7E-07	2.9E-06	U (B)	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1.0	0.9	µg/L	6.6E-07	ND	U	**ND**
1,2,3,7,8-PeCDF	1/Discharge	0.05	0.2	µg/L	5.4E-07	9.5E-07	U (B)	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	0.1	0.7	µg/L	3.6E-07	6.9E-07	U (B)	**ND**
2,3,4,7,8-PeCDF	1/Discharge	0.5	1.6	µg/L	5.3E-07	1.1E-06	U (B)	**ND**
2,3,7,8-TCDD	1/Discharge	1.0	1.0	µg/L	6.8E-07	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	0.1	0.8	µg/L	3.6E-07	ND	U	**ND**
OCDD	1/Discharge	0.0001	0.01	µg/L	8.8E-07	4.5E-05	U (B)	**ND**
OCDF	1/Discharge	0.0001	0.02	µg/L	4.7E-07	5.6E-06	U (B)	**ND**

TCDD TEQ w/out DNQ Values[4]	**ND**

TCDD TEQ (PRIORITY POLLUTANTS) DAILY MAXIMUM BENCHMARK LIMIT = 2.8E-08

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OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/19/2022 10:30 (Composite)[m]		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS						
Gross Alpha	pCi/L	15	1/Discharge	0.304+/-1.53	2.75	U*
Gross Beta	pCi/L	50	1/Discharge	3.69+/-0.947	1.08	*
Combined Radium-226 & Radium-228	pCi/L	5.0	1/Discharge	0.529+/-0.351	NM	U*
Strontium-90	pCi/L	8.0	1/Discharge	0.219+/-0.278	0.461	U*
Tritium	pCi/L	20,000	1/Discharge	-108+/-184	348	U*
ADDITIONAL POLLUTANTS						
Cesium-137	pCi/L	200	1/Discharge	1.40+/-9.30	11.0	U*
Uranium	pCi/L	20	1/Discharge	0.340+/-0.208	0.165	*
ADDITIONAL POLLUTANTS WITHOUT LIMITS						
Potassium-40	pCi/L	-	1/Discharge	93.8+/-122	151	U*

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OUTFALL 001
DISCHARGE MONITORING MASS SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/19/2022 10:30[m]		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	0.099643	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	LBS/DAY	29,481	1/Discharge	Composite	ND	U*
Oil & Grease	LBS/DAY	14,741	1/Discharge	Grab	ND	U*
Total Suspended Solids#	LBS/DAY	44,222	1/Discharge	Composite	2.9[d]	*
PRIORITY POLLUTANTS						
1,1-Dichloroethene	LBS/DAY	5.9	1/Discharge	Grab	ND	U*
1,2-Dichloroethane	LBS/DAY	0.49	1/Discharge	Grab	ND	U*
2,4,6-Trichlorophenol	LBS/DAY	12.8	1/Discharge	Composite	ND	U*
2,4-Dinitrotoluene	LBS/DAY	17.7	1/Discharge	Composite	ND	U*
alpha-BHC	LBS/DAY	0.03	1/Discharge	Composite	ND	U*
Antimony	LBS/DAY	5.9	1/Year	Composite	0.00057	J (DNQ*)
Arsenic	LBS/DAY	9.83	1/Year	Composite	ND	U*
Beryllium	LBS/DAY	3.93	1/Year	Composite	ND	U*
Bis (2-Ethylhexyl) Phthalate	LBS/DAY	3.93	1/Discharge	Composite	ND	U*
Cadmium	LBS/DAY	(3.93) 3.05	1/Discharge	Composite	ND	U*
Chromium VI (Hexavalent)	LBS/DAY	15.72	1/Year	Composite	ND	U*
Copper	LBS/DAY	13.76	1/Discharge	Composite	0.0032	*
Cyanide	LBS/DAY	8.35	1/Discharge	Composite	ND	U*
Lead	LBS/DAY	5.11	1/Discharge	Composite	ND	U*
Mercury	LBS/DAY	0.1	1/Discharge	Composite	ND	U*
Nickel	LBS/DAY	92.4	1/Year	Composite	ND	U*
N-Nitrosodimethylamine	LBS/DAY	15.72	1/Discharge	Composite	ND	U*
Pentachlorophenol	LBS/DAY	16.22	1/Discharge	Composite	ND	U*
Selenium	LBS/DAY	(4.91) 8.06	1/Discharge	Composite	ND	U*
Silver	LBS/DAY	4.03	1/Year	Composite	ND	U*
TCDD TEQ_NoDNQ[4]	LBS/DAY	2.75E-08	1/Discharge	Composite	ND	U*
Thallium	LBS/DAY	1.97	1/Year	Composite	ND	U*
Trichloroethene	LBS/DAY	4.91	1/Discharge	Grab	ND	U*
Zinc	LBS/DAY	117	1/Discharge	Composite	ND	U*
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	LBS/DAY	9,925.3	1/Discharge	Composite	0.107	J (DNQ*)
Barium	LBS/DAY	983	1/Year	Composite	0.017	*
Chloride	LBS/DAY	147,405	1/Discharge	Composite	25	*
Chlorine, Total Residual (Field)	LBS/DAY	98.3	1/Year	Grab	0.0	*
Detergents (as MBAS)	LBS/DAY	491.4	1/Discharge	Composite	0.13	*
Fluoride	LBS/DAY	1,572.3	1/Year	Composite	ND	U*
Iron	LBS/DAY	295	1/Discharge[r]	Composite	0.12	*
Manganese	LBS/DAY	49.1	1/Discharge[r]	Composite	0.017	*
Nitrate - N	LBS/DAY	7,862	1/Discharge	Composite	1.2	*
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	7,862	1/Discharge	Composite	1.2	*
Nitrite - N	LBS/DAY	983	1/Discharge	Composite	ND	U*
Perchlorate	LBS/DAY	5.9	1/Discharge	Composite	ND	U*
Sulfate	LBS/DAY	294,810	1/Discharge	Composite	24	*
Total Dissolved Solids	LBS/DAY	933,567	1/Discharge	Composite	125	*

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/3/2022 10:30 - 1/4/2022 10:10		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	1/Quarter	-	Meas	1.4470	*
CONVENTIONAL POLLUTANTS								
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	mg/L	30	1/Discharge	NA	-	Composite	ND < 4.0	U*
Oil & Grease	mg/L	15	1/Discharge	NA	-	Grab	ND < 0.53	U*
pH (Field)	s.u.	6.5-8.5	1/Discharge	1/Quarter	6.5-8.5	Grab	7.26	*
Total Suspended Solids[#]	mg/L	45	1/Discharge	1/Year	-	Composite	9.1[(d)]	*
PRIORITY POLLUTANTS								
1,1-Dichloroethene	µg/L	6.0	1/Discharge	1/5 Years	-	Grab	ND < 0.33	U*
1,2-Dichloroethane	µg/L	0.5	1/Discharge	1/5 Years	-	Grab	ND < 0.15	U*
2,4,6-Trichlorophenol	µg/L	13	1/Discharge	1/5 Years	-	Composite	ND < 0.079	U*
2,4-Dinitrotoluene	µg/L	18	1/Discharge	1/5 Years	-	Composite	ND < 0.12	U*
alpha-BHC	µg/L	0.03	1/Discharge	1/5 Years	-	Composite	ND < 0.00080	U*
Antimony	µg/L	6.0	1/Year	1/5 Years	-	ANR	ANR	ANR
Arsenic	µg/L	10.0	1/Year	1/5 Years	-	Composite	ND < 8.9	U*
Beryllium	µg/L	4.0	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Ethylhexyl) Phthalate	µg/L	4.0	1/Discharge	1/5 Years	-	Composite	ND < 2.1	U*
Cadmium	µg/L	(4.0) 3.1	1/Discharge	1/5 Years	-	Composite	ND < 0.25	U*
Chromium VI (Hexavalent)	µg/L	16	1/Year	1/5 Years	-	ANR	ANR	ANR
Copper	µg/L	14	1/Discharge	1/5 Years	-	Composite	2.3	*
Cyanide	µg/L	8.5	1/Discharge	1/5 Years	-	Composite	ND < 1.4	U*
Lead	µg/L	5.2	1/Discharge	1/5 Years	-	Composite	ND < 0.50	U*
Mercury	µg/L	0.1	1/Discharge	1/5 Years	-	Composite	ND < 0.12	U*
Nickel	µg/L	94	1/Year	1/5 Years	-	ANR	ANR	ANR
N-Nitrosodimethylamine	µg/L	16	1/Discharge	1/5 Years	-	Composite	ND < 0.16	U*
Pentachlorophenol	µg/L	16.5	1/Discharge	1/5 Years	-	Composite	ND < 0.13	U*
Selenium	µg/L	(5) 8.2	1/Discharge	1/5 Years	-	Composite	0.89[(e)]	J (DNQ*)
Silver	µg/L	4.1	1/Year	1/5 Years	-	ANR	ANR	ANR
Thallium	µg/L	2.0	1/Year	1/5 Years	-	ANR	ANR	ANR
Trichloroethene	µg/L	5.0	1/Discharge	1/5 Years	-	Grab	0.19	J (DNQ*)
Zinc	µg/L	119	1/Discharge	1/5 Years	-	Composite	ND < 12	U*
NON-CONVENTIONAL POLLUTANTS								
Ammonia - N	mg/L	10.1	1/Discharge	NA	-	Composite	0.194	J (DNQ*)
Barium	mg/L	1.0	1/Year	NA	-	ANR	ANR	ANR
Chloride	mg/L	150	1/Discharge	NA	-	Composite	18	*
Chlorine, Total Residual (Field)	mg/L	0.1	1/Year	NA	-	ANR	ANR	ANR
Chronic Toxicity	Pass or Fail and % Effect	Pass or % Effect <50	1st & 2nd rain event/Year	NA	-	ANR	ANR	ANR
Detergents (as MBAS)	mg/L	0.5	1/Discharge	NA	-	Composite	ND < 0.15	U*

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/3/2022 10:30 - 1/4/2022 10:10		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Fluoride	mg/L	1.6	1/Year	NA	-	ANR	ANR	ANR
Iron	mg/L	0.3	1/Discharge[r]	NA	-	Composite	0.25	*
Manganese	µg/L	50	1/Year[p]	NA	-	Composite	17	J (DNQ*)
Nitrate - N	mg/L	8	1/Discharge	NA	-	Composite	2.5	*
Nitrate + Nitrite as Nitrogen (N)	mg/L	8	1/Discharge	NA	-	Composite	2.5	*
Nitrite - N	mg/L	1	1/Discharge	NA	-	Composite	ND < 0.036	U*
Perchlorate	µg/L	6.0	1/Discharge	NA	-	Composite	ND < 0.91	U*
Settleable Solids[#]	ml/L	0.3	1/Discharge	NA	-	Grab	ND < 0.10	U*
Sulfate	mg/L	300	1/Discharge	NA	-	Composite	140	*
Temperature (Field)	Deg F	86	1/Discharge	1/Quarter	-	Grab	41.9	*
Total Dissolved Solids	mg/L	950	1/Discharge	NA	-	Composite	390	*
REMAINING PRIORITY POLLUTANTS								
1,1,1-Trichloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,1,2,2-Tetrachloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,1,2-Trichloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,1-Dichloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2,4-Trichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Dichloropropane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Diphenylhydrazine/Azobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,3-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,3-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,4-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,4-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,4-Dichlorophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,4-Dimethylphenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,4-Dinitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,6-Dinitrotoluene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Chloroethyl vinyl ether[q]	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Chloronaphthalene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Chlorophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Methyl-4,6-dinitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Nitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
3,3'-Dichlorobenzidine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4,4'-DDD	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
4,4'-DDE	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
4,4'-DDT	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/3/2022 10:30 - 1/4/2022 10:10		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
4-Bromophenyl phenyl ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4-Chloro-3-methylphenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4-Chlorophenyl phenyl ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4-Nitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acenaphthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acenaphthylene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acrolein	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acrylonitrile	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Aldrin	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
alpha-Endosulfan	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Anthracene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Aroclor 1016	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Aroclor 1221	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Aroclor 1232	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Aroclor 1242	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Aroclor 1248	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Aroclor 1254	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Aroclor 1260	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Benzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzidine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(a)anthracene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(a)pyrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(b)fluoranthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(g,h,i)perylene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(k)fluoranthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
beta-BHC	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
beta-Endosulfan	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Chloroethoxy) Methane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Chloroethyl) Ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Chloroisopropyl) Ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bromoform	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bromomethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Butyl benzylphthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Carbon tetrachloride	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chlordane	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Chlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chlorodibromomethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/3/2022 10:30 - 1/4/2022 10:10		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Chloroform	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chloromethane (Methyl Chloride)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chromium	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chromium III (Trivalent)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chrysene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
cis-1,3-Dichloropropene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
delta-BHC	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dibenzo(a,h)anthracene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dichlorobromomethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dieldrin	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Diethyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dimethyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Di-n-butyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Di-n-octyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Endosulfan sulfate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Endrin	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Endrin aldehyde	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Ethylbenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Fluoranthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Fluorene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
gamma-BHC (Lindane)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Heptachlor	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Heptachlor epoxide	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachlorobutadiene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachlorocyclopentadiene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Indeno(1,2,3-cd)pyrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Isophorone	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
m,p-Xylenes	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Methylene chloride	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Naphthalene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Naphthalene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Nitrobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
N-Nitroso-di-n-propylamine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
N-Nitrosodiphenylamine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
o-Xylene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Phenanthrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/3/2022 10:30 - 1/4/2022 10:10		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Phenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Pyrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Tetrachloroethene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Toluene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Toxaphene	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
trans-1,2-Dichloroethene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
trans-1,3-Dichloropropene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Trichlorofluoromethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Vinyl chloride	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Xylenes (Total)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS								
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	-	1/Quarter	NA	-	ANR	ANR	ANR
1,2-Dichloro-1,1,2-trifluoroethane	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
1,4-Dioxane	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Boron	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
cis-1,2-Dichloroethene	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Cobalt	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Conductivity	µmhos/cm	-	1/Discharge	NA	-	Grab	760	*
Cyclohexane	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Diesel Range Organics (DRO C13-C28)	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
Dissolved Oxygen (Field)	mg/L	-	1/Discharge	NA	-	Grab	6.74	*
Gasoline Range Organics (GRO C4-C12)	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
Hardness (as CaCO3)	mg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Monomethyl hydrazine	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Total Organic Carbon	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
Turbidity	NTU	-	1/Discharge	NA	-	Composite	6.2	*
Vanadium	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
ADDITIONAL POLLUTANTS[2)]								
Antimony, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Arsenic, dissolved	µg/L	-	Additional/Year	NA	-	Composite	ND < 8.9	U*
Barium, dissolved	mg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Beryllium, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Boron, dissolved	mg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Cadmium, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.25	U*
Chromium, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Cobalt, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Copper, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	2.1	*

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/3/2022 10:30 - 1/4/2022 10:10		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Hardness, Dissolved (as CaCO3)	mg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Human Bacteroides	CEs/100mL	-	Additional/Year	NA	-	ANR	ANR	ANR
Iron, dissolved	mg/L	-	Additional/Discharge[(r)]	NA	-	Composite	ND < 0.050	U*
Lead, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.50	U*
Manganese, dissolved	µg/L	-	Additional/Year[(p)]	NA	-	Composite	9.2	J (DNQ*)
Mercury, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.12	U*
Nickel, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Potassium	mg/L	-	Additional	NA	-	ANR	ANR	ANR
Selenium, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.50	U*
Silver, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Thallium, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Vanadium, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Zinc, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 12	U*

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/4/2022 10:30 - 1/5/2022 09:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	1/Quarter	-	Meas	1.7634	*
CONVENTIONAL POLLUTANTS								
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	mg/L	30	1/Discharge	NA	-	Composite	ND < 3.0	U*
Oil & Grease	mg/L	15	1/Discharge	NA	-	Grab	ND < 0.54	U*
pH (Field)	s.u.	6.5-8.5	1/Discharge	1/Quarter	6.5-8.5	Grab	7.79	*
Total Suspended Solids[#]	mg/L	45	1/Discharge	1/Year	-	Composite	ND < 0.50	U*
PRIORITY POLLUTANTS								
1,1-Dichloroethene	µg/L	6.0	1/Discharge	1/5 Years	-	Grab	ND < 0.33	U*
1,2-Dichloroethane	µg/L	0.5	1/Discharge	1/5 Years	-	Grab	ND < 0.15	U*
2,4,6-Trichlorophenol	µg/L	13	1/Discharge	1/5 Years	-	Composite	ND < 0.068	U*
2,4-Dinitrotoluene	µg/L	18	1/Discharge	1/5 Years	-	Composite	ND < 0.11	U*
alpha-BHC	µg/L	0.03	1/Discharge	1/5 Years	-	Composite	ND < 0.00080	U*
Antimony	µg/L	6.0	1/Year	1/5 Years	-	ANR	ANR	ANR
Arsenic	µg/L	10.0	1/Year	1/5 Years	-	Composite	ND < 8.9	U*
Beryllium	µg/L	4.0	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Ethylhexyl) Phthalate	µg/L	4.0	1/Discharge	1/5 Years	-	Composite	ND < 1.8	U*
Cadmium	µg/L	(4.0) 3.1	1/Discharge	1/5 Years	-	Composite	ND < 0.25	U*
Chromium VI (Hexavalent)	µg/L	16	1/Year	1/5 Years	-	ANR	ANR	ANR
Copper	µg/L	14	1/Discharge	1/5 Years	-	Composite	1.6	J (DNQ*)
Cyanide	µg/L	8.5	1/Discharge	1/5 Years	-	Composite	1.5	J (DNQ*)
Lead	µg/L	5.2	1/Discharge	1/5 Years	-	Composite	ND < 0.50	U*
Mercury	µg/L	0.1	1/Discharge	1/5 Years	-	Composite	ND < 0.12	U*
Nickel	µg/L	94	1/Year	1/5 Years	-	ANR	ANR	ANR
N-Nitrosodimethylamine	µg/L	16	1/Discharge	1/5 Years	-	Composite	ND < 0.14	U*
Pentachlorophenol	µg/L	16.5	1/Discharge	1/5 Years	-	Composite	ND < 0.11	U*
Selenium	µg/L	(5) 8.2	1/Discharge	1/5 Years	-	Composite	ND < 0.50	U*
Silver	µg/L	4.1	1/Year	1/5 Years	-	ANR	ANR	ANR
Thallium	µg/L	2.0	1/Year	1/5 Years	-	ANR	ANR	ANR
Trichloroethene	µg/L	5.0	1/Discharge	1/5 Years	-	Grab	1.4	*
Zinc	µg/L	119	1/Discharge	1/5 Years	-	Composite	ND < 12	U*
NON-CONVENTIONAL POLLUTANTS								
Ammonia - N	mg/L	10.1	1/Discharge	NA	-	Composite	1.45	*
Barium	mg/L	1.0	1/Year	NA	-	ANR	ANR	ANR
Chloride	mg/L	150	1/Discharge	NA	-	Composite	7.0	*
Chlorine, Total Residual (Field)	mg/L	0.1	1/Year	NA	-	ANR	ANR	ANR
Chronic Toxicity	Pass or Fail and % Effect	Pass or % Effect <50	1st & 2nd rain event/Year	NA	-	ANR	ANR	ANR
Detergents (as MBAS)	mg/L	0.5	1/Discharge	NA	-	Composite	ND < 0.15	U*

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/4/2022 10:30 - 1/5/2022 09:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Fluoride	mg/L	1.6	1/Year	NA	-	ANR	ANR	ANR
Iron	mg/L	0.3	1/Discharge[r]	NA	-	Composite	ND < 0.050	U*
Manganese	µg/L	50	1/Year[p]	NA	-	Composite	8.0	J (DNQ*)
Nitrate - N	mg/L	8	1/Discharge	NA	-	Composite	3.5	*
Nitrate + Nitrite as Nitrogen (N)	mg/L	8	1/Discharge	NA	-	Composite	3.5	*
Nitrite - N	mg/L	1	1/Discharge	NA	-	Composite	ND < 0.018	U*
Perchlorate	µg/L	6.0	1/Discharge	NA	-	Composite	ND < 0.91	U*
Settleable Solids[#]	ml/L	0.3	1/Discharge	NA	-	Grab	ND < 0.10	U*
Sulfate	mg/L	300	1/Discharge	NA	-	Composite	100	*
Temperature (Field)	Deg F	86	1/Discharge	1/Quarter	-	Grab	48.9	*
Total Dissolved Solids	mg/L	950	1/Discharge	NA	-	Composite	250	*
REMAINING PRIORITY POLLUTANTS								
1,1,1-Trichloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,1,2,2-Tetrachloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,1,2-Trichloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,1-Dichloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2,4-Trichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Dichloropropane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Diphenylhydrazine/Azobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,3-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,3-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,4-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,4-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,4-Dichlorophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,4-Dimethylphenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,4-Dinitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,6-Dinitrotoluene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Chloroethyl vinyl ether[q]	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Chloronaphthalene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Chlorophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Methyl-4,6-dinitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Nitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
3,3'-Dichlorobenzidine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4,4'-DDD	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
4,4'-DDE	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
4,4'-DDT	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR

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DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/4/2022 10:30 - 1/5/2022 09:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
4-Bromophenyl phenyl ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4-Chloro-3-methylphenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4-Chlorophenyl phenyl ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4-Nitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acenaphthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acenaphthylene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acrolein	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acrylonitrile	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Aldrin	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
alpha-Endosulfan	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Anthracene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Aroclor 1016	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Aroclor 1221	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Aroclor 1232	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Aroclor 1242	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Aroclor 1248	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Aroclor 1254	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Aroclor 1260	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Benzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzidine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(a)anthracene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(a)pyrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(b)fluoranthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(g,h,i)perylene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(k)fluoranthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
beta-BHC	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
beta-Endosulfan	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Chloroethoxy) Methane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Chloroethyl) Ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Chloroisopropyl) Ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bromoform	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bromomethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Butyl benzylphthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Carbon tetrachloride	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chlordane	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Chlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chlorodibromomethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/4/2022 10:30 - 1/5/2022 09:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Chloroform	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chloromethane (Methyl Chloride)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chromium	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chromium III (Trivalent)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chrysene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
cis-1,3-Dichloropropene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
delta-BHC	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dibenzo(a,h)anthracene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dichlorobromomethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dieldrin	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Diethyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dimethyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Di-n-butyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Di-n-octyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Endosulfan sulfate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Endrin	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Endrin aldehyde	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Ethylbenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Fluoranthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Fluorene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
gamma-BHC (Lindane)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Heptachlor	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Heptachlor epoxide	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachlorobutadiene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachlorocyclopentadiene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Indeno(1,2,3-cd)pyrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Isophorone	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
m,p-Xylenes	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Methylene chloride	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Naphthalene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Naphthalene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Nitrobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
N-Nitroso-di-n-propylamine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
N-Nitrosodiphenylamine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
o-Xylene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Phenanthrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/4/2022 10:30 - 1/5/2022 09:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Phenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Pyrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Tetrachloroethene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Toluene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Toxaphene	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
trans-1,2-Dichloroethene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
trans-1,3-Dichloropropene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Trichlorofluoromethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Vinyl chloride	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Xylenes (Total)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS								
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	-	1/Quarter	NA	-	ANR	ANR	ANR
1,2-Dichloro-1,1,2-trifluoroethane	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
1,4-Dioxane	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Boron	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
cis-1,2-Dichloroethene	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Cobalt	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Conductivity	µmhos/cm	-	1/Discharge	NA	-	Grab	370	*
Cyclohexane	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Diesel Range Organics (DRO C13-C28)	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
Dissolved Oxygen (Field)	mg/L	-	1/Discharge	NA	-	Grab	18.18	*
Gasoline Range Organics (GRO C4-C12)	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
Hardness (as CaCO3)	mg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Monomethyl hydrazine	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Total Organic Carbon	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
Turbidity	NTU	-	1/Discharge	NA	-	Composite	0.30	*
Vanadium	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
ADDITIONAL POLLUTANTS[2)]								
Antimony, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Arsenic, dissolved	µg/L	-	Additional/Year	NA	-	Composite	ND < 8.9	U*
Barium, dissolved	mg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Beryllium, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Boron, dissolved	mg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Cadmium, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.25	U*
Chromium, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Cobalt, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Copper, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	1.5	J (DNQ*)

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/4/2022 10:30 - 1/5/2022 09:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Hardness, Dissolved (as CaCO3)	mg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Human Bacteroides	CEs/100mL	-	Additional/Year	NA	-	ANR	ANR	ANR
Iron, dissolved	mg/L	-	Additional/Discharge[(r)]	NA	-	Composite	ND < 0.050	U*
Lead, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.50	U*
Manganese, dissolved	µg/L	-	Additional/Year[(p)]	NA	-	Composite	11	J (DNQ*)
Mercury, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.12	U*
Nickel, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Potassium	mg/L	-	Additional	NA	-	Composite	2.8	*
Selenium, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.50	U*
Silver, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Thallium, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Vanadium, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Zinc, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 12	U*

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FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/18/2022 08:00 - 1/19/2022 08:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	1/Quarter	-	Meas	0.18611	*
CONVENTIONAL POLLUTANTS								
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	mg/L	30	1/Discharge	NA	-	Composite	ND < 2.0	U*
Oil & Grease	mg/L	15	1/Discharge	NA	-	Grab	ND < 0.53	U*
pH (Field)	s.u.	6.5-8.5	1/Discharge	1/Quarter	6.5-8.5	Grab	6.61	*
Total Suspended Solids[#]	mg/L	45	1/Discharge	1/Year	-	Composite	0.60[(d)]	J (DNQ*)
PRIORITY POLLUTANTS								
1,1-Dichloroethene	µg/L	6.0	1/Discharge	1/5 Years	-	Grab	ND < 0.33	U*
1,2-Dichloroethane	µg/L	0.5	1/Discharge	1/5 Years	-	Grab	ND < 0.15	U*
2,4,6-Trichlorophenol	µg/L	13	1/Discharge	1/5 Years	-	Composite	ND < 0.15	U*
2,4-Dinitrotoluene	µg/L	18	1/Discharge	1/5 Years	-	Composite	ND < 0.10	U*
alpha-BHC	µg/L	0.03	1/Discharge	1/5 Years	-	Composite	ND < 0.00080	U*
Antimony	µg/L	6.0	1/Year	1/5 Years	-	Composite	0.55	J (DNQ*)
Arsenic	µg/L	10.0	1/Year	1/5 Years	-	Composite	8.9	J (DNQ*)
Beryllium	µg/L	4.0	1/Year	1/5 Years	-	Composite	ND < 0.44	U*
Bis (2-Ethylhexyl) Phthalate	µg/L	4.0	1/Discharge	1/5 Years	-	Composite	ND < 1.7	U*
Cadmium	µg/L	(4.0) 3.1	1/Discharge	1/5 Years	-	Composite	ND < 0.25	U*
Chromium VI (Hexavalent)	µg/L	16	1/Year	1/5 Years	-	Composite	ND < 0.25	U*
Copper	µg/L	14	1/Discharge	1/5 Years	-	Composite	1.3	J (DNQ*)
Cyanide	µg/L	8.5	1/Discharge	1/5 Years	-	Composite	ND < 2.5	U*
Lead	µg/L	5.2	1/Discharge	1/5 Years	-	Composite	ND < 0.50	U*
Mercury	µg/L	0.1	1/Discharge	1/5 Years	-	Composite	ND < 0.12	U*
Nickel	µg/L	94	1/Year	1/5 Years	-	Composite	ND < 5.0	U*
N-Nitrosodimethylamine	µg/L	16	1/Discharge	1/5 Years	-	Composite	ND < 0.13	U*
Pentachlorophenol	µg/L	16.5	1/Discharge	1/5 Years	-	Composite	ND < 0.10	U*
Selenium	µg/L	(5) 8.2	1/Discharge	1/5 Years	-	Composite	ND < 0.50	U*
Silver	µg/L	4.1	1/Year	1/5 Years	-	Composite	ND < 0.50	U*
Thallium	µg/L	2.0	1/Year	1/5 Years	-	Composite	ND < 0.20	U*
Trichloroethene	µg/L	5.0	1/Discharge	1/5 Years	-	Grab	ND < 0.17	U*
Zinc	µg/L	119	1/Discharge	1/5 Years	-	Composite	ND < 12	U*
NON-CONVENTIONAL POLLUTANTS								
Ammonia - N	mg/L	10.1	1/Discharge	NA	-	Composite	0.147	J (DNQ*)
Barium	mg/L	1.0	1/Year	NA	-	Composite	0.052	*
Chloride	mg/L	150	1/Discharge	NA	-	Composite	32	*
Chlorine, Total Residual (Field)	mg/L	0.1	1/Year	NA	-	Grab	0.0	*
Chronic Toxicity	Pass or Fail and % Effect	Pass or % Effect <50	1st & 2nd rain event/Year	NA	-	Composite	Pass, -28.74	*
Detergents (as MBAS)	mg/L	0.5	1/Discharge	NA	-	Composite	0.12	*

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/18/2022 08:00 - 1/19/2022 08:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Fluoride	mg/L	1.6	1/Year	NA	-	Composite	0.27	J (DNQ*)
Iron	mg/L	0.3	1/Discharge[r]	NA	-	Composite	ND < 0.050	U*
Manganese	µg/L	50	1/Year[p]	NA	-	Composite	ND < 6.8	U*
Nitrate - N	mg/L	8	1/Discharge	NA	-	Composite	0.14	*
Nitrate + Nitrite as Nitrogen (N)	mg/L	8	1/Discharge	NA	-	Composite	0.14	J (DNQ*)
Nitrite - N	mg/L	1	1/Discharge	NA	-	Composite	ND < 0.024	U*
Perchlorate	µg/L	6.0	1/Discharge	NA	-	Composite	ND < 0.95	U*
Settleable Solids[#]	ml/L	0.3	1/Discharge	NA	-	Grab	ND < 0.10	U*
Sulfate	mg/L	300	1/Discharge	NA	-	Composite	200	*
Temperature (Field)	Deg F	86	1/Discharge	1/Quarter	-	Grab	56.3	*
Total Dissolved Solids	mg/L	950	1/Discharge	NA	-	Composite	560	*
REMAINING PRIORITY POLLUTANTS								
1,1,1-Trichloroethane	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.25	U*
1,1,2,2-Tetrachloroethane	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.20	U*
1,1,2-Trichloroethane	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.17	U*
1,1-Dichloroethane	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.39	U*
1,2,4-Trichlorobenzene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.12	U*
1,2-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.12	U*
1,2-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.16	U*
1,2-Dichloropropane	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.17	U*
1,2-Diphenylhydrazine/Azobenzene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.065	U*
1,3-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.12	U*
1,3-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.16	U*
1,4-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.12	U*
1,4-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.11	U*
2,4-Dichlorophenol	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.091	U*
2,4-Dimethylphenol	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.12	U*
2,4-Dinitrophenol	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 4.3	U*
2,6-Dinitrotoluene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.12	U*
2-Chloroethyl vinyl ether[q]	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 1.1	U*
2-Chloronaphthalene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.13	U*
2-Chlorophenol	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.078	U*
2-Methyl-4,6-dinitrophenol	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 3.7	U*
2-Nitrophenol	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 3.9	U*
3,3'-Dichlorobenzidine	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 1.5	U*
4,4'-DDD	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.00080	U*
4,4'-DDE	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.00050	U*
4,4'-DDT	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.0016	U*

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SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/18/2022 08:00 - 1/19/2022 08:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
4-Bromophenyl phenyl ether	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.073	U*
4-Chloro-3-methylphenol	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.11	U*
4-Chlorophenyl phenyl ether	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.085	U*
4-Nitrophenol	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 3.4	U*
Acenaphthene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.081	U*
Acenaphthylene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.080	U*
Acrolein	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 4.6	U*
Acrylonitrile	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 1.4	U*
Aldrin	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.00070	U*
alpha-Endosulfan	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.00070	U*
Anthracene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.068	U*
Aroclor 1016	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.044	U*
Aroclor 1221	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.044	U*
Aroclor 1232	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.044	U*
Aroclor 1242	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.044	U*
Aroclor 1248	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.044	U*
Aroclor 1254	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.052	U*
Aroclor 1260	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.052	U*
Benzene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.28	U*
Benzidine	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 2.1	U*
Benzo(a)anthracene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.066	U*
Benzo(a)pyrene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.19	U*
Benzo(b)fluoranthene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.097	U*
Benzo(g,h,i)perylene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.12	U*
Benzo(k)fluoranthene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.073	U*
beta-BHC	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.0017	U*
beta-Endosulfan	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.00050	U*
Bis (2-Chloroethoxy) Methane	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.14	U*
Bis (2-Chloroethyl) Ether	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.093	U*
Bis (2-Chloroisopropyl) Ether	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.087	U*
Bromoform	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.25	U*
Bromomethane	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.22	U*
Butyl benzylphthalate	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.93	U*
Carbon tetrachloride	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.28	U*
Chlordane	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.0065	U*
Chlorobenzene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.19	U*
Chlorodibromomethane	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.15	U*
Chloroethane	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.29	U*

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/18/2022 08:00 - 1/19/2022 08:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Chloroform	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.19	U*
Chloromethane (Methyl Chloride)	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.30	U*
Chromium	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 2.5	U*
Chromium III (Trivalent)	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.50	U*
Chrysene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.054	U*
cis-1,3-Dichloropropene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.30	U*
delta-BHC	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.0011	U*
Dibenzo(a,h)anthracene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.13	U*
Dichlorobromomethane	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.19	U*
Dieldrin	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.00050	U*
Diethyl phthalate	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.13	U*
Dimethyl phthalate	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.068	U*
Di-n-butyl phthalate	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 1.8	U*
Di-n-octyl phthalate	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.61	U*
Endosulfan sulfate	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.00060	U*
Endrin	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.00070	U*
Endrin aldehyde	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.0051	U*
Ethylbenzene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.25	U*
Fluoranthene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.091	U*
Fluorene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.076	U*
gamma-BHC (Lindane)	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.00090	U*
Heptachlor	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.00070	U*
Heptachlor epoxide	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.00040	U*
Hexachlorobenzene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.089	U*
Hexachlorobutadiene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.16	U*
Hexachlorocyclopentadiene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.092	U*
Hexachloroethane	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.14	U*
Indeno(1,2,3-cd)pyrene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.12	U*
Isophorone	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.083	U*
m,p-Xylenes	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.17	U*
Methylene chloride	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.57	U*
Naphthalene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.093	U*
Naphthalene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.33	U*
Nitrobenzene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.092	U*
N-Nitroso-di-n-propylamine	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.16	U*
N-Nitrosodiphenylamine	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.090	U*
o-Xylene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.15	U*
Phenanthrene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.070	U*

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/18/2022 08:00 - 1/19/2022 08:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Phenol	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.76	U*
Pyrene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.075	U*
Tetrachloroethene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.21	U*
Toluene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.23	U*
Toxaphene	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.013	U*
trans-1,2-Dichloroethene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.24	U*
trans-1,3-Dichloropropene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.18	U*
Trichlorofluoromethane	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.29	U*
Vinyl chloride	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.47	U*
Xylenes (Total)	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.17	U*
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS								
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	-	1/Quarter	NA	-	Grab	ND < 0.33	U*
1,2-Dichloro-1,1,2-trifluoroethane	µg/L	-	1/Year	NA	-	Grab	ND < 0.58	U*
1,4-Dioxane	µg/L	-	1/Year	NA	-	Composite	ND < 0.55	U*
Boron	mg/L	-	1/Year	NA	-	Composite	0.110	*
cis-1,2-Dichloroethene	µg/L	-	1/Year	NA	-	Grab	ND < 0.21	U*
Cobalt	µg/L	-	1/Year	NA	-	Composite	ND < 2.8	U*
Conductivity	µmhos/cm	-	1/Discharge	NA	-	Grab	840	*
Cyclohexane	µg/L	-	1/Year	NA	-	Grab	ND < 0.79	U*
Diesel Range Organics (DRO C13-C28)	mg/L	-	1/Year	NA	-	Grab	0.038	J (DNQ*)
Dissolved Oxygen (Field)	mg/L	-	1/Discharge	NA	-	Grab	10.49	*
Gasoline Range Organics (GRO C4-C12)	mg/L	-	1/Year	NA	-	Grab	ND < 0.030	U*
Hardness (as CaCO3)	mg/L	-	1/Year	1/Quarter	-	Composite	300	*
Monomethyl hydrazine	µg/L	-	1/Year	NA	-	Composite	ND < 0.31	U*
Total Organic Carbon	mg/L	-	1/Year	NA	-	Composite	4.6	*
Turbidity	NTU	-	1/Discharge	NA	-	Composite	0.15	*
Vanadium	µg/L	-	1/Year	NA	-	Composite	ND < 2.1	U*
ADDITIONAL POLLUTANTS[2)]								
Antimony, dissolved	µg/L	-	Additional/Year	NA	-	Composite	0.52	J (DNQ*)
Arsenic, dissolved	µg/L	-	Additional/Year	NA	-	Composite	13	J (DNQ*)
Barium, dissolved	mg/L	-	Additional/Year	NA	-	Composite	0.050	*
Beryllium, dissolved	µg/L	-	Additional/Year	NA	-	Composite	ND < 0.44	U*
Boron, dissolved	mg/L	-	Additional/Year	NA	-	Composite	0.089	*
Cadmium, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.25	U*
Chromium, dissolved	µg/L	-	Additional/Year	NA	-	Composite	ND < 2.5	U*
Cobalt, dissolved	µg/L	-	Additional/Year	NA	-	Composite	ND < 2.8	U*
Copper, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	3.0	*

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/18/2022 08:00 - 1/19/2022 08:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Hardness, Dissolved (as CaCO3)	mg/L	-	Additional/Year	NA	-	Composite	280	*
Human Bacteroides	CEs/100mL	-	Additional/Year	NA	-	Grab	ND < 150	U*
Iron, dissolved	mg/L	-	Additional/Discharge[(r)]	NA	-	Composite	ND < 0.050	U*
Lead, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.50	U*
Manganese, dissolved	µg/L	-	Additional/Year[(p)]	NA	-	Composite	ND < 6.8	U*
Mercury, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.12	U*
Nickel, dissolved	µg/L	-	Additional/Year	NA	-	Composite	ND < 5.0	U*
Potassium	mg/L	-	Additional	NA	-	Composite	4.1	*
Selenium, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	0.51	J (DNQ*)
Silver, dissolved	µg/L	-	Additional/Year	NA	-	Composite	ND < 0.50	U*
Thallium, dissolved	µg/L	-	Additional/Year	NA	-	Composite	ND < 0.20	U*
Vanadium, dissolved	µg/L	-	Additional/Year	NA	-	Composite	ND < 2.1	U*
Zinc, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 12	U*

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/4/2022 10:10 (Composite)			
ANALYTE	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**1998 WHO TEF**	**BEF GREAT LAKES WATER QUALITY INITIATIVE**	**UNITS**	**LAB MDL**	**LAB RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**TCDD EQUIVALENT (w/out DNQ Values)**
1,2,3,4,6,7,8-HpCDD	1/Discharge	1/Year	0.01	0.05	µg/L	2.5E-07	7.8E-06	U (B)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	1/Year	0.01	0.01	µg/L	3.3E-07	3.2E-06	U (B)	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	1/Year	0.01	0.4	µg/L	3.4E-07	1.5E-06	J (DNQ)	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	1/Year	0.1	0.3	µg/L	4.0E-07	2.6E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	1/Year	0.1	0.08	µg/L	2.6E-07	1.4E-06	J (DNQ)	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	1/Year	0.1	0.1	µg/L	4.1E-07	1.2E-06	J (DNQ)	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	1/Year	0.1	0.2	µg/L	2.8E-07	1.4E-06	J (DNQ)	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	1/Year	0.1	0.1	µg/L	3.5E-07	1.4E-06	J (DNQ)	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	1/Year	0.1	0.6	µg/L	2.2E-07	1.4E-06	J (DNQ)	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1/Year	1.0	0.9	µg/L	6.3E-07	1.4E-06	J (DNQ)	**ND**
1,2,3,7,8-PeCDF	1/Discharge	1/Year	0.05	0.2	µg/L	4.4E-07	9.6E-07	UJ (*III)	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	1/Year	0.1	0.7	µg/L	2.3E-07	1.4E-06	J (DNQ)	**ND**
2,3,4,7,8-PeCDF	1/Discharge	1/Year	0.5	1.6	µg/L	4.3E-07	1.0E-06	J (DNQ)	**ND**
2,3,7,8-TCDD	1/Discharge	1/Year	1.0	1.0	µg/L	7.0E-07	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	1/Year	0.1	0.8	µg/L	6.7E-06	ND	U	**ND**
OCDD	1/Discharge	1/Year	0.0001	0.01	µg/L	4.4E-07	6.1E-05	U (B)	**ND**
OCDF	1/Discharge	1/Year	0.0001	0.02	µg/L	4.2E-07	5.6E-06	U (B)	**ND**

TCDD TEQ w/out DNQ Values[4]	**ND**

TCDD TEQ (PRIORITY POLLUTANTS) DAILY MAXIMUM BENCHMARK LIMIT[j] = 2.8E-08

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/5/2022 09:00 (Composite)			
ANALYTE	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**1998 WHO TEF**	**BEF GREAT LAKES WATER QUALITY INITIATIVE**	**UNITS**	**LAB MDL**	**LAB RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**TCDD EQUIVALENT (w/out DNQ Values)**
1,2,3,4,6,7,8-HpCDD	1/Discharge	1/Year	0.01	0.05	µg/L	1.8E-07	4.3E-06	U (B)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	1/Year	0.01	0.01	µg/L	3.0E-07	1.6E-06	U (B)	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	1/Year	0.01	0.4	µg/L	3.2E-07	8.3E-07	J (DNQ)	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	1/Year	0.1	0.3	µg/L	4.6E-07	1.9E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	1/Year	0.1	0.08	µg/L	4.5E-07	7.0E-07	UJ (*III)	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	1/Year	0.1	0.1	µg/L	4.7E-07	7.3E-07	J (DNQ)	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	1/Year	0.1	0.2	µg/L	4.7E-07	6.9E-07	UJ (*III)	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	1/Year	0.1	0.1	µg/L	4.1E-07	6.7E-07	UJ (*III)	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	1/Year	0.1	0.6	µg/L	3.8E-07	1.2E-06	J (DNQ)	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1/Year	1.0	0.9	µg/L	5.2E-07	ND	U	**ND**
1,2,3,7,8-PeCDF	1/Discharge	1/Year	0.05	0.2	µg/L	3.7E-07	6.5E-07	UJ (*III)	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	1/Year	0.1	0.7	µg/L	3.9E-07	4.7E-07	UJ (*III)	**ND**
2,3,4,7,8-PeCDF	1/Discharge	1/Year	0.5	1.6	µg/L	3.6E-07	ND	U	**ND**
2,3,7,8-TCDD	1/Discharge	1/Year	1.0	1.0	µg/L	6.1E-07	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	1/Year	0.1	0.8	µg/L	6.6E-06	ND	U	**ND**
OCDD	1/Discharge	1/Year	0.0001	0.01	µg/L	3.9E-07	2.4E-05	U (B)	**ND**
OCDF	1/Discharge	1/Year	0.0001	0.02	µg/L	4.5E-07	4.1E-06	U (B)	**ND**

TCDD TEQ w/out DNQ Values[4]	**ND**

TCDD TEQ (PRIORITY POLLUTANTS) DAILY MAXIMUM BENCHMARK LIMIT[j] = 2.8E-08

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/19/2022 08:30 (Composite)			
ANALYTE	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**1998 WHO TEF**	**BEF GREAT LAKES WATER QUALITY INITIATIVE**	**UNITS**	**LAB MDL**	**LAB RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**TCDD EQUIVALENT (w/out DNQ Values)**
1,2,3,4,6,7,8-HpCDD	1/Discharge	1/Year	0.01	0.05	µg/L	3.6E-07	5.5E-06	U (B)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	1/Year	0.01	0.01	µg/L	6.3E-07	6.0E-06	U (B)	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	1/Year	0.01	0.4	µg/L	5.6E-07	2.6E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	1/Year	0.1	0.3	µg/L	5.8E-07	3.8E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	1/Year	0.1	0.08	µg/L	4.7E-07	2.4E-06	U (B)	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	1/Year	0.1	0.1	µg/L	7.4E-07	2.1E-06	U (B)	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	1/Year	0.1	0.2	µg/L	5.5E-07	1.7E-06	U (B)	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	1/Year	0.1	0.1	µg/L	6.3E-07	2.2E-06	U (B)	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	1/Year	0.1	0.6	µg/L	5.3E-07	3.8E-06	U (B)	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1/Year	1.0	0.9	µg/L	9.5E-07	ND	U	**ND**
1,2,3,7,8-PeCDF	1/Discharge	1/Year	0.05	0.2	µg/L	7.6E-07	ND	U	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	1/Year	0.1	0.7	µg/L	5.3E-07	2.0E-06	U (B)	**ND**
2,3,4,7,8-PeCDF	1/Discharge	1/Year	0.5	1.6	µg/L	7.2E-07	ND	U	**ND**
2,3,7,8-TCDD	1/Discharge	1/Year	1.0	1.0	µg/L	1.0E-06	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	1/Year	0.1	0.8	µg/L	3.8E-07	ND	U	**ND**
OCDD	1/Discharge	1/Year	0.0001	0.01	µg/L	8.7E-07	2.4E-05	U (B)	**ND**
OCDF	1/Discharge	1/Year	0.0001	0.02	µg/L	6.1E-07	6.3E-06	U (B)	**ND**

TCDD TEQ w/out DNQ Values[4]	**ND**

TCDD TEQ (PRIORITY POLLUTANTS) DAILY MAXIMUM BENCHMARK LIMIT[j] = 2.8E-08

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/4/2022 10:10 (Composite)		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS								
Gross Alpha	pCi/L	15	1/Discharge	NA	-/-	1.07+/-1.74	2.93	U*
Gross Beta	pCi/L	50	1/Discharge	NA	-/-	2.34+/-0.624	0.781	*
Combined Radium-226 & Radium-228	pCi/L	5.0	1/Discharge	NA	-/-	0.553+/-0.385	NM	U*
Strontium-90	pCi/L	8.0	1/Discharge	NA	-/-	0.958+/-0.499	0.736	*
Tritium	pCi/L	20,000	1/Discharge	NA	-/-	-173+/-201	390	U*
ADDITIONAL POLLUTANTS								
Cesium-137	pCi/L	200	1/Discharge	NA	-/-	3.05+/-9.16	11.0	U*
Cesium-137[(t)]	pCi/L	200	1/Discharge	NA	-/-	ANR	ANR	ANR
Uranium	pCi/L	20	1/Discharge	NA	-/-	1.60+/-0.389	0.135	*
ADDITIONAL POLLUTANTS WITHOUT LIMITS								
Potassium-40	pCi/L	-	1/Discharge	NA	-/-	54.8+/-93.8	98.4	U*
Potassium-40[(t)]	pCi/L	-	1/Discharge	NA	-/-	ANR	ANR	ANR

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/5/2022 09:00 (Composite)		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS								
Gross Alpha	pCi/L	15	1/Discharge	NA	-/-	0.908+/-2.16	3.76	U*
Gross Beta	pCi/L	50	1/Discharge	NA	-/-	2.66+/-0.987	1.29	*
Combined Radium-226 & Radium-228	pCi/L	5.0	1/Discharge	NA	-/-	0.734+/-0.394	NM	*
Strontium-90	pCi/L	8.0	1/Discharge	NA	-/-	0.110+/-0.331	0.578	U*
Tritium	pCi/L	20,000	1/Discharge	NA	-/-	-49.5+/-158	282	U*
ADDITIONAL POLLUTANTS								
Cesium-137	pCi/L	200	1/Discharge	NA	-/-	-1.44+/-10.9	13.2	U*
Cesium-137[(t)]	pCi/L	200	1/Discharge	NA	-/-	ANR	ANR	ANR
Uranium	pCi/L	20	1/Discharge	NA	-/-	0.239+/-0.132	0.107	*
ADDITIONAL POLLUTANTS WITHOUT LIMITS								
Potassium-40	pCi/L	-	1/Discharge	NA	-/-	116+/-57.9	50.2	*
Potassium-40[(t)]	pCi/L	-	1/Discharge	NA	-/-	143+/-107	101	*

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

						1/19/2022 08:30 (Composite)		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS								
Gross Alpha	pCi/L	15	1/Discharge	NA	-/-	-2.01+/-4.18	8.17	U*
Gross Beta	pCi/L	50	1/Discharge	NA	-/-	3.43+/-1.59	2.30	*
Combined Radium-226 & Radium-228	pCi/L	5.0	1/Discharge	NA	-/-	0.542+/-0.357	NM	U*
Strontium-90	pCi/L	8.0	1/Discharge	NA	-/-	0.0456+/-0.367	0.640	U*
Tritium	pCi/L	20,000	1/Discharge	NA	-/-	22.5+/-196	346	U*
ADDITIONAL POLLUTANTS								
Cesium-137	pCi/L	200	1/Discharge	NA	-/-	10.4+/-7.43	7.72	*
Cesium-137[(t)]	pCi/L	200	1/Discharge	NA	-/-	4.92+/-8.98	11.0	U*
Uranium	pCi/L	20	1/Discharge	NA	-/-	2.58+/-0.443	0.141	*
ADDITIONAL POLLUTANTS WITHOUT LIMITS								
Potassium-40	pCi/L	-	1/Discharge	NA	-/-	-31.8+/-72.3	150	U*
Potassium-40[(t)]	pCi/L	-	1/Discharge	NA	-/-	ANR	ANR	ANR

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

		E. Coli (MPN/100mL)		
SAMPLE DATE & TIME	**RECEIVING WATER LIMIT[(s)]**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
1/4/2022 10:30	235	Grab	56	--
1/10/2022 08:25	235	Grab	100	J (H)
1/13/2022 08:00	235	Grab	12	J (H)
1/18/2022 08:00	235	Grab	3.1	J (H)
1/21/2022 07:30	236	Grab	4.1	J (H)
Geomean	126	Calc	15	*

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 002
DISCHARGE MONITORING MASS SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/3/2022 10:30 - 1/4/2022 10:10			1/4/2022 10:30 - 1/5/2022 09:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	1.4470	*	Meas	1.7634	*
CONVENTIONAL POLLUTANTS									
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	LBS/DAY	29,481	1/Discharge	Composite	ND	U*	Composite	ND	U*
Oil & Grease	LBS/DAY	14,741	1/Discharge	Grab	ND	U*	Grab	ND	U*
Total Suspended Solids#	LBS/DAY	44,222	1/Discharge	Composite	110[(d)]	*	Composite	ND	U*
PRIORITY POLLUTANTS									
1,1-Dichloroethene	LBS/DAY	5.9	1/Discharge	Grab	ND	U*	Grab	ND	U*
1,2-Dichloroethane	LBS/DAY	0.49	1/Discharge	Grab	ND	U*	Grab	ND	U*
2,4,6-Trichlorophenol	LBS/DAY	12.8	1/Discharge	Composite	ND	U*	Composite	ND	U*
2,4-Dinitrotoluene	LBS/DAY	17.7	1/Discharge	Composite	ND	U*	Composite	ND	U*
alpha-BHC	LBS/DAY	0.03	1/Discharge	Composite	ND	U*	Composite	ND	U*
Antimony	LBS/DAY	5.9	1/Year	ANR	ANR	ANR	ANR	ANR	ANR
Arsenic	LBS/DAY	9.83	1/Year	Composite	ND	U*	Composite	ND	U*
Beryllium	LBS/DAY	3.93	1/Year	ANR	ANR	ANR	ANR	ANR	ANR
Bis (2-Ethylhexyl) Phthalate	LBS/DAY	3.93	1/Discharge	Composite	ND	U*	Composite	ND	U*
Cadmium	LBS/DAY	(3.93) 3.05	1/Discharge	Composite	ND	U*	Composite	ND	U*
Chromium VI (Hexavalent)	LBS/DAY	15.72	1/Year	ANR	ANR	ANR	ANR	ANR	ANR
Copper	LBS/DAY	13.76	1/Discharge	Composite	0.028	*	Composite	0.024	J (DNQ*)
Cyanide	LBS/DAY	8.35	1/Discharge	Composite	ND	U*	Composite	0.022	J (DNQ*)
Lead	LBS/DAY	5.11	1/Discharge	Composite	ND	U*	Composite	ND	U*
Mercury	LBS/DAY	0.1	1/Discharge	Composite	ND	U*	Composite	ND	U*
Nickel	LBS/DAY	92.4	1/Year	ANR	ANR	ANR	ANR	ANR	ANR
N-Nitrosodimethylamine	LBS/DAY	15.72	1/Discharge	Composite	ND	U*	Composite	ND	U*
Pentachlorophenol	LBS/DAY	16.22	1/Discharge	Composite	ND	U*	Composite	ND	U*
Selenium	LBS/DAY	(4.91) 8.06	1/Discharge	Composite	0.011[(e)]	J (DNQ*)	Composite	ND	U*
Silver	LBS/DAY	4.03	1/Year	ANR	ANR	ANR	ANR	ANR	ANR
TCDD TEQ_NoDNQ[(4)]	LBS/DAY	2.75E-08	1/Discharge	Composite	ND	U*	Composite	ND	U*
Thallium	LBS/DAY	1.97	1/Year	ANR	ANR	ANR	ANR	ANR	ANR
Trichloroethene	LBS/DAY	4.91	1/Discharge	Grab	0.0023	J (DNQ*)	Grab	0.021	*
Zinc	LBS/DAY	117	1/Discharge	Composite	ND	U*	Composite	ND	U*

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 002
DISCHARGE MONITORING MASS SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/3/2022 10:30 - 1/4/2022 10:10			1/4/2022 10:30 - 1/5/2022 09:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS									
Ammonia - N	LBS/DAY	9,925.3	1/Discharge	Composite	2.34	J (DNQ*)	Composite	21.3	*
Barium	LBS/DAY	983	1/Year	ANR	ANR	ANR	ANR	ANR	ANR
Chloride	LBS/DAY	147,405	1/Discharge	Composite	220	*	Composite	100	*
Chlorine, Total Residual (Field)	LBS/DAY	98.3	1/Year	ANR	ANR	ANR	ANR	ANR	ANR
Detergents (as MBAS)	LBS/DAY	491.4	1/Discharge	Composite	ND	U*	Composite	ND	U*
Fluoride	LBS/DAY	1,572.3	1/Year	ANR	ANR	ANR	ANR	ANR	ANR
Iron	LBS/DAY	295	1/Discharge[(r)]	Composite	3.0	*	Composite	ND	U*
Manganese	LBS/DAY	49.1	1/Year[(p)]	Composite	0.21	J (DNQ*)	Composite	0.12	J (DNQ*)
Nitrate - N	LBS/DAY	7,862	1/Discharge	Composite	30	*	Composite	51	*
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	7,862	1/Discharge	Composite	30	*	Composite	51	*
Nitrite - N	LBS/DAY	983	1/Discharge	Composite	ND	U*	Composite	ND	U*
Perchlorate	LBS/DAY	5.9	1/Discharge	Composite	ND	U*	Composite	ND	U*
Sulfate	LBS/DAY	294,810	1/Discharge	Composite	1,700	*	Composite	1,470	*
Total Dissolved Solids	LBS/DAY	933,567	1/Discharge	Composite	4,700	*	Composite	3,700	*

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 002
DISCHARGE MONITORING MASS SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/18/2022 08:00 - 1/19/2022 08:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	0.18611	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	LBS/DAY	29,481	1/Discharge	Composite	ND	U*
Oil & Grease	LBS/DAY	14,741	1/Discharge	Grab	ND	U*
Total Suspended Solids#	LBS/DAY	44,222	1/Discharge	Composite	0.93(d)	J (DNQ*)
PRIORITY POLLUTANTS						
1,1-Dichloroethene	LBS/DAY	5.9	1/Discharge	Grab	ND	U*
1,2-Dichloroethane	LBS/DAY	0.49	1/Discharge	Grab	ND	U*
2,4,6-Trichlorophenol	LBS/DAY	12.8	1/Discharge	Composite	ND	U*
2,4-Dinitrotoluene	LBS/DAY	17.7	1/Discharge	Composite	ND	U*
alpha-BHC	LBS/DAY	0.03	1/Discharge	Composite	ND	U*
Antimony	LBS/DAY	5.9	1/Year	Composite	0.00085	J (DNQ*)
Arsenic	LBS/DAY	9.83	1/Year	Composite	0.014	J (DNQ*)
Beryllium	LBS/DAY	3.93	1/Year	Composite	ND	U*
Bis (2-Ethylhexyl) Phthalate	LBS/DAY	3.93	1/Discharge	Composite	ND	U*
Cadmium	LBS/DAY	(3.93) 3.05	1/Discharge	Composite	ND	U*
Chromium VI (Hexavalent)	LBS/DAY	15.72	1/Year	Composite	ND	U*
Copper	LBS/DAY	13.76	1/Discharge	Composite	0.0020	J (DNQ*)
Cyanide	LBS/DAY	8.35	1/Discharge	Composite	ND	U*
Lead	LBS/DAY	5.11	1/Discharge	Composite	ND	U*
Mercury	LBS/DAY	0.1	1/Discharge	Composite	ND	U*
Nickel	LBS/DAY	92.4	1/Year	Composite	ND	U*
N-Nitrosodimethylamine	LBS/DAY	15.72	1/Discharge	Composite	ND	U*
Pentachlorophenol	LBS/DAY	16.22	1/Discharge	Composite	ND	U*
Selenium	LBS/DAY	(4.91) 8.06	1/Discharge	Composite	ND	U*
Silver	LBS/DAY	4.03	1/Year	Composite	ND	U*
TCDD TEQ_NoDNQ(4)	LBS/DAY	2.75E-08	1/Discharge	Composite	ND	U*
Thallium	LBS/DAY	1.97	1/Year	Composite	ND	U*
Trichloroethene	LBS/DAY	4.91	1/Discharge	Grab	ND	U*
Zinc	LBS/DAY	117	1/Discharge	Composite	ND	U*

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 002
DISCHARGE MONITORING MASS SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/18/2022 08:00 - 1/19/2022 08:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	LBS/DAY	9,925.3	1/Discharge	Composite	0.228	J (DNQ*)
Barium	LBS/DAY	983	1/Year	Composite	0.081	*
Chloride	LBS/DAY	147,405	1/Discharge	Composite	50	*
Chlorine, Total Residual (Field)	LBS/DAY	98.3	1/Year	Grab	0.0	*
Detergents (as MBAS)	LBS/DAY	491.4	1/Discharge	Composite	0.19	*
Fluoride	LBS/DAY	1,572.3	1/Year	Composite	0.42	J (DNQ*)
Iron	LBS/DAY	295	1/Discharge(r)	Composite	ND	U*
Manganese	LBS/DAY	49.1	1/Year(p)	Composite	ND	U*
Nitrate - N	LBS/DAY	7,862	1/Discharge	Composite	0.22	*
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	7,862	1/Discharge	Composite	0.22	J (DNQ*)
Nitrite - N	LBS/DAY	983	1/Discharge	Composite	ND	U*
Perchlorate	LBS/DAY	5.9	1/Discharge	Composite	ND	U*
Sulfate	LBS/DAY	294,810	1/Discharge	Composite	310	*
Total Dissolved Solids	LBS/DAY	933,567	1/Discharge	Composite	870	*

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/3/2022 10:00 - 1/4/2022 11:40		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	64.33	1/Discharge	Meas	0.1035	*
CONVENTIONAL POLLUTANTS						
Oil & Grease	mg/L	15	1/Discharge	Grab	ND < 0.53	U*
pH (Field)	s.u.	6.5-8.5	1/Discharge	Grab	7.51	*
PRIORITY POLLUTANTS						
Antimony	µg/L	6.0	1/Discharge	Composite	1.5	J (DNQ*)
Cadmium	µg/L	4.0	1/Discharge	Composite	ND < 0.25	U*
Copper	µg/L	13	1/Discharge	Composite	3.4	*
Cyanide	µg/L	9.5	1/Discharge	Composite	ND < 1.4	U*
Lead	µg/L	5.2	1/Discharge	Composite	ND < 0.50	U*
Mercury	µg/L	0.13	1/Discharge	Composite	ND < 0.10	U*
Nickel	µg/L	86	1/Discharge	Composite	ND < 5.0	U*
Thallium	µg/L	2.0	1/Discharge	Composite	ND < 0.20	U*
Zinc	µg/L	120	1/Discharge	Composite	ND < 12	U*
NON-CONVENTIONAL POLLUTANTS						
Boron	mg/L	1.0	1/Year	ANR	ANR	ANR
Chloride	mg/L	150	1/Discharge	Composite	7.1	*
Chronic Toxicity	Pass or Fail and % Effect	Pass or % Effect <50	1st & 2nd rain event/Year	ANR	ANR	ANR
Fluoride	mg/L	1.6	1/Year	ANR	ANR	ANR
Nitrate + Nitrite as Nitrogen (N)	mg/L	10	1/Discharge	Composite	6.3	*
Perchlorate	µg/L	6.0	1/Semiannual	Composite	ND <0.95	U*
Sulfate	mg/L	250	1/Discharge	Composite	8.2	*
Temperature (Field)	Deg F	86	1/Discharge	Grab	39.5	*
Total Dissolved Solids	mg/L	850	1/Discharge	Composite	160	*
REMAINING PRIORITY POLLUTANTS						
1,1,1-Trichloroethane	µg/L	-	1/Year	ANR	ANR	ANR
1,1,2,2-Tetrachloroethane	µg/L	-	1/Year	ANR	ANR	ANR
1,1,2-Trichloroethane	µg/L	-	1/Year	ANR	ANR	ANR
1,1-Dichloroethane	µg/L	-	1/Year	ANR	ANR	ANR
1,1-Dichloroethene	µg/L	-	1/Year	ANR	ANR	ANR
1,2,4-Trichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Dichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Dichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Dichloroethane	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Dichloropropane	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Diphenylhydrazine/Azobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,3-Dichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,3-Dichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,4-Dichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,4-Dichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
2,4,6-Trichlorophenol	µg/L	-	1/Year	ANR	ANR	ANR
2,4-Dichlorophenol	µg/L	-	1/Year	ANR	ANR	ANR
2,4-Dimethylphenol	µg/L	-	1/Year	ANR	ANR	ANR
2,4-Dinitrophenol	µg/L	-	1/Year	ANR	ANR	ANR
2,4-Dinitrotoluene	µg/L	-	1/Year	ANR	ANR	ANR
2,6-Dinitrotoluene	µg/L	-	1/Year	ANR	ANR	ANR
2-Chloroethyl vinyl ether	µg/L	-	1/Year	ANR	ANR	ANR
2-Chloronaphthalene	µg/L	-	1/Year	ANR	ANR	ANR
2-Chlorophenol	µg/L	-	1/Year	ANR	ANR	ANR
2-Methyl-4,6-dinitrophenol	µg/L	-	1/Year	ANR	ANR	ANR

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/3/2022 10:00 - 1/4/2022 11:40		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
2-Nitrophenol	µg/L	-	1/Year	ANR	ANR	ANR
3,3'-Dichlorobenzidine	µg/L	-	1/Year	ANR	ANR	ANR
4,4'-DDD	µg/L	-	1/Year	ANR	ANR	ANR
4,4'-DDE	µg/L	-	1/Year	ANR	ANR	ANR
4,4'-DDT	µg/L	-	1/Year	ANR	ANR	ANR
4-Bromophenyl phenyl ether	µg/L	-	1/Year	ANR	ANR	ANR
4-Chloro-3-methylphenol	µg/L	-	1/Year	ANR	ANR	ANR
4-Chlorophenyl phenyl ether	µg/L	-	1/Year	ANR	ANR	ANR
4-Nitrophenol	µg/L	-	1/Year	ANR	ANR	ANR
Acenaphthene	µg/L	-	1/Year	ANR	ANR	ANR
Acenaphthylene	µg/L	-	1/Year	ANR	ANR	ANR
Acrolein	µg/L	-	1/Year	ANR	ANR	ANR
Acrylonitrile	µg/L	-	1/Year	ANR	ANR	ANR
Aldrin	µg/L	-	1/Year	ANR	ANR	ANR
alpha-BHC	µg/L	-	1/Year	ANR	ANR	ANR
alpha-Endosulfan	µg/L	-	1/Year	ANR	ANR	ANR
Anthracene	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1016	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1221	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1232	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1242	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1248	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1254	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1260	µg/L	-	1/Year	ANR	ANR	ANR
Arsenic	µg/L	-	1/Year	ANR	ANR	ANR
Asbestos, >=0.5 um	MFL	-	1/Year	ANR	ANR	ANR
Asbestos, > 10 um only	MFL	-	1/Year	ANR	ANR	ANR
Benzene	µg/L	-	1/Year	ANR	ANR	ANR
Benzidine	µg/L	-	1/Year	ANR	ANR	ANR
Benzo(a)anthracene	µg/L	-	1/Year	ANR	ANR	ANR
Benzo(a)pyrene	µg/L	-	1/Year	ANR	ANR	ANR
Benzo(b)fluoranthene	µg/L	-	1/Year	ANR	ANR	ANR
Benzo(g,h,i)perylene	µg/L	-	1/Year	ANR	ANR	ANR
Benzo(k)fluoranthene	µg/L	-	1/Year	ANR	ANR	ANR
Beryllium	µg/L	-	1/Year	ANR	ANR	ANR
beta-BHC	µg/L	-	1/Year	ANR	ANR	ANR
beta-Endosulfan	µg/L	-	1/Year	ANR	ANR	ANR
Bis (2-Chloroethoxy) Methane	µg/L	-	1/Year	ANR	ANR	ANR
Bis (2-Chloroethyl) Ether	µg/L	-	1/Year	ANR	ANR	ANR
Bis (2-Chloroisopropyl) Ether	µg/L	-	1/Year	ANR	ANR	ANR
Bis (2-Ethylhexyl) Phthalate	µg/L	-	1/Year	ANR	ANR	ANR
Bromoform	µg/L	-	1/Year	ANR	ANR	ANR
Bromomethane	µg/L	-	1/Year	ANR	ANR	ANR
Butyl benzylphthalate	µg/L	-	1/Year	ANR	ANR	ANR
Carbon tetrachloride	µg/L	-	1/Year	ANR	ANR	ANR
Chlordane	µg/L	-	1/Year	ANR	ANR	ANR
Chlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
Chlorodibromomethane	µg/L	-	1/Year	ANR	ANR	ANR
Chloroethane	µg/L	-	1/Year	ANR	ANR	ANR
Chloroform	µg/L	-	1/Year	ANR	ANR	ANR

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/3/2022 10:00 - 1/4/2022 11:40		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Chloromethane (Methyl Chloride)	µg/L	-	1/Year	ANR	ANR	ANR
Chromium	µg/L	-	1/Year	ANR	ANR	ANR
Chromium III (Trivalent), Total	µg/L	-	1/Year	ANR	ANR	ANR
Chromium VI (Hexavalent)	µg/L	-	1/Year	ANR	ANR	ANR
Chrysene	µg/L	-	1/Year	ANR	ANR	ANR
cis-1,3-Dichloropropene	µg/L	-	1/Year	ANR	ANR	ANR
delta-BHC	µg/L	-	1/Year	ANR	ANR	ANR
Dibenzo(a,h)anthracene	µg/L	-	1/Year	ANR	ANR	ANR
Dichlorobromomethane	µg/L	-	1/Year	ANR	ANR	ANR
Dieldrin	µg/L	-	1/Year	ANR	ANR	ANR
Diethyl phthalate	µg/L	-	1/Year	ANR	ANR	ANR
Dimethyl phthalate	µg/L	-	1/Year	ANR	ANR	ANR
Di-n-butyl phthalate	µg/L	-	1/Year	ANR	ANR	ANR
Di-n-octyl phthalate	µg/L	-	1/Year	ANR	ANR	ANR
Endosulfan sulfate	µg/L	-	1/Year	ANR	ANR	ANR
Endrin	µg/L	-	1/Year	ANR	ANR	ANR
Endrin aldehyde	µg/L	-	1/Year	ANR	ANR	ANR
Ethylbenzene	µg/L	-	1/Year	ANR	ANR	ANR
Fluoranthene	µg/L	-	1/Year	ANR	ANR	ANR
Fluorene	µg/L	-	1/Year	ANR	ANR	ANR
gamma-BHC (Lindane)	µg/L	-	1/Year	ANR	ANR	ANR
Heptachlor	µg/L	-	1/Year	ANR	ANR	ANR
Heptachlor epoxide	µg/L	-	1/Year	ANR	ANR	ANR
Hexachlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
Hexachlorobutadiene	µg/L	-	1/Year	ANR	ANR	ANR
Hexachlorocyclopentadiene	µg/L	-	1/Year	ANR	ANR	ANR
Hexachloroethane	µg/L	-	1/Year	ANR	ANR	ANR
Indeno(1,2,3-cd)pyrene	µg/L	-	1/Year	ANR	ANR	ANR
Isophorone	µg/L	-	1/Year	ANR	ANR	ANR
m,p-Xylenes	µg/L	-	1/Year	ANR	ANR	ANR
Methylene chloride	µg/L	-	1/Year	ANR	ANR	ANR
Naphthalene	µg/L	-	1/Year	ANR	ANR	ANR
Naphthalene	µg/L	-	1/Year	ANR	ANR	ANR
Nitrobenzene	µg/L	-	1/Year	ANR	ANR	ANR
N-Nitrosodimethylamine	µg/L	-	1/Year	ANR	ANR	ANR
N-Nitroso-di-n-propylamine	µg/L	-	1/Year	ANR	ANR	ANR
N-Nitrosodiphenylamine	µg/L	-	1/Year	ANR	ANR	ANR
o-Xylene	µg/L	-	1/Year	ANR	ANR	ANR
Pentachlorophenol	µg/L	-	1/Year	ANR	ANR	ANR
Phenanthrene	µg/L	-	1/Year	ANR	ANR	ANR
Phenol	µg/L	-	1/Year	ANR	ANR	ANR
Pyrene	µg/L	-	1/Year	ANR	ANR	ANR
Tetrachloroethene	µg/L	-	1/Year	ANR	ANR	ANR
Toluene	µg/L	-	1/Year	ANR	ANR	ANR
Toxaphene	µg/L	-	1/Year	ANR	ANR	ANR
trans-1,2-Dichloroethene	µg/L	-	1/Year	ANR	ANR	ANR
trans-1,3-Dichloropropene	µg/L	-	1/Year	ANR	ANR	ANR
Trichloroethene	µg/L	-	1/Year	ANR	ANR	ANR
Trichlorofluoromethane	µg/L	-	1/Year	ANR	ANR	ANR
Vinyl chloride	µg/L	-	1/Year	ANR	ANR	ANR

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/3/2022 10:00 - 1/4/2022 11:40		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Xylenes (Total)	µg/L	-	1/Year	ANR	ANR	ANR
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS						
Aluminum	µg/L	-	1/Year	ANR	ANR	ANR
Chlorpyrifos	µg/L	-	1/Year	ANR	ANR	ANR
Diazinon	µg/L	-	1/Year	ANR	ANR	ANR
E. Coli	mpn/100mL	-	1/Year	ANR	ANR	ANR
Hardness (as CaCO3)	mg/L	-	1/Year	ANR	ANR	ANR
Iron	mg/L	-	1/Year	ANR	ANR	ANR
Selenium	µg/L	-	1/Discharge	Composite	ND < 0.50	U*
Silver	µg/L	-	1/Discharge	Composite	ND < 0.50	U*
Total Suspended Solids	mg/L	-	1/Year[(u)]	Composite	ND < 0.50	U*
Vanadium	µg/L	-	1/Year	ANR	ANR	ANR
ADDITIONAL POLLUTANTS[(2)(p)]						
Aluminum, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Antimony, dissolved	µg/L	-	Additional/Discharge	Composite	1.3	J (DNQ*)
Arsenic, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Beryllium, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Boron, dissolved	mg/L	-	Additional/Year	ANR	ANR	ANR
Cadmium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.25	U*
Chromium, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
cis-1,2-Dichloroethene	µg/L	-	Additional/Year	ANR	ANR	ANR
Copper, dissolved	µg/L	-	Additional/Discharge	Composite	3.5	*
Hardness, dissolved (as CaCO3)	mg/L	-	Additional/Year	ANR	ANR	ANR
Iron, dissolved	mg/L	-	Additional/Year	ANR	ANR	ANR
Lead, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U*
Mercury, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.10	U*
Nickel, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 5.0	U*
Nitrate - N	mg/L	-	Additional	Composite	6.3	*
Nitrite - N	mg/L	-	Additional	Composite	ND < 0.036	U*
Potassium	mg/L	-	Additional	Composite	1.6	*
Selenium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U*
Silver, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U*
Thallium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.20	U*
Vanadium, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Zinc, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 12	U*

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OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

					1/4/2022 11:40 (Composite)			
ANALYTE	**SAMPLE FREQUENCY**	**1998 WHO TEF**	**BEF GREAT LAKES WATER QUALITY INITIATIVE**	**UNITS**	**LAB MDL**	**LAB RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**TCDD EQUIVALENT (w/out DNQ Values)**
1,2,3,4,6,7,8-HpCDD	1/Discharge	0.01	0.05	µg/L	1.1E-06	3.1E-05	U (B)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	0.01	0.01	µg/L	6.0E-07	2.4E-06	U (B)	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	0.01	0.4	µg/L	6.1E-07	ND	U	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	0.1	0.3	µg/L	7.4E-07	ND	U	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	0.1	0.08	µg/L	4.8E-07	ND	U	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	0.1	0.1	µg/L	7.8E-07	ND	U	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	0.1	0.2	µg/L	4.9E-07	ND	U	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	0.1	0.1	µg/L	7.4E-07	ND	U	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	0.1	0.6	µg/L	4.6E-07	1.1E-06	U (B)	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1.0	0.9	µg/L	1.2E-06	ND	U	**ND**
1,2,3,7,8-PeCDF	1/Discharge	0.05	0.2	µg/L	7.4E-07	ND	U	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	0.1	0.7	µg/L	4.5E-07	ND	U	**ND**
2,3,4,7,8-PeCDF	1/Discharge	0.5	1.6	µg/L	7.6E-07	ND	U	**ND**
2,3,7,8-TCDD	1/Discharge	1.0	1.0	µg/L	1.4E-06	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	0.1	0.8	µg/L	7.5E-07	ND	U	**ND**
OCDD	1/Discharge	0.0001	0.01	µg/L	1.8E-06	3.1E-04	--	**3.1E-10**
OCDF	1/Discharge	0.0001	0.02	µg/L	1.3E-06	ND	U	**ND**

TCDD TEQ w/out DNQ Values[4]	**3.1E-10**

TCDD TEQ (PRIORITY POLLUTANTS) PERMIT LIMIT = 2.8E-08

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/4/2022 11:40 (Composite)		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS						
Gross Alpha	pCi/L	15	1/Discharge	0.917+/-1.43	2.40	U*
Gross Beta	pCi/L	50	1/Discharge	1.65+/-0.800	1.15	*
Combined Radium-226 & Radium-228	pCi/L	5.0	1/Discharge	0.569+/-0.410	NM	U*
Strontium-90	pCi/L	8.0	1/Discharge	0.0227+/-0.378	0.672	U*
Tritium	pCi/L	20,000	1/Discharge	-144+/-205	396	U*
ADDITIONAL POLLUTANTS						
Cesium-137	pCi/L	200	1/Discharge	0.642+/-8.90	11.0	U*
Uranium	pCi/L	20	1/Discharge	0.148+/-0.173	0.228	U*
ADDITIONAL POLLUTANTS WITHOUT LIMITS						
Potassium-40	pCi/L	-	1/Discharge	114+/-103	98.4	*
Potassium-40[(t)]	pCi/L	-	1/Discharge	-50.0+/-174	178	U*

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 009
DISCHARGE MONITORING MASS SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/3/2022 10:00 - 1/4/2022 11:40		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	64.33	1/Discharge	Meas	0.1035	*
CONVENTIONAL POLLUTANTS						
Oil & Grease	LBS/DAY	8,048	1/Discharge	Grab	ND	U*
PRIORITY POLLUTANTS						
Antimony	LBS/DAY	3.22	1/Discharge	Composite	0.0013	J (DNQ*)
Cadmium	LBS/DAY	2.15	1/Discharge	Composite	ND	U*
Copper	LBS/DAY	7	1/Discharge	Composite	0.0029	*
Cyanide	LBS/DAY	5.1	1/Discharge	Composite	ND	U*
Lead	LBS/DAY	2.8	1/Discharge	Composite	ND	U*
Mercury	LBS/DAY	0.07	1/Discharge	Composite	ND	U*
Nickel	LBS/DAY	46.14	1/Discharge	Composite	ND	U*
TCDD TEQ_NoDNQ[(4)]	LBS/DAY	1.5E-08	1/Discharge	Composite	2.7E-13	*
Thallium	LBS/DAY	1.1	1/Discharge	Composite	ND	U*
Zinc	LBS/DAY	64.4	1/Discharge	Composite	ND	U*
NON-CONVENTIONAL POLLUTANTS						
Boron	LBS/DAY	537	1/Year	Composite	ANR	ANR
Chloride	LBS/DAY	80,477	1/Discharge	Composite	6.1	*
Fluoride	LBS/DAY	858	1/Year	Composite	ANR	ANR
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	5,365	1/Discharge	Composite	5.4	*
Perchlorate	LBS/DAY	3.22	1/Semiannual	Composite	ND	U*
Sulfate	LBS/DAY	134,128	1/Discharge	Composite	7.1	*
Total Dissolved Solids	LBS/DAY	456,034	1/Discharge	Composite	140	*

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OUTFALL 011
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/18/2022 12:50 - 1/19/2022 09:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	0.85776	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	mg/L	30	1/Discharge	Composite	2.3	*
Oil & Grease	mg/L	15	1/Discharge	Grab	ND < 0.53	U*
pH (Field)	s.u.	6.5-8.5	1/Discharge	Grab	7.76	*
Total Suspended Solids#	mg/L	45	1/Discharge	Composite	4.5(d)	*
PRIORITY POLLUTANTS						
1,1-Dichloroethene	µg/L	6.0	1/Discharge	Grab	ND < 0.33	U*
1,2-Dichloroethane	µg/L	0.5	1/Discharge	Grab	ND < 0.15	U*
2,4,6-Trichlorophenol	µg/L	13	1/Discharge	Composite	ND < 0.15	U*
2,4-Dinitrotoluene	µg/L	18	1/Discharge	Composite	ND < 0.10	U*
alpha-BHC	µg/L	0.03	1/Discharge	Composite	ND < 0.00080	U*
Antimony	µg/L	6.0	1/Year	Composite	ND < 0.50	U*
Arsenic	µg/L	10.0	1/Discharge(r)	Composite	ND < 8.9	U*
Beryllium	µg/L	4.0	1/Year	Composite	ND < 0.44	U*
Bis (2-Ethylhexyl) Phthalate	µg/L	4.0	1/Discharge	Composite	ND < 1.8	U*
Cadmium	µg/L	(4.0) 3.1	1/Discharge	Composite	ND < 0.25	U*
Chromium VI (Hexavalent)	µg/L	16	1/Year	Composite	ND < 0.25	U*
Copper	µg/L	14	1/Discharge	Composite	4.0	*
Cyanide	µg/L	8.5	1/Discharge	Composite	ND < 2.5	U*
Lead	µg/L	5.2	1/Discharge	Composite	ND < 0.50	U*
Mercury	µg/L	0.1	1/Discharge	Composite	ND < 0.12	U*
Nickel	µg/L	94	1/Year	Composite	ND < 5.0	U*
N-Nitrosodimethylamine	µg/L	16	1/Discharge	Composite	ND < 0.14	U*
Pentachlorophenol	µg/L	16.5	1/Discharge	Composite	ND < 0.10	U*
Selenium	µg/L	(5) 8.2	1/Discharge	Composite	0.72(e)	J (DNQ*)
Silver	µg/L	4.1	1/Year	Composite	ND < 0.50	U*
Thallium	µg/L	2.0	1/Year	Composite	ND < 0.20	U*
Trichloroethene	µg/L	5.0	1/Discharge	Grab	ND < 0.17	U*
Zinc	µg/L	119	1/Discharge	Composite	ND < 12	U*
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	mg/L	10.1	1/Discharge	Composite	0.184	J (DNQ*)
Barium	mg/L	1.0	1/Year	Composite	0.014	*
Chloride	mg/L	150	1/Discharge	Composite	27	*
Chlorine, Total Residual (Field)	mg/L	0.1	1/Year	Grab	0.0	*
Chronic Toxicity	Pass or Fail and % Effect	Pass or % Effect <50	1st & 2nd rain event/Year	Composite	Fail, 24.40	*
Detergents (as MBAS)	mg/L	0.5	1/Discharge	Composite	0.13	*
Fluoride	mg/L	1.6	1/Year	Composite	ND < 0.20	U*
Iron	mg/L	0.3	1/Discharge(r)	Composite	0.092	J (DNQ*)
Manganese	µg/L	50	1/Discharge(r)	Composite	25	*
Nitrate - N	mg/L	8	1/Discharge	Composite	1.5	*
Nitrate + Nitrite as Nitrogen (N)	mg/L	8	1/Discharge	Composite	1.5	*
Nitrite - N	mg/L	1	1/Discharge	Composite	ND < 0.024	U*
Perchlorate	µg/L	6.0	1/Discharge	Composite	ND < 0.95	U*
Settleable Solids#	ml/L	0.3	1/Discharge	Grab	ND < 0.10	U*
Sulfate	mg/L	300	1/Discharge	Composite	30	*
Temperature (Field)	Deg F	86	1/Discharge	Grab	57.6	*
Total Dissolved Solids	mg/L	950	1/Discharge	Composite	140	*
REMAINING PRIORITY POLLUTANTS						
1,1,1-Trichloroethane	µg/L	-	1/Year	Grab	ND < 0.25	U*
1,1,2,2-Tetrachloroethane	µg/L	-	1/Year	Grab	ND < 0.20	U*
1,1,2-Trichloroethane	µg/L	-	1/Year	Grab	ND < 0.17	U*
1,1-Dichloroethane	µg/L	-	1/Year	Grab	ND < 0.39	U*
1,2,4-Trichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.13	U*
1,2-Dichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.13	U*

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OUTFALL 011
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/18/2022 12:50 - 1/19/2022 09:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
1,2-Dichlorobenzene	µg/L	-	1/Year	Grab	ND < 0.16	U*
1,2-Dichloropropane	µg/L	-	1/Year	Grab	ND < 0.17	U*
1,2-Diphenylhydrazine/Azobenzene	µg/L	-	1/Year	Composite	ND < 0.067	U*
1,3-Dichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.12	U*
1,3-Dichlorobenzene	µg/L	-	1/Year	Grab	ND < 0.16	U*
1,4-Dichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.12	U*
1,4-Dichlorobenzene	µg/L	-	1/Year	Grab	ND < 0.11	U*
2,4-Dichlorophenol	µg/L	-	1/Year	Composite	ND < 0.094	U*
2,4-Dimethylphenol	µg/L	-	1/Year	Composite	ND < 0.13	U*
2,4-Dinitrophenol	µg/L	-	1/Year	Composite	ND < 4.5	U*
2,6-Dinitrotoluene	µg/L	-	1/Year	Composite	ND < 0.13	U*
2-Chloroethyl vinyl ether[(q)]	µg/L	-	1/Year	Grab	ND < 1.1	U*
2-Chloronaphthalene	µg/L	-	1/Year	Composite	ND < 0.13	U*
2-Chlorophenol	µg/L	-	1/Year	Composite	ND < 0.080	U*
2-Methyl-4,6-dinitrophenol	µg/L	-	1/Year	Composite	ND < 3.9	U*
2-Nitrophenol	µg/L	-	1/Year	Composite	ND < 4.0	U*
3,3'-Dichlorobenzidine	µg/L	-	1/Year	Composite	ND < 1.5	U*
4,4'-DDD	µg/L	-	1/Year	Composite	ND < 0.00080	U*
4,4'-DDE	µg/L	-	1/Year	Composite	ND < 0.00050	U*
4,4'-DDT	µg/L	-	1/Year	Composite	ND < 0.0016	U*
4-Bromophenyl phenyl ether	µg/L	-	1/Year	Composite	ND < 0.075	U*
4-Chloro-3-methylphenol	µg/L	-	1/Year	Composite	ND < 0.11	U*
4-Chlorophenyl phenyl ether	µg/L	-	1/Year	Composite	ND < 0.088	U*
4-Nitrophenol	µg/L	-	1/Year	Composite	ND < 3.5	U*
Acenaphthene	µg/L	-	1/Year	Composite	ND < 0.084	U*
Acenaphthylene	µg/L	-	1/Year	Composite	ND < 0.082	U*
Acrolein	µg/L	-	1/Year	Grab	ND < 4.6	U*
Acrylonitrile	µg/L	-	1/Year	Grab	ND < 1.4	U*
Aldrin	µg/L	-	1/Year	Composite	ND < 0.00070	U*
alpha-Endosulfan	µg/L	-	1/Year	Composite	ND < 0.00070	U*
Anthracene	µg/L	-	1/Year	Composite	ND < 0.070	U*
Aroclor 1016	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1221	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1232	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1242	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1248	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1254	µg/L	-	1/Year	Composite	ND < 0.052	U*
Aroclor 1260	µg/L	-	1/Year	Composite	ND < 0.052	U*
Benzene	µg/L	-	1/Year	Grab	ND < 0.28	U*
Benzidine	µg/L	-	1/Year	Composite	ND < 2.2	U*
Benzo(a)anthracene	µg/L	-	1/Year	Composite	ND < 0.068	U*
Benzo(a)pyrene	µg/L	-	1/Year	Composite	ND < 0.19	U*
Benzo(b)fluoranthene	µg/L	-	1/Year	Composite	ND < 0.10	U*
Benzo(g,h,i)perylene	µg/L	-	1/Year	Composite	ND < 0.12	U*
Benzo(k)fluoranthene	µg/L	-	1/Year	Composite	ND < 0.075	U*
beta-BHC	µg/L	-	1/Year	Composite	ND < 0.0017	U*
beta-Endosulfan	µg/L	-	1/Year	Composite	ND < 0.00050	U*
Bis (2-Chloroethoxy) Methane	µg/L	-	1/Year	Composite	ND < 0.14	U*
Bis (2-Chloroethyl) Ether	µg/L	-	1/Year	Composite	ND < 0.095	U*
Bis (2-Chloroisopropyl) Ether	µg/L	-	1/Year	Composite	ND < 0.089	U*
Bromoform	µg/L	-	1/Year	Grab	ND < 0.25	U*
Bromomethane	µg/L	-	1/Year	Grab	ND < 0.22	U*
Butyl benzylphthalate	µg/L	-	1/Year	Composite	ND < 0.95	U*
Carbon tetrachloride	µg/L	-	1/Year	Grab	ND < 0.28	U*
Chlordane	µg/L	-	1/Year	Composite	ND < 0.0065	U*
Chlorobenzene	µg/L	-	1/Year	Grab	ND < 0.19	U*

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 011
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/18/2022 12:50 - 1/19/2022 09:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Chlorodibromomethane	µg/L	-	1/Year	Grab	ND < 0.15	U*
Chloroethane	µg/L	-	1/Year	Grab	ND < 0.29	U*
Chloroform	µg/L	-	1/Year	Grab	ND < 0.19	U*
Chloromethane (Methyl Chloride)	µg/L	-	1/Year	Grab	ND < 0.30	U*
Chromium	µg/L	-	1/Year	Composite	ND < 2.5	U*
Chromium III (Trivalent)	µg/L	-	1/Year	Composite	ND < 0.50	U*
Chrysene	µg/L	-	1/Year	Composite	ND < 0.056	U*
cis-1,3-Dichloropropene	µg/L	-	1/Year	Grab	ND < 0.30	U*
delta-BHC	µg/L	-	1/Year	Composite	ND < 0.0011	U*
Dibenzo(a,h)anthracene	µg/L	-	1/Year	Composite	ND < 0.13	U*
Dichlorobromomethane	µg/L	-	1/Year	Grab	ND < 0.19	U*
Dieldrin	µg/L	-	1/Year	Composite	ND < 0.00050	U*
Diethyl phthalate	µg/L	-	1/Year	Composite	ND < 0.13	U*
Dimethyl phthalate	µg/L	-	1/Year	Composite	ND < 0.070	U*
Di-n-butyl phthalate	µg/L	-	1/Year	Composite	ND < 1.8	U*
Di-n-octyl phthalate	µg/L	-	1/Year	Composite	ND < 0.62	U*
Endosulfan sulfate	µg/L	-	1/Year	Composite	ND < 0.00060	U*
Endrin	µg/L	-	1/Year	Composite	ND < 0.00070	U*
Endrin aldehyde	µg/L	-	1/Year	Composite	ND < 0.0051	U*
Ethylbenzene	µg/L	-	1/Year	Grab	ND < 0.25	U*
Fluoranthene	µg/L	-	1/Year	Composite	ND < 0.094	U*
Fluorene	µg/L	-	1/Year	Composite	ND < 0.078	U*
gamma-BHC (Lindane)	µg/L	-	1/Year	Composite	ND < 0.00090	U*
Heptachlor	µg/L	-	1/Year	Composite	ND < 0.00070	U*
Heptachlor epoxide	µg/L	-	1/Year	Composite	ND < 0.00040	U*
Hexachlorobenzene	µg/L	-	1/Year	Composite	ND < 0.092	U*
Hexachlorobutadiene	µg/L	-	1/Year	Composite	ND < 0.16	U*
Hexachlorocyclopentadiene	µg/L	-	1/Year	Composite	ND < 0.095	U*
Hexachloroethane	µg/L	-	1/Year	Composite	ND < 0.15	U*
Indeno(1,2,3-cd)pyrene	µg/L	-	1/Year	Composite	ND < 0.12	U*
Isophorone	µg/L	-	1/Year	Composite	ND < 0.086	U*
m,p-Xylenes	µg/L	-	1/Year	Grab	ND < 0.17	U*
Methylene chloride	µg/L	-	1/Year	Grab	ND < 0.57	U*
Naphthalene	µg/L	-	1/Year	Composite	ND < 0.095	U*
Naphthalene	µg/L	-	1/Year	Grab	ND < 0.33	U*
Nitrobenzene	µg/L	-	1/Year	Composite	ND < 0.094	U*
N-Nitroso-di-n-propylamine	µg/L	-	1/Year	Composite	ND < 0.16	U*
N-Nitrosodiphenylamine	µg/L	-	1/Year	Composite	ND < 0.093	U*
o-Xylene	µg/L	-	1/Year	Grab	ND < 0.15	U*
Phenanthrene	µg/L	-	1/Year	Composite	ND < 0.072	U*
Phenol	µg/L	-	1/Year	Composite	ND < 0.78	U*
Pyrene	µg/L	-	1/Year	Composite	ND < 0.078	U*
Tetrachloroethene	µg/L	-	1/Year	Grab	ND < 0.21	U*
Toluene	µg/L	-	1/Year	Grab	ND < 0.23	U*
Toxaphene	µg/L	-	1/Year	Composite	ND < 0.013	U*
trans-1,2-Dichloroethene	µg/L	-	1/Year	Grab	ND < 0.24	U*
trans-1,3-Dichloropropene	µg/L	-	1/Year	Grab	ND < 0.18	U*
Trichlorofluoromethane	µg/L	-	1/Year	Grab	ND < 0.29	U*
Vinyl chloride	µg/L	-	1/Year	Grab	ND < 0.47	U*
Xylenes (Total)	µg/L	-	1/Year	Grab	ND < 0.17	U*
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS						
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	-	1/Quarter	Grab	ND < 0.33	U*
1,2-Dichloro-1,1,2-trifluoroethane	µg/L	-	1/Year	Grab	ND < 0.58	U*
1,4-Dioxane	µg/L	-	1/Year	Composite	ND < 0.55	U*
Boron	mg/L	-	1/Year	Composite	0.11	*
cis-1,2-Dichloroethene	µg/L	-	1/Year	Grab	ND < 0.21	U*

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 011
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/18/2022 12:50 - 1/19/2022 09:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Cobalt	µg/L	-	1/Year	Composite	ND < 2.8	U*
Conductivity	µmhos/cm	-	1/Discharge	Grab	310	*
Cyclohexane	µg/L	-	1/Year	Grab	ND < 0.79	U*
Diesel Range Organics (DRO C13-C28)	mg/L	-	1/Year	Grab	0.052	*
Dissolved Oxygen (Field)	mg/L	-	1/Discharge	Grab	16.10	*
E. Coli	mpn/100mL	-	1/Year	Grab	ND < 1.0	U*
Gasoline Range Organics (GRO C4-C12)	mg/L	-	1/Year	Grab	ND < 0.030	U*
Hardness (as CaCO3)	mg/L	-	1/Year	Composite	55	*
Monomethyl hydrazine	µg/L	-	1/Year	Composite	ND < 0.31	U*
Total Organic Carbon	mg/L	-	1/Year	Composite	8.2	*
Turbidity	NTU	-	1/Discharge	Composite	3.1	*
Vanadium	µg/L	-	1/Year	Composite	ND < 2.1	U*
ADDITIONAL POLLUTANTS[2]						
Antimony, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.50	U*
Arsenic, dissolved	µg/L	-	Additional/Discharge[r]	Composite	12	J (DNQ*)
Barium, dissolved	mg/L	-	Additional/Year	Composite	0.013	*
Beryllium, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.44	U*
Boron, dissolved	mg/L	-	Additional/Year	Composite	0.100	*
Cadmium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.25	U*
Chromium, dissolved	µg/L	-	Additional/Year	Composite	ND < 2.5	U*
Cobalt, dissolved	µg/L	-	Additional/Year	Composite	ND < 2.8	U*
Copper, dissolved	µg/L	-	Additional/Discharge	Composite	4.3	*
Hardness, Dissolved (as CaCO3)	mg/L	-	Additional/Year	Composite	51	*
Human Bacteroides	CEs/100mL	-	Additional/Year	Grab	ND < 150	U*
Iron, dissolved	mg/L	-	Additional/Discharge[r]	Composite	ND < 0.050	U*
Lead, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U*
Manganese, dissolved	µg/L	-	Additional/Discharge[r]	Composite	25	*
Mercury, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.12	U*
Nickel, dissolved	µg/L	-	Additional/Year	Composite	ND < 5.0	U*
Selenium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U*
Silver, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.50	U*
Thallium, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.20	U*
Vanadium, dissolved	µg/L	-	Additional/Year	Composite	ND < 2.1	U*
Zinc, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 12	U*

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OUTFALL 011
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

					1/18/202	**1/19/2022 09:00 (Composite)**		
ANALYTE	**SAMPLE FREQUENCY**	**1998 WHO TEF**	**BEF GREAT LAKES WATER QUALITY INITIATIVE**	**UNITS**	**LAB MDL**	**LAB RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**TCDD EQUIVALENT (w/out DNQ Values)**
1,2,3,4,6,7,8-HpCDD	1/Discharge	0.01	0.05	µg/L	4.2E-07	6.8E-06	U (B)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	0.01	0.01	µg/L	4.9E-07	2.9E-06	U (B)	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	0.01	0.4	µg/L	4.4E-07	9.6E-07	U (B)	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	0.1	0.3	µg/L	6.3E-07	2.3E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	0.1	0.08	µg/L	4.2E-07	ND	U	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	0.1	0.1	µg/L	7.7E-07	ND	U	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	0.1	0.2	µg/L	4.7E-07	ND	U	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	0.1	0.1	µg/L	6.7E-07	ND	U	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	0.1	0.6	µg/L	4.2E-07	3.3E-06	U (B)	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1.0	0.9	µg/L	8.7E-07	ND	U	**ND**
1,2,3,7,8-PeCDF	1/Discharge	0.05	0.2	µg/L	6.5E-07	ND	U	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	0.1	0.7	µg/L	4.2E-07	ND	U	**ND**
2,3,4,7,8-PeCDF	1/Discharge	0.5	1.6	µg/L	6.5E-07	ND	U	**ND**
2,3,7,8-TCDD	1/Discharge	1.0	1.0	µg/L	9.5E-07	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	0.1	0.8	µg/L	4.1E-07	ND	U	**ND**
OCDD	1/Discharge	0.0001	0.01	µg/L	1.0E-06	4.2E-05	U (B)	**ND**
OCDF	1/Discharge	0.0001	0.02	µg/L	5.5E-07	3.8E-06	U (B)	**ND**

TCDD TEQ w/out DNQ Values[4]	**ND**

TCDD TEQ (PRIORITY POLLUTANTS) PERMIT LIMIT = 2.8E-08

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 011
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/18/2022 12:50 - 1/19/2022 09:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS						
Gross Alpha	pCi/L	15	1/Discharge	0.550+/-1.39	2.47	U*
Gross Beta	pCi/L	50	1/Discharge	2.81+/-1.01	1.31	*
Combined Radium-226 & Radium-228	pCi/L	5.0	1/Discharge	0.554+/-0.355	NM	U*
Strontium-90	pCi/L	8.0	1/Discharge	-0.139+/-0.281	0.527	U*
Tritium	pCi/L	20,000	1/Discharge	-123+/-185	354	U*
ADDITIONAL POLLUTANTS						
Cesium-137	pCi/L	200	1/Discharge	-2.33+/-11.4	13.1	U*
Uranium	pCi/L	20	1/Discharge	0.322+/-0.212	0.189	*
ADDITIONAL POLLUTANTS WITHOUT LIMITS						
Potassium-40	pCi/L	-	1/Discharge	19.6+/-118	159	U*

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 011
DISCHARGE MONITORING MASS SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/18/2022 12:50 - 1/19/2022 09:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	0.85776	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD) (5-Day @ 20 deg. C)	LBS/DAY	29,481	1/Discharge	Composite	16	*
Oil & Grease	LBS/DAY	14,741	1/Discharge	Grab	ND	U*
Total Suspended Solids[#]	LBS/DAY	44,222	1/Discharge	Composite	32[(d)]	*
PRIORITY POLLUTANTS						
1,1-Dichloroethene	LBS/DAY	5.9	1/Discharge	Grab	ND	U*
1,2-Dichloroethane	LBS/DAY	0.49	1/Discharge	Grab	ND	U*
2,4,6-Trichlorophenol	LBS/DAY	12.8	1/Discharge	Composite	ND	U*
2,4-Dinitrotoluene	LBS/DAY	17.7	1/Discharge	Composite	ND	U*
alpha-BHC	LBS/DAY	0.03	1/Discharge	Composite	ND	U*
Antimony	LBS/DAY	5.9	1/Year	Composite	ND	U*
Arsenic	LBS/DAY	9.83	1/Discharge[(r)]	Composite	ND	U*
Beryllium	LBS/DAY	3.93	1/Year	Composite	ND	U*
Bis (2-Ethylhexyl) Phthalate	LBS/DAY	3.93	1/Discharge	Composite	ND	U*
Cadmium	LBS/DAY	(3.93) 3.05	1/Discharge	Composite	ND	U*
Chromium VI (Hexavalent)	LBS/DAY	15.72	1/Year	Composite	ND	U*
Copper	LBS/DAY	13.76	1/Discharge	Composite	0.029	*
Cyanide	LBS/DAY	8.35	1/Discharge	Composite	ND	U*
Lead	LBS/DAY	5.11	1/Discharge	Composite	ND	U*
Mercury	LBS/DAY	0.1	1/Discharge	Composite	ND	U*
Nickel	LBS/DAY	92.4	1/Year	Composite	ND	U*
N-Nitrosodimethylamine	LBS/DAY	15.72	1/Discharge	Composite	ND	U*
Pentachlorophenol	LBS/DAY	16.22	1/Discharge	Composite	ND	U*
Selenium	LBS/DAY	(4.91) 8.06	1/Discharge	Composite	0.0052[(e)]	J (DNQ*)
Silver	LBS/DAY	4.03	1/Year	Composite	ND	U*
TCDD TEQ_NoDNQ[(4)]	LBS/DAY	2.75E-08	1/Discharge	Composite	ND	U*
Thallium	LBS/DAY	1.97	1/Year	Composite	ND	U*
Trichloroethene	LBS/DAY	4.91	1/Discharge	Grab	ND	U*
Zinc	LBS/DAY	117	1/Discharge	Composite	ND	U*
NON-CONVENTIONAL POLLUTANTS						
Ammonia – N	LBS/DAY	9,925.3	1/Discharge	Composite	1.32	J (DNQ*)
Barium	LBS/DAY	983	1/Year	Composite	0.10	*
Chloride	LBS/DAY	147,405	1/Discharge	Composite	190	*
Chlorine, Total Residual (Field)	LBS/DAY	98.3	1/Year	Grab	0.0	*
Detergents (as MBAS)	LBS/DAY	491.4	1/Discharge	Composite	0.93	*
Fluoride	LBS/DAY	1,572.3	1/Year	Composite	ND	U*
Iron	LBS/DAY	295	1/Discharge[(r)]	Composite	0.66	J (DNQ*)
Manganese	LBS/DAY	49.1	1/Discharge[(r)]	Composite	0.18	*
Nitrate - N	LBS/DAY	7,862	1/Discharge	Composite	11	*
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	7,862	1/Discharge	Composite	11	*
Nitrite - N	LBS/DAY	983	1/Discharge	Composite	ND	U*
Perchlorate	LBS/DAY	5.9	1/Discharge	Composite	ND	U*
Sulfate	LBS/DAY	294,810	1/Discharge	Composite	210	*
Total Dissolved Solids	LBS/DAY	933,567	1/Discharge	Composite	1,000	*

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/3/2022 09:20 - 1/4/2022 11:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	1.0207	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	mg/L	30	1/Discharge	Composite	ND < 3.0	U*
Oil & Grease	mg/L	15	1/Discharge	Grab	ND < 0.71	U*
pH (Field)	s.u.	6.5-8.5	1/Discharge	Grab	7.48	*
Total Suspended Solids#	mg/L	45	1/Discharge	Composite	4.0(d)	*
PRIORITY POLLUTANTS						
1,1-Dichloroethene	µg/L	6.0	1/Discharge	Grab	ND < 0.33	U*
1,2-Dichloroethane	µg/L	0.5	1/Discharge	Grab	ND < 0.15	U*
2,4,6-Trichlorophenol	µg/L	13	1/Discharge	Composite	ND < 0.081	U*
2,4-Dinitrotoluene	µg/L	18	1/Discharge	Composite	ND < 0.13	U*
alpha-BHC	µg/L	0.03	1/Discharge	Composite	ND < 0.00080	U*
Antimony	µg/L	6.0	1/Year	Composite	ND < 0.50	U
Arsenic	µg/L	10.0	1/Year(p)	Composite	ND < 8.9	U
Beryllium	µg/L	4.0	1/Year	Composite	ND < 0.44	U
Bis (2-Ethylhexyl) Phthalate	µg/L	4.0	1/Discharge	Composite	ND < 2.2	U*
Cadmium	µg/L	(4.0) 3.1	1/Discharge	Composite	ND < 0.25	U
Chromium VI (Hexavalent)	µg/L	16	1/Year	Composite	0.15	J (DNQ*)
Copper	µg/L	14	1/Discharge	Composite	2.4	--
Cyanide	µg/L	8.5	1/Discharge	Composite	ND < 1.4	U*
Lead	µg/L	5.2	1/Discharge	Composite	ND < 0.50	U
Mercury	µg/L	0.1	1/Discharge	Composite	ND < 0.12	U*
Nickel	µg/L	94	1/Year	Composite	ND < 5.0	U
N-Nitrosodimethylamine	µg/L	16	1/Discharge	Composite	ND < 0.17	U*
Pentachlorophenol	µg/L	16.5	1/Discharge	Composite	ND < 0.13	U*
Selenium	µg/L	(5) 8.2	1/Discharge	Composite	ND < 0.50	U
Silver	µg/L	4.1	1/Year	Composite	ND < 0.50	U
Thallium	µg/L	2.0	1/Year	Composite	ND < 0.20	U
Trichloroethene	µg/L	5.0	1/Discharge	Grab	ND < 0.17	U*
Zinc	µg/L	119	1/Discharge	Composite	ND < 12	U
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	mg/L	10.1	1/Discharge	Composite	0.845	*
Barium	mg/L	1.0	1/Year	Composite	0.013	--
Chloride	mg/L	150	1/Discharge	Composite	5.4	*
Chlorine, Total Residual (Field)	mg/L	0.1	1/Year	Grab	0.0	*
Chronic Toxicity	Pass or Fail and % Effect	Pass or % Effect <50	1st & 2nd rain event/Year	Composite	Pass, -4.43	*
Detergents (as MBAS)	mg/L	0.5	1/Discharge	Composite	ND < 0.15	U*
Fluoride	mg/L	1.6	1/Year	Composite	ND < 0.092	U*
Iron	mg/L	0.3	1/Year(p)	Composite	0.100	--
Iron(t)	mg/L	0.3	1/Year	ANR	ANR	ANR
Manganese	µg/L	50	1/Year(p)	Composite	23	--
Nitrate - N	mg/L	8	1/Discharge	Composite	3.6	*
Nitrate + Nitrite as Nitrogen (N)	mg/L	8	1/Discharge	Composite	3.6	*
Nitrite - N	mg/L	1	1/Discharge	Composite	ND < 0.036	U*
Perchlorate	µg/L	6.0	1/Discharge	Composite	ND < 0.91	U*
Settleable Solids#	mL/L	0.3	1/Discharge	Grab	ND < 0.10	U*
Sulfate	mg/L	300	1/Discharge	Composite	72	*
Temperature (Field)	Deg F	86	1/Discharge	Grab	40.2	*
Total Dissolved Solids	mg/L	950	1/Discharge	Composite	200	*
REMAINING PRIORITY POLLUTANTS						
1,1,1-Trichloroethane	µg/L	-	1/Year	Grab	ND < 0.25	U*
1,1,2,2-Tetrachloroethane	µg/L	-	1/Year	Grab	ND < 0.20	U*
1,1,2-Trichloroethane	µg/L	-	1/Year	Grab	ND < 0.17	U*
1,1-Dichloroethane	µg/L	-	1/Year	Grab	ND < 0.39	U*
1,2,4-Trichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.16	U*

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OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/3/2022 09:20 - 1/4/2022 11:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
1,2-Dichlorobenzene	µg/L	-	1/Year	Grab	ND < 0.16	U*
1,2-Dichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.16	U*
1,2-Dichloropropane	µg/L	-	1/Year	Grab	ND < 0.17	U*
1,2-Diphenylhydrazine/Azobenzene	µg/L	-	1/Year	Composite	ND < 0.083	U*
1,3-Dichlorobenzene	µg/L	-	1/Year	Grab	ND < 0.16	U*
1,3-Dichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.15	U*
1,4-Dichlorobenzene	µg/L	-	1/Year	Grab	ND < 0.11	U*
1,4-Dichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.15	U*
2,4-Dichlorophenol	µg/L	-	1/Year	Composite	ND < 0.12	U*
2,4-Dimethylphenol	µg/L	-	1/Year	Composite	ND < 0.16	U*
2,4-Dinitrophenol	µg/L	-	1/Year	Composite	ND < 1.2	U*
2,6-Dinitrotoluene	µg/L	-	1/Year	Composite	ND < 0.16	U*
2-Chloroethyl vinyl ether[q]	µg/L	-	1/Year	Grab	ND < 1.1	U*
2-Chloronaphthalene	µg/L	-	1/Year	Composite	ND < 0.16	U*
2-Chlorophenol	µg/L	-	1/Year	Composite	ND < 0.099	U*
2-Methyl-4,6-dinitrophenol	µg/L	-	1/Year	Composite	ND < 4.8	U*
2-Nitrophenol	µg/L	-	1/Year	Composite	ND < 1.7	U*
3,3'-Dichlorobenzidine	µg/L	-	1/Year	Composite	ND < 1.9	U*
4,4'-DDD	µg/L	-	1/Year	Composite	ND < 0.00080	U*
4,4'-DDE	µg/L	-	1/Year	Composite	ND < 0.00050	U*
4,4'-DDT	µg/L	-	1/Year	Composite	ND < 0.0016	U*
4-Bromophenyl phenyl ether	µg/L	-	1/Year	Composite	ND < 0.093	U*
4-Chloro-3-methylphenol	µg/L	-	1/Year	Composite	ND < 0.14	U*
4-Chlorophenyl phenyl ether	µg/L	-	1/Year	Composite	ND < 0.11	U*
4-Nitrophenol	µg/L	-	1/Year	Composite	ND < 1.3	U*
Acenaphthene	µg/L	-	1/Year	Composite	ND < 0.10	U*
Acenaphthylene	µg/L	-	1/Year	Composite	ND < 0.10	U*
Acrolein	µg/L	-	1/Year	Grab	ND < 4.6	U*
Acrylonitrile	µg/L	-	1/Year	Grab	ND < 1.4	U*
Aldrin	µg/L	-	1/Year	Composite	ND < 0.00070	U*
alpha-Endosulfan	µg/L	-	1/Year	Composite	ND < 0.00070	U*
Anthracene	µg/L	-	1/Year	Composite	ND < 0.087	U*
Aroclor 1016	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1221	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1232	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1242	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1248	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1254	µg/L	-	1/Year	Composite	ND < 0.052	U*
Aroclor 1260	µg/L	-	1/Year	Composite	ND < 0.052	U*
Benzene	µg/L	-	1/Year	Grab	ND < 0.28	U*
Benzidine	µg/L	-	1/Year	Composite	ND < 2.7	U*
Benzo(a)anthracene	µg/L	-	1/Year	Composite	ND < 0.084	U*
Benzo(a)pyrene	µg/L	-	1/Year	Composite	ND < 0.087	U*
Benzo(b)fluoranthene	µg/L	-	1/Year	Composite	ND < 0.12	U*
Benzo(g,h,i)perylene	µg/L	-	1/Year	Composite	ND < 0.15	U*
Benzo(k)fluoranthene	µg/L	-	1/Year	Composite	ND < 0.092	U*
beta-BHC	µg/L	-	1/Year	Composite	ND < 0.0017	U*
beta-Endosulfan	µg/L	-	1/Year	Composite	ND < 0.00050	U*
Bis (2-Chloroethoxy) Methane	µg/L	-	1/Year	Composite	ND < 0.17	U*
Bis (2-Chloroethyl) Ether	µg/L	-	1/Year	Composite	ND < 0.12	U*
Bis (2-Chloroisopropyl) Ether	µg/L	-	1/Year	Composite	ND < 0.11	U*
Bromoform	µg/L	-	1/Year	Grab	ND < 0.25	U*
Bromomethane	µg/L	-	1/Year	Grab	ND < 0.22	U*
Butyl benzylphthalate	µg/L	-	1/Year	Composite	ND < 0.68	U*
Carbon tetrachloride	µg/L	-	1/Year	Grab	ND < 0.28	U*
Chlordane	µg/L	-	1/Year	Composite	ND < 0.0065	U*

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OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/3/2022 09:20 - 1/4/2022 11:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Chlorobenzene	µg/L	-	1/Year	Grab	ND < 0.19	U*
Chlorodibromomethane	µg/L	-	1/Year	Grab	ND < 0.15	U*
Chloroethane	µg/L	-	1/Year	Grab	ND < 0.29	U*
Chloroform	µg/L	-	1/Year	Grab	ND < 0.19	U*
Chloromethane (Methyl Chloride)	µg/L	-	1/Year	Grab	ND < 0.30	U*
Chromium	µg/L	-	1/Year	Composite	ND < 2.5	U
Chromium III (Trivalent)	µg/L	-	1/Year	Composite	ND < 6.9	U*
Chrysene	µg/L	-	1/Year	Composite	ND < 0.069	U*
cis-1,3-Dichloropropene	µg/L	-	1/Year	Grab	ND < 0.30	U*
delta-BHC	µg/L	-	1/Year	Composite	ND < 0.0011	U*
Dibenz(a,h)anthracene	µg/L	-	1/Year	Composite	ND < 0.17	U*
Dichlorobromomethane	µg/L	-	1/Year	Grab	ND < 0.19	U*
Dieldrin	µg/L	-	1/Year	Composite	ND < 0.00050	U*
Diethyl phthalate	µg/L	-	1/Year	Composite	ND < 0.16	U*
Dimethyl phthalate	µg/L	-	1/Year	Composite	ND < 0.087	U*
Di-n-butyl phthalate	µg/L	-	1/Year	Composite	ND < 0.83	U*
Di-n-octyl phthalate	µg/L	-	1/Year	Composite	ND < 0.77	U*
Endosulfan sulfate	µg/L	-	1/Year	Composite	ND < 0.00060	U*
Endrin	µg/L	-	1/Year	Composite	ND < 0.00070	U*
Endrin aldehyde	µg/L	-	1/Year	Composite	ND < 0.0051	U*
Ethylbenzene	µg/L	-	1/Year	Grab	ND < 0.25	U*
Fluoranthene	µg/L	-	1/Year	Composite	ND < 0.12	U*
Fluorene	µg/L	-	1/Year	Composite	ND < 0.097	U*
gamma-BHC (Lindane)	µg/L	-	1/Year	Composite	ND < 0.00090	U*
Heptachlor	µg/L	-	1/Year	Composite	ND < 0.00070	U*
Heptachlor epoxide	µg/L	-	1/Year	Composite	ND < 0.00040	U*
Hexachlorobenzene	µg/L	-	1/Year	Composite	ND < 0.11	U*
Hexachlorobutadiene	µg/L	-	1/Year	Composite	ND < 0.20	U*
Hexachlorocyclopentadiene	µg/L	-	1/Year	Composite	ND < 0.12	U*
Hexachloroethane	µg/L	-	1/Year	Composite	ND < 0.18	U*
Indeno(1,2,3-cd)pyrene	µg/L	-	1/Year	Composite	ND < 0.15	U*
Isophorone	µg/L	-	1/Year	Composite	ND < 0.11	U*
m,p-Xylenes	µg/L	-	1/Year	Grab	ND < 0.17	U*
Methylene chloride	µg/L	-	1/Year	Grab	ND < 0.57	U*
Naphthalene	µg/L	-	1/Year	Grab	ND < 0.33	U*
Naphthalene	µg/L	-	1/Year	Composite	ND < 0.12	U*
Nitrobenzene	µg/L	-	1/Year	Composite	ND < 0.12	U*
N-Nitroso-di-n-propylamine	µg/L	-	1/Year	Composite	ND < 0.075	U*
N-Nitrosodiphenylamine	µg/L	-	1/Year	Composite	ND < 0.12	U*
o-Xylene	µg/L	-	1/Year	Grab	ND < 0.15	U*
Phenanthrene	µg/L	-	1/Year	Composite	ND < 0.089	U*
Phenol	µg/L	-	1/Year	Composite	ND < 0.091	U*
Pyrene	µg/L	-	1/Year	Composite	ND < 0.096	U*
Tetrachloroethene	µg/L	-	1/Year	Grab	ND < 0.21	U*
Toluene	µg/L	-	1/Year	Grab	ND < 0.23	U*
Toxaphene	µg/L	-	1/Year	Composite	ND < 0.013	U*
trans-1,2-Dichloroethene	µg/L	-	1/Year	Grab	ND < 0.24	U*
trans-1,3-Dichloropropene	µg/L	-	1/Year	Grab	ND < 0.18	U*
Trichlorofluoromethane	µg/L	-	1/Year	Grab	ND < 0.29	U*
Vinyl chloride	µg/L	-	1/Year	Grab	ND < 0.47	U*
Xylenes (Total)	µg/L	-	1/Year	Grab	ND < 0.17	U*
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS						
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	-	1/Quarter	Grab	ND < 0.33	U*
1,2-Dichloro-1,1,2-trifluoroethane	µg/L	-	1/Year	Grab	ND < 0.58	U*
1,4-Dioxane	µg/L	-	1/Year	Composite	ND < 0.55	U*
Boron	mg/L	-	1/Year	Composite	0.063	--

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OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/3/2022 09:20 - 1/4/2022 11:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
cis-1,2-Dichloroethene	µg/L	-	1/Year	Grab	ND < 0.21	U*
Cobalt	µg/L	-	1/Year	Composite	ND < 2.8	U
Conductivity	µmhos/cm	-	1/Discharge	Grab	180	*
Cyclohexane	µg/L	-	1/Year	Grab	ND < 0.79	U*
Diesel Range Organics (DRO C13-C28)	mg/L	-	1/Year	Grab	0.040	J (DNQ*)
Dissolved Oxygen (Field)	mg/L	-	1/Discharge	Grab	7.34	*
E. Coli	mpn/100mL	-	1/Year	Grab	6.0	J (H)
Gasoline Range Organics (GRO C4-C12)	mg/L	-	1/Year	Grab	ND < 0.030	U*
Hardness (as CaCO3)	mg/L	-	1/Year	Composite	56	*
Monomethyl hydrazine	µg/L	-	1/Year	Composite	ND < 0.31	U*
Total Organic Carbon	mg/L	-	1/Year	Composite	6.1	*
Turbidity	NTU	-	1/Discharge	Composite	3.2	*
Vanadium	µg/L	-	1/Year	Composite	ND < 2.1	U
ADDITIONAL POLLUTANTS[2]						
Antimony, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.50	U
Arsenic, dissolved	µg/L	-	Additional/Year[p]	Composite	ND < 8.9	U
Barium, dissolved	mg/L	-	Additional/Year	Composite	0.011	--
Beryllium, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.44	U
Boron, dissolved	mg/L	-	Additional/Year	Composite	0.050	--
Cadmium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.25	U
Chromium, dissolved	µg/L	-	Additional/Year	Composite	ND < 2.5	U
Cobalt, dissolved	µg/L	-	Additional/Year	Composite	ND < 2.8	U
Copper, dissolved	µg/L	-	Additional/Discharge	Composite	2.6	--
Hardness, Dissolved (as CaCO3)	mg/L	-	Additional/Year	Composite	52	*
Human Bacteroides	CEs/100mL	-	Additional/Year	Grab	ND	U*
Iron, dissolved	mg/L	-	Additional/Year[p]	Composite	ND < 0.050	U
Lead, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U
Manganese, dissolved	µg/L	-	Additional/Year[p]	Composite	13	J (DNQ)
Mercury, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.12	U*
Nickel, dissolved	µg/L	-	Additional/Year	Composite	ND < 5.0	U
Potassium	mg/L	-	Additional	ANR	ANR	ANR
Selenium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U
Silver, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.50	U
Thallium, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.20	U
Vanadium, dissolved	µg/L	-	Additional/Year	Composite	ND < 2.1	U
Zinc, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 12	U

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DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/4/2022 11:20 - 1/5/2022 09:35		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	1.3899	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	mg/L	30	1/Discharge	Composite	ND < 3.0	U*
Oil & Grease	mg/L	15	1/Discharge	Grab	ND < 0.53	U*
pH (Field)	s.u.	6.5-8.5	1/Discharge	Grab	7.24	*
Total Suspended Solids[#]	mg/L	45	1/Discharge	Composite	ND < 0.50	U*
PRIORITY POLLUTANTS						
1,1-Dichloroethene	µg/L	6.0	1/Discharge	Grab	ND < 0.33	U*
1,2-Dichloroethane	µg/L	0.5	1/Discharge	Grab	ND < 0.15	U*
2,4,6-Trichlorophenol	µg/L	13	1/Discharge	Composite	ND < 0.068	U*
2,4-Dinitrotoluene	µg/L	18	1/Discharge	Composite	ND < 0.11	U*
alpha-BHC	µg/L	0.03	1/Discharge	Composite	ND < 0.00080	U*
Antimony	µg/L	6.0	1/Year	ANR	ANR	ANR
Arsenic	µg/L	10.0	1/Year[(p)]	Composite	ND < 8.9	U
Beryllium	µg/L	4.0	1/Year	ANR	ANR	ANR
Bis (2-Ethylhexyl) Phthalate	µg/L	4.0	1/Discharge	Composite	1.9	J (DNQ*)
Cadmium	µg/L	(4.0) 3.1	1/Discharge	Composite	ND < 0.25	U
Chromium VI (Hexavalent)	µg/L	16	1/Year	ANR	ANR	ANR
Copper	µg/L	14	1/Discharge	Composite	1.6	J (DNQ)
Cyanide	µg/L	8.5	1/Discharge	Composite	ND < 1.4	U*
Lead	µg/L	5.2	1/Discharge	Composite	ND < 0.50	U
Mercury	µg/L	0.1	1/Discharge	Composite	ND < 0.12	U*
Nickel	µg/L	94	1/Year	ANR	ANR	ANR
N-Nitrosodimethylamine	µg/L	16	1/Discharge	Composite	ND < 0.14	U*
Pentachlorophenol	µg/L	16.5	1/Discharge	Composite	ND < 0.11	U*
Selenium	µg/L	(5) 8.2	1/Discharge	Composite	ND < 0.50	U
Silver	µg/L	4.1	1/Year	ANR	ANR	ANR
Thallium	µg/L	2.0	1/Year	ANR	ANR	ANR
Trichloroethene	µg/L	5.0	1/Discharge	Grab	ND < 0.17	U*
Zinc	µg/L	119	1/Discharge	Composite	ND < 12	U
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	mg/L	10.1	1/Discharge	Composite	0.222	*
Barium	mg/L	1.0	1/Year	ANR	ANR	ANR
Chloride	mg/L	150	1/Discharge	Composite	4.9	*
Chlorine, Total Residual (Field)	mg/L	0.1	1/Year	ANR	ANR	ANR
Chronic Toxicity	Pass or Fail and % Effect	Pass or % Effect <50	1st & 2nd rain event/Year	ANR	ANR	ANR
Detergents (as MBAS)	mg/L	0.5	1/Discharge	Composite	ND < 0.15	U*
Fluoride	mg/L	1.6	1/Year	ANR	ANR	ANR
Iron	mg/L	0.3	1/Year[(p)]	Composite	0.530	--
Iron[(t)]	mg/L	0.3	1/Year	Composite	ND < 0.050	U
Manganese	µg/L	50	1/Year[(p)]	Composite	16	J (DNQ)
Nitrate - N	mg/L	8	1/Discharge	Composite	3.7	*
Nitrate + Nitrite as Nitrogen (N)	mg/L	8	1/Discharge	Composite	3.7	*
Nitrite - N	mg/L	1	1/Discharge	Composite	ND < 0.018	U*
Perchlorate	µg/L	6.0	1/Discharge	Composite	ND < 0.91	U*
Settleable Solids[#]	mL/L	0.3	1/Discharge	Grab	ND < 0.10	U*
Sulfate	mg/L	300	1/Discharge	Composite	95	*
Temperature (Field)	Deg F	86	1/Discharge	Grab	50.7	*
Total Dissolved Solids	mg/L	950	1/Discharge	Composite	220	*
REMAINING PRIORITY POLLUTANTS						
1,1,1-Trichloroethane	µg/L	-	1/Year	ANR	ANR	ANR
1,1,2,2-Tetrachloroethane	µg/L	-	1/Year	ANR	ANR	ANR
1,1,2-Trichloroethane	µg/L	-	1/Year	ANR	ANR	ANR
1,1-Dichloroethane	µg/L	-	1/Year	ANR	ANR	ANR
1,2,4-Trichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR

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FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/4/2022 11:20 - 1/5/2022 09:35		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
1,2-Dichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Dichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Dichloropropane	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Diphenylhydrazine/Azobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,3-Dichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,3-Dichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,4-Dichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,4-Dichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
2,4-Dichlorophenol	µg/L	-	1/Year	ANR	ANR	ANR
2,4-Dimethylphenol	µg/L	-	1/Year	ANR	ANR	ANR
2,4-Dinitrophenol	µg/L	-	1/Year	ANR	ANR	ANR
2,6-Dinitrotoluene	µg/L	-	1/Year	ANR	ANR	ANR
2-Chloroethyl vinyl ether[q]	µg/L	-	1/Year	ANR	ANR	ANR
2-Chloronaphthalene	µg/L	-	1/Year	ANR	ANR	ANR
2-Chlorophenol	µg/L	-	1/Year	ANR	ANR	ANR
2-Methyl-4,6-dinitrophenol	µg/L	-	1/Year	ANR	ANR	ANR
2-Nitrophenol	µg/L	-	1/Year	ANR	ANR	ANR
3,3'-Dichlorobenzidine	µg/L	-	1/Year	ANR	ANR	ANR
4,4'-DDD	µg/L	-	1/Year	ANR	ANR	ANR
4,4'-DDE	µg/L	-	1/Year	ANR	ANR	ANR
4,4'-DDT	µg/L	-	1/Year	ANR	ANR	ANR
4-Bromophenyl phenyl ether	µg/L	-	1/Year	ANR	ANR	ANR
4-Chloro-3-methylphenol	µg/L	-	1/Year	ANR	ANR	ANR
4-Chlorophenyl phenyl ether	µg/L	-	1/Year	ANR	ANR	ANR
4-Nitrophenol	µg/L	-	1/Year	ANR	ANR	ANR
Acenaphthene	µg/L	-	1/Year	ANR	ANR	ANR
Acenaphthylene	µg/L	-	1/Year	ANR	ANR	ANR
Acrolein	µg/L	-	1/Year	ANR	ANR	ANR
Acrylonitrile	µg/L	-	1/Year	ANR	ANR	ANR
Aldrin	µg/L	-	1/Year	ANR	ANR	ANR
alpha-Endosulfan	µg/L	-	1/Year	ANR	ANR	ANR
Anthracene	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1016	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1221	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1232	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1242	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1248	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1254	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1260	µg/L	-	1/Year	ANR	ANR	ANR
Benzene	µg/L	-	1/Year	ANR	ANR	ANR
Benzidine	µg/L	-	1/Year	ANR	ANR	ANR
Benzo(a)anthracene	µg/L	-	1/Year	ANR	ANR	ANR
Benzo(a)pyrene	µg/L	-	1/Year	ANR	ANR	ANR
Benzo(b)fluoranthene	µg/L	-	1/Year	ANR	ANR	ANR
Benzo(g,h,i)perylene	µg/L	-	1/Year	ANR	ANR	ANR
Benzo(k)fluoranthene	µg/L	-	1/Year	ANR	ANR	ANR
beta-BHC	µg/L	-	1/Year	ANR	ANR	ANR
beta-Endosulfan	µg/L	-	1/Year	ANR	ANR	ANR
Bis (2-Chloroethoxy) Methane	µg/L	-	1/Year	ANR	ANR	ANR
Bis (2-Chloroethyl) Ether	µg/L	-	1/Year	ANR	ANR	ANR
Bis (2-Chloroisopropyl) Ether	µg/L	-	1/Year	ANR	ANR	ANR
Bromoform	µg/L	-	1/Year	ANR	ANR	ANR
Bromomethane	µg/L	-	1/Year	ANR	ANR	ANR
Butyl benzylphthalate	µg/L	-	1/Year	ANR	ANR	ANR
Carbon tetrachloride	µg/L	-	1/Year	ANR	ANR	ANR
Chlordane	µg/L	-	1/Year	ANR	ANR	ANR

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OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/4/2022 11:20 - 1/5/2022 09:35		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Chlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
Chlorodibromomethane	µg/L	-	1/Year	ANR	ANR	ANR
Chloroethane	µg/L	-	1/Year	ANR	ANR	ANR
Chloroform	µg/L	-	1/Year	ANR	ANR	ANR
Chloromethane (Methyl Chloride)	µg/L	-	1/Year	ANR	ANR	ANR
Chromium	µg/L	-	1/Year	ANR	ANR	ANR
Chromium III (Trivalent)	µg/L	-	1/Year	ANR	ANR	ANR
Chrysene	µg/L	-	1/Year	ANR	ANR	ANR
cis-1,3-Dichloropropene	µg/L	-	1/Year	ANR	ANR	ANR
delta-BHC	µg/L	-	1/Year	ANR	ANR	ANR
Dibenz(a,h)anthracene	µg/L	-	1/Year	ANR	ANR	ANR
Dichlorobromomethane	µg/L	-	1/Year	ANR	ANR	ANR
Dieldrin	µg/L	-	1/Year	ANR	ANR	ANR
Diethyl phthalate	µg/L	-	1/Year	ANR	ANR	ANR
Dimethyl phthalate	µg/L	-	1/Year	ANR	ANR	ANR
Di-n-butyl phthalate	µg/L	-	1/Year	ANR	ANR	ANR
Di-n-octyl phthalate	µg/L	-	1/Year	ANR	ANR	ANR
Endosulfan sulfate	µg/L	-	1/Year	ANR	ANR	ANR
Endrin	µg/L	-	1/Year	ANR	ANR	ANR
Endrin aldehyde	µg/L	-	1/Year	ANR	ANR	ANR
Ethylbenzene	µg/L	-	1/Year	ANR	ANR	ANR
Fluoranthene	µg/L	-	1/Year	ANR	ANR	ANR
Fluorene	µg/L	-	1/Year	ANR	ANR	ANR
gamma-BHC (Lindane)	µg/L	-	1/Year	ANR	ANR	ANR
Heptachlor	µg/L	-	1/Year	ANR	ANR	ANR
Heptachlor epoxide	µg/L	-	1/Year	ANR	ANR	ANR
Hexachlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
Hexachlorobutadiene	µg/L	-	1/Year	ANR	ANR	ANR
Hexachlorocyclopentadiene	µg/L	-	1/Year	ANR	ANR	ANR
Hexachloroethane	µg/L	-	1/Year	ANR	ANR	ANR
Indeno(1,2,3-cd)pyrene	µg/L	-	1/Year	ANR	ANR	ANR
Isophorone	µg/L	-	1/Year	ANR	ANR	ANR
m,p-Xylenes	µg/L	-	1/Year	ANR	ANR	ANR
Methylene chloride	µg/L	-	1/Year	ANR	ANR	ANR
Naphthalene	µg/L	-	1/Year	ANR	ANR	ANR
Naphthalene	µg/L	-	1/Year	ANR	ANR	ANR
Nitrobenzene	µg/L	-	1/Year	ANR	ANR	ANR
N-Nitroso-di-n-propylamine	µg/L	-	1/Year	ANR	ANR	ANR
N-Nitrosodiphenylamine	µg/L	-	1/Year	ANR	ANR	ANR
o-Xylene	µg/L	-	1/Year	ANR	ANR	ANR
Phenanthrene	µg/L	-	1/Year	ANR	ANR	ANR
Phenol	µg/L	-	1/Year	ANR	ANR	ANR
Pyrene	µg/L	-	1/Year	ANR	ANR	ANR
Tetrachloroethene	µg/L	-	1/Year	ANR	ANR	ANR
Toluene	µg/L	-	1/Year	ANR	ANR	ANR
Toxaphene	µg/L	-	1/Year	ANR	ANR	ANR
trans-1,2-Dichloroethene	µg/L	-	1/Year	ANR	ANR	ANR
trans-1,3-Dichloropropene	µg/L	-	1/Year	ANR	ANR	ANR
Trichlorofluoromethane	µg/L	-	1/Year	ANR	ANR	ANR
Vinyl chloride	µg/L	-	1/Year	ANR	ANR	ANR
Xylenes (Total)	µg/L	-	1/Year	ANR	ANR	ANR
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS						
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	-	1/Quarter	ANR	ANR	ANR
1,2-Dichloro-1,1,2-trifluoroethane	µg/L	-	1/Year	ANR	ANR	ANR
1,4-Dioxane	µg/L	-	1/Year	ANR	ANR	ANR
Boron	mg/L	-	1/Year	ANR	ANR	ANR

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OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/4/2022 11:20 - 1/5/2022 09:35		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
cis-1,2-Dichloroethene	µg/L	-	1/Year	ANR	ANR	ANR
Cobalt	µg/L	-	1/Year	ANR	ANR	ANR
Conductivity	µmhos/cm	-	1/Discharge	Grab	330	*
Cyclohexane	µg/L	-	1/Year	ANR	ANR	ANR
Diesel Range Organics (DRO C13-C28)	mg/L	-	1/Year	ANR	ANR	ANR
Dissolved Oxygen (Field)	mg/L	-	1/Discharge	Grab	10.15	*
E. Coli	mpn/100mL	-	1/Year	ANR	ANR	ANR
Gasoline Range Organics (GRO C4-C12)	mg/L	-	1/Year	ANR	ANR	ANR
Hardness (as CaCO3)	mg/L	-	1/Year	ANR	ANR	ANR
Monomethyl hydrazine	µg/L	-	1/Year	ANR	ANR	ANR
Total Organic Carbon	mg/L	-	1/Year	ANR	ANR	ANR
Turbidity	NTU	-	1/Discharge	Composite	0.20	*
Vanadium	µg/L	-	1/Year	ANR	ANR	ANR
ADDITIONAL POLLUTANTS[(2)]						
Antimony, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Arsenic, dissolved	µg/L	-	Additional/Year[(p)]	Composite	ND < 8.9	U
Barium, dissolved	mg/L	-	Additional/Year	ANR	ANR	ANR
Beryllium, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Boron, dissolved	mg/L	-	Additional/Year	ANR	ANR	ANR
Cadmium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.25	U
Chromium, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Cobalt, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Copper, dissolved	µg/L	-	Additional/Discharge	Composite	1.7	J (DNQ)
Hardness, Dissolved (as CaCO3)	mg/L	-	Additional/Year	ANR	ANR	ANR
Human Bacteroides	CEs/100mL	-	Additional/Year	ANR	ANR	ANR
Iron, dissolved	mg/L	-	Additional/Year[(p)]	Composite	ND < 0.050	U
Lead, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U
Manganese, dissolved	µg/L	-	Additional/Year[(p)]	Composite	12	J (DNQ)
Mercury, dissolved	µg/L	-	Additional/Discharge	Composite	0.12	J (DNQ*)
Nickel, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Potassium	mg/L	-	Additional	Composite	2.7	*
Selenium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U
Silver, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Thallium, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Vanadium, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Zinc, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 12	U

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OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

					1/4/2022 11:00 (Composite)				1/5/2022 09:35 (Composite)			
ANALYTE	**SAMPLE FREQUENCY**	**1998 WHO TEF**	**BEF GREAT LAKES WATER QUALITY INITIATIVE**	**UNITS**	**LAB MDL**	**LAB RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**TCDD Equivalent (w/out DNQ Values)**	**LAB MDL**	**LAB RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**TCDD Equivalent (w/out DNQ Values)**
1,2,3,4,6,7,8-HpCDD	1/Discharge	0.01	0.05	µg/L	3.4E-07	4.9E-06	U (B)	**ND**	1.7E-07	2.2E-06	U (B)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	0.01	0.01	µg/L	4.1E-07	2.9E-06	U (B)	**ND**	3.2E-07	1.0E-06	U (B)	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	0.01	0.4	µg/L	4.3E-07	1.2E-06	UJ (*III)	**ND**	3.3E-07	7.6E-07	UJ (*III)	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	0.1	0.3	µg/L	4.9E-07	2.5E-06	U (B)	**ND**	3.6E-07	2.2E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	0.1	0.08	µg/L	4.1E-07	1.4E-06	UJ (*III)	**ND**	2.4E-07	8.5E-07	J (DNQ)	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	0.1	0.1	µg/L	5.4E-07	8.8E-07	UJ (*III)	**ND**	4.0E-07	4.1E-07	UJ (*III)	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	0.1	0.2	µg/L	4.4E-07	1.2E-06	J (DNQ)	**ND**	2.5E-07	6.2E-07	J (DNQ)	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	0.1	0.1	µg/L	4.5E-07	6.1E-07	UJ (*III)	**ND**	3.3E-07	7.3E-07	UJ (*III)	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	0.1	0.6	µg/L	3.6E-07	1.1E-06	J (DNQ)	**ND**	2.1E-07	7.9E-07	J (DNQ)	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1.0	0.9	µg/L	7.2E-07	ND	U	**ND**	4.7E-07	ND	U	**ND**
1,2,3,7,8-PeCDF	1/Discharge	0.05	0.2	µg/L	5.8E-07	ND	U	**ND**	3.5E-07	ND	U	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	0.1	0.7	µg/L	3.6E-07	5.6E-07	J (DNQ)	**ND**	2.1E-07	8.0E-07	J (DNQ)	**ND**
2,3,4,7,8-PeCDF	1/Discharge	0.5	1.6	µg/L	5.4E-07	ND	U	**ND**	3.4E-07	ND	U	**ND**
2,3,7,8-TCDD	1/Discharge	1.0	1.0	µg/L	8.6E-07	ND	U	**ND**	3.8E-07	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	0.1	0.8	µg/L	4.7E-06	ND	U	**ND**	2.6E-06	ND	U	**ND**
OCDD	1/Discharge	0.0001	0.01	µg/L	4.8E-07	3.3E-05	U (B)	**ND**	3.5E-07	8.4E-06	U (B)	**ND**
OCDF	1/Discharge	0.0001	0.02	µg/L	6.1E-07	5.7E-06	U (B)	**ND**	3.4E-07	2.5E-06	U (B)	**ND**
					TCDD TEQ w/out DNQ Values[4]			**ND**	**TCDD TEQ w/out DNQ Values[4]**			**ND**

TCDD TEQ (PRIORITY POLLUTANTS) PERMIT LIMIT = 2.8E-08

TCDD TEQ (PRIORITY POLLUTANTS) PERMIT LIMIT = 2.8E-08

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OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/4/2022 11:00 (Composite)			1/5/2022 09:35 (Composite)		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS									
Gross Alpha	pCi/L	15	1/Discharge	1.99+/-1.69	2.62	U*	-0.542+/-4.34	8.07	U*
Gross Beta	pCi/L	50	1/Discharge	1.94+/-0.732	0.920	*	4.50+/-2.66	4.01	*
Combined Radium-226 & Radium-228	pCi/L	5	1/Discharge	0.479+/-0.339	NM	U*	0.95+/-0.388	NM	*
Strontium-90	pCi/L	8	1/Discharge	0.0834+/-0.350	0.612	U*	0.320+/-0.371	0.609	U*
Tritium	pCi/L	20,000	1/Discharge	-67.6+/-211	392	U*	-90.1+/-210	396	U*
ADDITIONAL POLLUTANTS									
Cesium-137	pCi/L	200	1/Discharge	-5.14+/-12.1	14.1	U*	3.59+/-6.79	8.16	U*
Uranium	pCi/L	20	1/Discharge	0.166+/-0.148	0.169	U*	0.0721+/-0.07392	0.111	U*
ADDITIONAL POLLUTANTS WITHOUT LIMITS									
Potassium-40	pCi/L	-	1/Discharge	-22.7+/-172	178	U*	88.6+/-50.3	50.2	*
Potassium-40[t]	pCi/L	-	1/Discharge	ANR	ANR	ANR	52.3+/-93.4	98.4	U*

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 018
DISCHARGE MONITORING MASS SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/3/2022 09:20 - 1/4/2022 11:00			1/4/2022 11:20 - 1/5/2022 09:35		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	1.0207	*	Meas	1.3899	*
CONVENTIONAL POLLUTANTS									
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	LBS/DAY	29,481	1/Discharge	Composite	ND	U*	Composite	ND	U*
Oil & Grease	LBS/DAY	14,741	1/Discharge	Grab	ND	U*	Grab	ND	U*
Total Suspended Solids[#]	LBS/DAY	44,222	1/Discharge	Composite	34[(d)]	*	Composite	ND	U*
PRIORITY POLLUTANTS									
1,1-Dichloroethene	LBS/DAY	5.9	1/Discharge	Grab	ND	U*	Grab	ND	U*
1,2-Dichloroethane	LBS/DAY	0.49	1/Discharge	Grab	ND	U*	Grab	ND	U*
2,4,6-Trichlorophenol	LBS/DAY	12.8	1/Discharge	Composite	ND	U*	Composite	ND	U*
2,4-Dinitrotoluene	LBS/DAY	17.7	1/Discharge	Composite	ND	U*	Composite	ND	U*
alpha-BHC	LBS/DAY	0.03	1/Discharge	Composite	ND	U*	Composite	ND	U*
Antimony	LBS/DAY	5.9	1/Year	Composite	ND	U	ANR	ANR	ANR
Arsenic	LBS/DAY	9.83	1/Year[(p)]	Composite	ND	U	Composite	ND	U
Beryllium	LBS/DAY	3.93	1/Year	Composite	ND	U	ANR	ANR	ANR
Bis (2-Ethylhexyl) Phthalate	LBS/DAY	3.93	1/Discharge	Composite	ND	U*	Composite	0.022	J (DNQ*)
Cadmium	LBS/DAY	(3.93) 3.05	1/Discharge	Composite	ND	U	Composite	ND	U
Chromium VI (Hexavalent)	LBS/DAY	15.72	1/Year	Composite	0.0013	J (DNQ*)	ANR	ANR	ANR
Copper	LBS/DAY	13.76	1/Discharge	Composite	0.020	--	Composite	0.019	J (DNQ*)
Cyanide	LBS/DAY	8.35	1/Discharge	Composite	ND	U*	Composite	ND	U*
Lead	LBS/DAY	5.11	1/Discharge	Composite	ND	U	Composite	ND	U
Mercury	LBS/DAY	0.1	1/Discharge	Composite	ND	U*	Composite	ND	U*
Nickel	LBS/DAY	92.4	1/Year	Composite	ND	U	ANR	ANR	ANR
N-Nitrosodimethylamine	LBS/DAY	15.72	1/Discharge	Composite	ND	U*	Composite	ND	U*
Pentachlorophenol	LBS/DAY	16.22	1/Discharge	Composite	ND	U*	Composite	ND	U*
Selenium	LBS/DAY	(4.91) 8.06	1/Discharge	Composite	ND	U	Composite	ND	U
Silver	LBS/DAY	4.03	1/Year	Composite	ND	U	ANR	ANR	ANR
TCDD TEQ_NoDNQ[(4)]	LBS/DAY	2.75E-08	1/Discharge	Composite	ND	U*	Composite	ND	U*
Thallium	LBS/DAY	1.97	1/Year	Composite	ND	U	ANR	ANR	ANR
Trichloroethene	LBS/DAY	4.91	1/Discharge	Grab	ND	U*	Grab	ND	U*
Zinc	LBS/DAY	117	1/Discharge	Composite	ND	U	Composite	ND	U
NON-CONVENTIONAL POLLUTANTS									
Ammonia - N	LBS/DAY	9,925.3	1/Discharge	Composite	7.19	*	Composite	2.57	*
Barium	LBS/DAY	983	1/Year	Composite	0.11	--	ANR	ANR	ANR
Chloride	LBS/DAY	147,405	1/Discharge	Composite	46	*	Composite	57	*
Chlorine, Total Residual (Field)	LBS/DAY	98.3	1/Year	Grab	0.0	*	ANR	ANR	ANR

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 018
DISCHARGE MONITORING MASS SUMMARY TABLE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

				1/3/2022 09:20 - 1/4/2022 11:00			1/4/2022 11:20 - 1/5/2022 09:35		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Detergents (as MBAS)	LBS/DAY	491.4	1/Discharge	Composite	ND	U*	Composite	ND	U*
Fluoride	LBS/DAY	1,572.3	1/Year	Composite	ND	U*	ANR	ANR	ANR
Iron	LBS/DAY	295	1/Year[(p)]	Composite	0.851	--	Composite	6.14	--
Iron[(t)]	LBS/DAY	295	1/Year	ANR	ANR	ANR	Composite	ND	U
Manganese	LBS/DAY	49.1	1/Year[(p)]	Composite	0.20	--	Composite	0.19	J (DNQ*)
Nitrate - N	LBS/DAY	7,862	1/Discharge	Composite	31	*	Composite	43	*
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	7,862	1/Discharge	Composite	31	*	Composite	43	*
Nitrite - N	LBS/DAY	983	1/Discharge	Composite	ND	U*	Composite	ND	U*
Perchlorate	LBS/DAY	5.9	1/Discharge	Composite	ND	U*	Composite	ND	U*
Sulfate	LBS/DAY	294,810	1/Discharge	Composite	610	*	Composite	1,100	*
Total Dissolved Solids	LBS/DAY	933,567	1/Discharge	Composite	2,000	*	Composite	2,550	*

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

APPENDIX D

First Quarter 2022 Summary of Permit Limit Exceedances, and/or Non-Compliance

APPENDIX D

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TABLE D
SUMMARY OF PERMIT LIMIT EXCEEDANCES AND/OR NON-COMPLIANCE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

DAILY MAXIMUM PERMIT LIMIT EXCEEDANCES AND/OR NON-COMPLIANCE							
OUTFALL	**SAMPLE DATE**	**SAMPLE TYPE**	**ANALYTE**	**PERMIT LIMIT DAILY MAX**	**RESULT**	**UNITS**	**LABORATORY/ VALIDATION QUALIFIER**
Outfall 018	01/05/2022	Comp	Iron	0.3	0.530	mg/L	--

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

TABLE D
SUMMARY OF PERMIT LIMIT EXCEEDANCES AND/OR NON-COMPLIANCE

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

SINGLE SAMPLE MAXIMUM RECEIVING WATER LIMIT EXCEEDANCES							
LOCATIONS	**SAMPLE DATE**	**SAMPLE TYPE**	**ANALYTE**	**SINGLE SAMPLE MAXIMUM LIMIT**	**DAILY MAX RESULT**	**UNITS**	**LABORATORY/ VALIDATION QUALIFIER**
Arroyo Simi	02/15/2022	Grab	E. coli	235	920	MPN/100 ml	--
Arroyo Simi	02/18/2022	Grab	E. coli	235	460	MPN/100 ml	--
Arroyo Simi	03/29/2022	Grab	E. coli	235	2,000	MPN/100 ml	--

GEOMETRIC MEAN RECEIVING WATER LIMIT EXCEEDANCES							
LOCATIONS	**SAMPLE DATES**	**SAMPLE TYPE**	**ANALYTE**	**GEOMEAN LIMIT**	**GEOMEAN RESULT**	**UNITS**	**LABORATORY/ VALIDATION QUALIFIER**
Arroyo Simi	03/15/2022-03/29/2022	Grab	E. coli	126	138	MPN/100 ml	*

See reporting summary notes for abbreviations, definitions, and other explanations for the data presented.

APPENDIX E

First Quarter 2022 Analytical Laboratory Reports, Chain of Custody Forms, and Validation Reports

APPENDIX E

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Section No.

APPENDIX E
Table of Contents (continued)

Section No.

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-84479-1
Client Project/Site: Boeing NPDES SSFL - Arroyo Simi

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
3/7/2022 10:26:18 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-84479-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-84479-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-84479-1

Comments
No additional comments.

Receipt
The sample was received on 2/15/2022 11:35 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method 9223- Colilert 18 - E. Coli - level 4 required: This method was subcontracted to Enthalpy Analytical - Barkley. The subcontract laboratory certification is different from that of the facility issuing the final report.

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-84479-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-84479-1	ArroyoSimi_20220215	Water	02/15/22 08:20	02/15/22 11:35

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 458331
Report Level: IV
Report Date: 02/24/2022

Coliform - 9221 Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDES SSFL Outfall - Outfall 002 #570-84479

Authorized for release by:

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	Lab Job #: Project No: Location: Date Received:	458331 BOEING NPDES SSFL Boeing NPDES SSFL Outfall - Outfall 002 #570-84479 02/15/22

Sample ID	Lab ID	Collected	Matrix
ARROYOSIMI_20220215	458331-001	02/15/22 08:20	Water

Case Narrative

COLIFORM - 9221 TESTS (SM 9221F)

Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Virendra Patel	Lab Job Number:	458331
	Project No:	BOEING NPDES SSFL
	Location:	Boeing NPDES SSFL Outfall - Outfall 002 #570-84479
	Date Received:	02/15/22

This data package contains sample and QC results for one water sample, requested for the above referenced project on 02/15/22. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

458331

Chain of Custody Record

C570-84479

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-157314.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-84479-1
Address: 931 W. Barkley Ave, ,	Due Date Requested: Standard TAT			
City: Orange	TAT Requested (days):			
State, Zip: CA, 92868	PO #:			
Phone:	WO #:			
Email:	Project #: ECI Job#: 570-84479			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002				
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	SUB (9223- Colilert 18 - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:					
ArroyoSimi_20220215 (570-84479-1)	2/15/22	08:20 Pacific		Water		X	3	Run and report 1x, 10x, and 100x dilutions - level 4

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	2-15-2022 / 1135	M:A		2-15-22 11:35	EA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: △ Yes △ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

5.5 / 1.2

Ver: 06/08/2021

3/15/2022

Test America Version 7/19/2010

CHAIN OF CUSTODY FORM

458331

Client Name/Address:	Project:
Haley & Aldrich, Inc. 5333 Mission Center Road, Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Arroyo Simi Sampler: Adrian Mobeka
Eurofins Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3269 **ECI #44024446**	Project Manager: Katherine Miller Phone Number: (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	E. coli (SM9221)									Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20220215	2/15/2022/0820	$Na_2S_2O_3$	10	X									Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Relinquished By: [signature] Date/Time: 2-15-2022 / 1135

Relinquished By: [signature] Date/Time: 2-15-22 1135

Relinquished By: Date/Time:

Turn around Time: (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal __X__

Sample Integrity: (check)
Intact _____ On Ice: _____

Data Requirements: (check)
No Level IV ____ All Level IV ____

NPDES Level IV ____

5.5 / 1.2

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: EuroFins Project: _____

Date Received: 2/15/22 Sampler's Name Present: ☑ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2) Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 5.5 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 1.2 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✔		
Are sample IDs present?	✔		
Are sampling dates & times present?	✔		
Is a relinquished signature present?	✔		
Are the tests required clearly indicated on the COC?	✔		
Are custody seals present?		✔	
If custody seals are present, were they intact?			✔
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)			✔
Did all samples arrive intact? If no, indicate in Section 4 below.	✔		
Did all bottle labels agree with COC? (ID, dates and times)	✔		
Were the samples collected in the correct containers for the required tests?	✔		
Are the containers labeled with the correct preservatives?	✔		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✔
Was a sufficient amount of sample submitted for the requested tests?	✔		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 2-15/22

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

458331

Chain of Custody Record

C570-84479

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-157314.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-34479-1
Address: 931 W. Barkley Ave, ,	Due Date Requested: Standard TAT			
City: Orange	TAT Requested (days):			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002	Project #: ECI Job#: 570-84479			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	SUB (9223-Colilert-18 - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:					
ArroyoSimi_20220215 (570-84479-1)	2/15/22	08:20 Pacific		Water		X	3	Run and report 1x, 10x, and 100x dilutions - level 4

Quanti-Tray
E. Coli only
Virendra (ECI)
02/16/22 @ 10:03am

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	2-15-2022 / 1135	E.A	[signature]	2-15-22 1135	EA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
		5.5 / 1.2

Ver: 06/08/2021

Results & QC Summary

ENTHALPY ANALYTICAL

E. Coli

Lab #: 458331		**Project#:** BOEING NPDES SSFL	
Client: Eurofins Calscience Tustin		**Location:** Boeing NPDES SSFL Outfall - Outfal...	
Field ID: ARROYOSIMI_20220215	**Batch#:** 283848	**Analyzed:** 02/18/22 12:38	
Lab ID: 458331-001	**Sampled:** 02/15/22 08:20	**Prep:**	
Matrix: Water	**Received:** 02/15/22	**Analysis:** SM 9221F	
DiIn Fac: 1.000	**Prepared:** 02/15/22 12:10	**Analyst:** SMT	

Analyte	Result	RL	Units
Coliform, E. Coli	**920**	1.8	MPN/100ml

Legend

RL: Reporting Limit

TA-01

SM 9221 B, E, F, Coliform MTF

Prep Analyst Initials: M Prep Date/Time: 2/15/22 1210 QC Batch ID: 283848 Batch Page 1 of 3

Client: ECL-Irvine Client Sample ID: Enthalpy Sample ID: 458331-001

**For batches that are more than one page, the equipment ID, time/temp, and analyst records below can be recorded with "See Page ###" to reference the first page of the batch

Total Coliform, Presumptive

	24 hrs (±2)		48 hrs (±3)	
Incu ID:	A	Date/Time/Temp In: 2/15/22 1220 35.0	A	2/16/22 1114 35.2
Analyst:	SL	Read Date/Time/Temp: 2/16/22 1110 35.3	SL	2/17/22 1242 35.2
Transfer to Confirmations Below, Date/Time:	N/A		SL 2/17/22	2/17/22 1252

Volume (mL)	Tube 1		Tube 2		Tube 3		Tube 4		Tube 5	
	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas
10 10	+	+	+	+	+	+	+	+	+	+
1 10	+	+	+	+	+	+	+	+	+	+
10^{-1}	+	−	+	+	+	+	+	+	+	−
10^{-2}										
10^{-3}										
10^{-4}										
10^{-5}										
10^{-6}										

Volume (mL)	Tube 1		Tube 2		Tube 3		Tube 4		Tube 5	
	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas
10 10	+	+	+	+	+	+	+	+	+	+
1 10	+	+	+	+	+	+	+	+	+	+
10^{-1}	+	+	+	+	+	+	+	+	+	+
10^{-2}										
10^{-3}										
10^{-4}										
10^{-5}										
10^{-6}										

QC	Negative	Positive
Presumptive 24	—	+
Presumptive 48	—	+
T.C. Confirm 24		
T.C. Confirm 48		
Fecal Coliform		
E. Coli	—	+

Total Coliform, Confirmation, SM 9221 B

	Tubes From 24hr Presumptive Transfer		Tubes From 48hr Presumptive Transfer	
	24 hrs (±2)	48 hrs (±3)	24 hrs (±2)	48 hrs (±3)
Incu. ID:	Date/Time/Temp In:	Date/Time/Temp In:	Date/Time/Temp In:	Date/Time/Temp In:
Analyst:	Read Date/Time/Temp:	Read Date/Time/Temp:	Read Date/Time/Temp:	Read Date/Time/Temp:

Volume (mL)	Tube 1		Tube 2		Tube 3		Tube 4		Tube 5		Tube 1		Tube 2		Tube 3		Tube 4		Tube 5		Tube 1		Tube 2		Tube 3		Tube 4		Tube 5		# Of Positive Tubes	MPN	Circle One
	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas			
10 10																																	
1 10																																	/100mL,
10^{-1}																	SL																
10^{-2}																					2/17/22												/g,
10^{-3}																																	
10^{-4}																																	
10^{-5}																																	/swab, /10g
10^{-6}																																	

Fecal Coliform, Confirmation, SM 9221 E

	Tubes From 24hr Presumptive Transfer, Read at 24hrs (±2)	Tubes From 48hr Presumptive Transfer, Read at 24hrs (±2)
Waterbath Date/Time/Temp In:		
Waterbath Date/Time/Temp Out:		
Analyst:	Waterbath ID:	Analyst: Waterbath ID:

Volume (mL)	Tube 1		Tube 2		Tube 3		Tube 4		Tube 5		Tube 1		Tube 2		Tube 3		Tube 4		Tube 5		# Of Positive Tubes	MPN	Circle One
	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas			
10 10																							
1 10																							/100mL,
10^{-1}											SL												
10^{-2}												2/17/22											/g,
10^{-3}																							
10^{-4}																							
10^{-5}																							/swab, /10g
10^{-6}																							

E. Coli, Completed Phase SM 9221 F

	Presumptive 24hr transfer read at 24 hrs (±2)	Presumptive 48hr transfer read at 24 hrs (±2)
Waterbath Date/Time/Temp In:		2/17/22 1301 44.6
Waterbath Date/Time/Temp Out:		2/18/22 1238 44.7
Analyst:	Waterbath ID:	SL Waterbath ID: 1

Volume (mL)	Tube 1	Tube 2	Tube 3	Tube 4	Tube 5	Tube 1	Tube 2	Tube 3	Tube 4	Tube 5	# Of Positive Tubes	MPN	Circle One
	Fluoresce	Fluoresce	Fluoresce	Fluoresce	Fluoresce	Fluoresce	Fluoresce	Fluoresce	Fluoresce	Fluoresce			
10 10						+	+	+	+	+	5		
1 10						+	+	+	+	+	5		/100mL
10^{-1}						−	+	+	+	−	3		
10^{-2}												920	/g,
10^{-3}													
10^{-4}													
10^{-5}													/swab, /10g
10^{-6}													

Media Prep Dates:			
2x LTB/LSB	2/1/22	EC	
1x LTB/LSB	2/4/22	EC-Mug	1/23/22
BGB		Buffer/Sterile Water	11/17/21

Data Entered By	Data Validated By
Initials: M	Initials:
Date: 2/21/22	Date:

Prep/Work Comments:

TA-01 10x

SM 9221 B, E, F, Coliform MTF

Prep Analyst Initials: SL | Prep Date/Time: 2/15/22 1210 | QC Batch ID: 283848 | Batch Page 2 of 3

Client: ECL - IRV | Client Sample ID: | Enthalpy Sample ID: 458331-001

**For batches that are more than one page, the equipment ID, time/temp, and analyst records below can be recorded with "See Page ###" to reference the first page of the batch

Total Coliform, Presumptive

	24 hrs (±2)										48 hrs (±3)									
Incu ID:	A	Date/Time/Temp In:	2/15/22	1220	35.0						Incu ID:	A	Date/Time/Temp In:	2/16/22	1114	35.2				
Analyst:	SL	Read Date/Time/Temp:	2/16/22	1110	35.3						Analyst:	SL	Read Date/Time/Temp:	2/17/22	1242	35.2				
Transfer to Confirmations Below, Date/Time:	N/A										Transfer to Confirmations Below, Date/Time:	2/17/22	1252							

Volume (mL)	Tube 1		Tube 2		Tube 3		Tube 4		Tube 5		Tube 1		Tube 2		Tube 3		Tube 4		Tube 5	
	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas
10 10	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1 10	+	+	+	−	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
10^{-1}	+	−	+	−	−	−	−	−	−	−	+	−	+	−	+	−	+	−	−	−
10^{-2}																				
10^{-3}																				
10^{-4}																				
10^{-5}																				
10^{-6}																				

QC	Negative	Positive
Presumptive 24	−	+
Presumptive 48	−	+
T.C. Confirm 24		
T.C. Confirm 48		
Fecal Coliform		
E. Coli	−	+

Total Coliform, Confirmation, SM 9221 B

	Tubes From 24hr Presumptive Transfer										Tubes From 48hr Presumptive Transfer										# Of Positive Tubes	MPN	Circle One
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			
	24 hrs (±2)						48 hrs (±3)				24 hrs (±2)						48 hrs (±3)						
	Incu. ID:	Date/Time/Temp In:					Incu. ID:	Date/Time/Temp In:			Incu. ID:	Date/Time/Temp In:					Incu. ID:	Date/Time/Temp In:					
	Analyst:	Read Date/Time/Temp:					Analyst:	Read Date/Time/Temp:			Analyst:	Read Date/Time/Temp:					Analyst:	Read Date/Time/Temp:					
	Tube 1		Tube 2		Tube 3		Tube 4		Tube 5		Tube 1		Tube 2		Tube 3		Tube 4		Tube 5				
Volume (mL)	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas			
10 10																							/100mL,
1 10																							
10^{-1}																							/g,
10^{-2}																							
10^{-3}																							
10^{-4}																							/swab, /10g
10^{-5}																							
10^{-6}																							

SL 2/17/22

Fecal Coliform, Confirmation, SM 9221 E

	Tubes From 24hr Presumptive Transfer, Read at 24hrs (±2)										Tubes From 48hr Presumptive Transfer, Read at 24hrs (±2)										# Of Positive Tubes	MPN	Circle One
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			
	Waterbath Date/Time/Temp In:										Waterbath Date/Time/Temp In:												
	Waterbath Date/Time/Temp Out:										Waterbath Date/Time/Temp Out:												
	Analyst:			Waterbath ID:							Analyst:			Waterbath ID:									
	Tube 1		Tube 2		Tube 3		Tube 4		Tube 5		Tube 1		Tube 2		Tube 3		Tube 4		Tube 5				
Volume (mL)	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas	growth	gas			
10 10																							/100mL,
1 10																							
10^{-1}																							/g,
10^{-2}																							
10^{-3}																							
10^{-4}																							/swab, /10g
10^{-5}																							
10^{-6}																							

SL 2/17/22

E. Coli, Completed Phase SM 9221 F

	Presumptive 24hr transfer read at 24 hrs (±2)					Presumptive 48hr transfer read at 24 hrs (±2)					# Of Positive Tubes	MPN	Circle One
Waterbath Date/Time/Temp In:						Waterbath Date/Time/Temp In:	2/17/22	1301	44.6				
Waterbath Date/Time/Temp Out:						Waterbath Date/Time/Temp Out:	2/18/22	1238	44.7				
Analyst:		Waterbath ID:				Analyst:	ST	Waterbath ID:	1				
	Tube 1	Tube 2	Tube 3	Tube 4	Tube 5	Tube 1	Tube 2	Tube 3	Tube 4	Tube 5			
Volume (mL)	Fluoresce	Fluoresce	Fluoresce	Fluoresce	Fluoresce	Fluoresce	Fluoresce	Fluoresce	Fluoresce	Fluoresce			
10 10						+	+	+	+	+	5		
1 10						+	−	+	+	+	4		/100mL,
10^{-1}						+	−	+	−	+	3	280	/g,
10^{-2}												↓	
10^{-3}												2800	
10^{-4}													
10^{-5}													/swab, /10g
10^{-6}													

Media Prep Dates:			
2x LTB/LSB	2/1/22	EC	
1x LTB/LSB	2/4/22	EC-Mug	1/23/22
BGB		Buffer/Sterile Water	11/17/21

Data Entered By	Data Validated By
Initials:	Initials:
Date: 2/21/22	Date:

Prep/Work Comments:

TA-01 100x

SM 9221 B, E, F, Coliform MTF

Prep Analyst Initials: SL Prep Date/Time: 2/15/22 1210 QC Batch ID: 283848 Batch Page 3 of 3

Client: ECL - IRV Client Sample ID: Enthalpy Sample ID: 458331-001

**For batches that are more than one page, the equipment ID, time/temp, and analyst records below can be recorded with "See Page ###" to reference the first page of the batch

Total Coliform, Presumptive

	24 hrs (±2)	48 hrs (±3)
Incu ID:	A	A
Date/Time/Temp In:	2/15/22 1200 35.0	2/16/22 1114 35.2
Analyst:	SL	SL
Read Date/Time/Temp:	2/16/22 1110 35.3	2/17/22 1042 35.2
Transfer to Confirmations Below, Date/Time:	N/A	2/17/22 1252

Volume (mL)	Tube 1 growth	Tube 1 gas	Tube 2 growth	Tube 2 gas	Tube 3 growth	Tube 3 gas	Tube 4 growth	Tube 4 gas	Tube 5 growth	Tube 5 gas
10 (10)	+	+	+	+	+	+	+	−	+	−
1 (10)	+	−	+	−	−	−	+	−	+	−
10^0	−	−	−	−	−	−	−	−	−	−
10^-2										
10^-3										
10^-4										
10^-5										
10^-6										

Volume (mL)	Tube 1 growth	Tube 1 gas	Tube 2 growth	Tube 2 gas	Tube 3 growth	Tube 3 gas	Tube 4 growth	Tube 4 gas	Tube 5 growth	Tube 5 gas
10 (10)	+	+	+	+	+	+	+	+	+	+
1 (10)	+	+	+	+	+	−	+	+	+	−
10^0	−	−	−	−	−	−	−	−	−	−
10^-2										
10^-3										
10^-4										
10^-5										
10^-6										

QC	Negative	Positive
Presumptive 24	−	+
Presumptive 48	−	+
T.C. Confirm 24		
T.C. Confirm 48		
Fecal Coliform		
E. Coli	−	+

Total Coliform, Confirmation, SM 9221 B

	Tubes From 24hr Presumptive Transfer		Tubes From 48hr Presumptive Transfer		# Of Positive Tubes	MPN	Circle One
	24 hrs (±2)	48 hrs (±3)	24 hrs (±2)	48 hrs (±3)			
Incu. ID:							
Date/Time/Temp In:							
Analyst:			SL				
Read Date/Time/Temp:			2/17/22				

Volume (mL)	Tube 1 growth	Tube 1 gas	Tube 2 growth	Tube 2 gas	Tube 3 growth	Tube 3 gas	Tube 4 growth	Tube 4 gas	Tube 5 growth	Tube 5 gas
10 (10)										
1 (10)										
10^-1										
10^-2										
10^-3										
10^-4										
10^-5										
10^-6										

Volume (mL)	Tube 1 growth	Tube 1 gas	Tube 2 growth	Tube 2 gas	Tube 3 growth	Tube 3 gas	Tube 4 growth	Tube 4 gas	Tube 5 growth	Tube 5 gas
10 (10)										
1 (10)										
10^-1										
10^-2										
10^-3										
10^-4										
10^-5										
10^-6										

Fecal Coliform, Confirmation, SM 9221 E

	Tubes From 24hr Presumptive Transfer, Read at 24hrs (±2)	Tubes From 48hr Presumptive Transfer, Read at 24hrs (±2)	# Of Positive Tubes	MPN	Circle One
Waterbath Date/Time/Temp In:					
Waterbath Date/Time/Temp Out:					
Analyst:		SL			
Waterbath ID:					
Read Date/Time:		2/17/22			

Volume (mL)	Tube 1 growth	Tube 1 gas	Tube 2 growth	Tube 2 gas	Tube 3 growth	Tube 3 gas	Tube 4 growth	Tube 4 gas	Tube 5 growth	Tube 5 gas
10 (10)										
1 (10)										
10^-1										
10^-2										
10^-3										
10^-4										
10^-5										
10^-6										

Volume (mL)	Tube 1 growth	Tube 1 gas	Tube 2 growth	Tube 2 gas	Tube 3 growth	Tube 3 gas	Tube 4 growth	Tube 4 gas	Tube 5 growth	Tube 5 gas
10 (10)										
1 (10)										
10^-1										
10^-2										
10^-3										
10^-4										
10^-5										
10^-6										

E. Coli, Completed Phase SM 9221 F

	Presumptive 24hr transfer read at 24 hrs (±2)	Presumptive 48hr transfer read at 24 hrs (±2)	# Of Positive Tubes	MPN	Circle One
Waterbath Date/Time/Temp In:		2/17/22 1301 44.6			
Waterbath Date/Time/Temp Out:		2/18/22 1238 44.7			
Analyst:		ST			
Waterbath ID:		1			

Volume (mL)	Tube 1 Fluoresce	Tube 2 Fluoresce	Tube 3 Fluoresce	Tube 4 Fluoresce	Tube 5 Fluoresce
10 (10)					
1 (10)					
10^-1					
10^-2					
10^-3					
10^-4					
10^-5					
10^-6					

Volume (mL)	Tube 1 Fluoresce	Tube 2 Fluoresce	Tube 3 Fluoresce	Tube 4 Fluoresce	Tube 5 Fluoresce
10 (10)	+	−	+	−	−
1 (10)	−	−		−	
10^-1					
10^-2					
10^-3					
10^-4					
10^-5					
10^-6					

# Of Positive Tubes	MPN	Circle One
2	4.5	/100mL
0	↓	
0	450	/g, /swab, /10g

Media Prep Dates:			
2x LTB/LSB	2/1/22	EC	
1x LTB/LSB	2/4/22	EC-Mug	1/23/22
BGB		Buffer/Sterile Water	11/17/21

Data Entered By	Data Validated By
Initials:	Initials:
Date: 2/21/22	Date:

Prep/Work Comments:

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

C570-84479

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-157314.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-84479-1
Address: 931 W. Barkley Ave, ,	Due Date Requested: Standard TAT	Analysis Requested		Preservation Codes:
City: Orange	TAT Requested (days):			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify) Other:
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002	Project #: ECI Job#: 570-84479			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	SUB (9223- Colilert 18 - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:					
ArroyoSimi_20220215 (570-84479-1)	2/15/22	08:20 Pacific		Water		X	3	Run and report 1x, 10x, and 100x dilutions - level 4

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ___ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	2-15-2022 / 1135	A:A	[signature]	2-15-22 11:45	EA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

5.5 / 1.2

Ver: 06/08/2021

Test America Version 7/19/2010 CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
Haley & Aldrich, Inc. 5333 Mission Center Road, Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Arroyo Simi Sampler: Adrian Mobeka
Eurofins Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3269 **ECI #44024446**	Project Manager: Katherine Miller Phone Number: (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	E. coli (SM9221)									Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20220215	2/15/2022/0820	$Na_2S_2O_3$	10	X									Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Relinquished By	Date/Time:
[signature]	2-15-2022 / 1135
[signature]	2-15-22 1135

Turn around Time: (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal __X__

Sample Integrity: (check)
Intact _____ On Ice: _____

Data Requirements: (check)
No Level IV ____ All Level IV ____

NPDES Level IV

5.5 / 1.2

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-84479-1

Login Number: 84479
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.		
The cooler's custody seal, if present, is intact.		
Sample custody seals, if present, are intact.		
The cooler or samples do not appear to have been compromised or tampered with.		
Samples were received on ice.		
Cooler Temperature is acceptable.		
Cooler Temperature is recorded.		
COC is present.		
COC is filled out in ink and legible.		
COC is filled out with all pertinent information.		
Is the Field Sampler's name present on COC?		
There are no discrepancies between the containers received and the COC.		
Samples are received within Holding Time (excluding tests with immediate HTs)		
Sample containers have legible labels.		
Containers are not broken or leaking.		
Sample collection date/times are provided.		
Appropriate sample containers are used.		
Sample bottles are completely filled.		
Sample Preservation Verified.		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").		
Multiphasic samples are not present.		
Samples do not require splitting or compositing.		
Residual Chlorine Checked.		

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ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-84798-1
Client Project/Site: Boeing NPDES SSFL - Arroyo Simi

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
3/2/2022 1:53:40 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc.
Job ID: 570-84798-1
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-84798-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-84798-1

Comments
No additional comments.

Receipt
The sample was received on 2/18/2022 3:00 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-84798-1
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Method	Method Description	Protocol	Laboratory
1103.1	E. Coli	EPA	Enthalpy

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-84798-1
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-84798-1	ArroyoSimi_02182022	Water	02/17/22 14:26	02/18/22 15:00

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 458535
Report Level: IV
Report Date: 03/02/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDES SSFL - Arroyo Simi (570-84798)

Authorized for release by:

Quynhgiao Le

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	Lab Job #: Project No: Location: Date Received:	458535 BOEING NPDES SSFL Boeing NPDES SSFL - Arroyo Simi (570-84798) 02/18/22

Sample ID	Lab ID	Collected	Matrix
ARROYOSIMI_02182022 (570-84798-1)	458535-001	02/18/22 07:10	Water

ENTHALPY ANALYTICAL

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Virendra Patel	Lab Job Number: 458535 Project No: BOEING NPDES SSFL Location: Boeing NPDES SSFL - Arroyo Simi (570-84798) Date Received: 02/18/22

This data package contains sample and QC results for one water sample, requested for the above referenced project on 02/18/22. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

Eurofins Calscience
2841 Dow Avenue
Tustin, CA 92780
Phone: 949-261-1022 Fax: 949-260-3297

458535

Chain of Custody Record

&702+(3/243&

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-158010.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-84798-1
Address: 931 W. Barkley Ave, ,	Due Date Requested:			
City: Orange	TAT Requested (days): Standard TAT			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Simi	Project #: ECI Job#: 570-84798			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (9223- Colilert 18 - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ArroyoSimi_02182022 (570-84798-1)	2/18/22	0710	G	Water			X	3	E Coli (1x, 5x, 10x Dilutions) - 8 hour hold time - level 4
									4.1/4.0

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	2-18-2022/1045		[signature]	2/18/22 10:47	EA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

3/25/22 10

Test America Version 7/19/2010

CHAIN OF CUSTODY FORM

458535

Client Name/Address: Haley & Aldrich, Inc. 5333 Mission Center Road, Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Arroyo Simi Sampler: Adrien Mobeka
Eurofins Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3269 **ECI #44024446**	Project Manager: Katherine Miller Phone Number: (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	E. coli (SM9221)									Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20220218	2/18/2022/0710	$Na_2S_2O_3$	10	X									Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Relinquished By: Mark Dominick Date/Time: 2-18-2022/1045

c: Relinquished By: Date/Time: 2/18/22 10:47

Relinquished By: Date/Time:

Turn around Time: (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal ___X___

Sample Integrity: (check)
Intact _____ On Ice: _____

Data Requirements: (check)
No Level IV ____ All Level IV ____

NPDES Level IV ____

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Eurofins Calscience

Project: Boeing NPDES SSFL

Date Received: 2/18/22

Sampler's Name Present: ☑ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2)

Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 4.1 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 4.0 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓		
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)			✓
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?	✓		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✓
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 2/18/22

Enthalpy Analytical, a subsidiary of Montrose Environmental Group ,Inc.
931 W. Barkley Ave, Orange, CA 92868 • T: (714) 771-6900 • F: (714) 538-1209
www.enthalpy.com/socal

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 458535 **Project#:** BOEING NPDES SSFL

Client: Eurofins Calscience Tustin **Location:** Boeing NPDES SSFL - Arroyo Simi (5...

Field ID:	ARROYOSIMI_02182022 (570-84798-1)	**Batch#:**	284096	**Analyzed:**	02/19/22 11:52
Lab ID:	458535-001	**Sampled:**	02/18/22 07:10	**Prep:**	
Matrix:	Water	**Received:**	02/18/22	**Analysis:**	SM 9223Bb
Dil'n Fac:	1.000	**Prepared:**	02/18/22 14:43	**Analyst:**	SZL

Analyte	Result	RL	Units
Coliform, E. Coli	**460**	1.0	MPN/100ml

Legend

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: SL/AL Prep Date/Time: 2/18/22 1443 QC Batch ID: 284096 Batch Page 1 of 1

Read Analyst: SL Read Date/Time 2/19/22 1152

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: JT934 Pipette Lot #: A103931 & A103909 & A103864

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 2/1/22 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: F Incubator In, Temp/Time: 35.0 1455 Incubator Out, Temp/Time: 35.0 1152

Fecal Coliform: Water Bath ID: N/A Water Bath In, Temp/Time: N/A Water Bath Out, Temp/Time: N/A

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
ECL - IRV		458535-001	1X	49	41	1203.3	1200	49	25	461.1	460					ER-01
↓		↓	10X	40	7	90.8	910	27	4	43.5	440					ER-01
↓			100X	9	0	9.8	980	5	1	6.3	630					ER-01
Quality Control		Culture ID														
Positive +/+ (E. Coli)		2/13/22		49	48	>2419.6	>2400	49	48	>2419.6	>2400					
Positive +/- (K. Pneumonia)		↓		49	48	>2419.6	>2400	0	0	<1	<1					
Negative -/- (P. Aeruginosa)				0	0	<1	<1	0	0	<1	<1					

M 2/21/22

M 2/21/22

Data Entered By: M 2/21/22 Data Reviewed By:

Eurofins Calscience
2841 Dow Avenue
Tustin, CA 92780
Phone: 949-261-1022 Fax: 949-260-3297

Chain of Custody Record

&702+(3/243&

eurofins Environment Testing America

3/2/2022

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-158010.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-84798-1
Address: 931 W. Barkley Ave, ,	Due Date Requested:			
City: Orange	TAT Requested (days): Standard TAT			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Simi	Project #: ECI Job#: 570-84798			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (9223- Colilert 18 - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ArroyoSimi_02182022 (570-84798-1)	2/18/22	0710	G	Water			X	3	E Coli (1x, 5x, 10x Dilutions) - 8 hour hold time - level 4

4.1/4.0

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 2-18-2022/1045	Company	Received by:	Date/Time: 2/18/22 10:47	Company EA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Test America Version 7/19/2010 CHAIN OF CUSTODY FORM

Client Name/Address:
Haley & Aldrich, Inc.
5333 Mission Center Road, Suite 300
San Diego, CA 92108

Project:
Boeing-SSFL NPDES
Arroyo Simi

Sampler: Adrien Mobeka

Eurofins Contact: Virendra Patel
17461 Derian Ave Suite #100
Irvine CA 92614
Tel 949-260-3269
ECI #44024446

Project Manager: Katherine Miller
Phone Number:
(520) 289-8606, (520) 904-6944 (cell)
Field Manager: Mark Dominick
(978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	E. coli (SM9221)									Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20220218	2/18/2022/0710	$Na_2S_2O_3$	10	X									Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Relinquished By: M Dominick Date/Time: 2-18-2022/1045

Relinquished By: [illegible] Date/Time: 2/18/22 10:47

Relinquished By Date/Time:

Turn around Time: (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal ___X___

Sample Integrity: (check)
Intact _____ On Ice: _____

Data Requirements: (check)
No Level IV ____ All Level IV ____

NPDES Level IV ____

REC:

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-84798-1

Login Number: 84798

List Number: 1

Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.		
The cooler's custody seal, if present, is intact.		
Sample custody seals, if present, are intact.		
The cooler or samples do not appear to have been compromised or tampered with.		
Samples were received on ice.		
Cooler Temperature is acceptable.		
Cooler Temperature is recorded.		
COC is present.		
COC is filled out in ink and legible.		
COC is filled out with all pertinent information.		
Is the Field Sampler's name present on COC?		
There are no discrepancies between the containers received and the COC.		
Samples are received within Holding Time (excluding tests with immediate HTs)		
Sample containers have legible labels.		
Containers are not broken or leaking.		
Sample collection date/times are provided.		
Appropriate sample containers are used.		
Sample bottles are completely filled.		
Sample Preservation Verified.		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").		
Multiphasic samples are not present.		
Samples do not require splitting or compositing.		
Residual Chlorine Checked.		

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ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-85148-1
Client Project/Site: Boeing NPDES SSFL - Arroyo Simi

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
3/8/2022 2:26:49 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-85148-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-85148-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-85148-1

Comments
No additional comments.

Receipt
The sample was received on 2/22/2022 11:20 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method 9223- Colilert 18 - E. Coli - level 4 required: This method was subcontracted to Enthalpy Analytical - Barkley. The subcontract laboratory certification is different from that of the facility issuing the final report.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-85148-1

Method	Method Description	Protocol	Laboratory
1103.1	E. Coli	EPA	Enthalpy

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-85148-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-85148-1	ArroyoSimi_0222022	Water	02/21/22 07:15	02/22/22 11:20

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 458608
Report Level: IV
Report Date: 03/08/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDES SSFL - Arroyo Simi

Authorized for release by:

Quynhgiao Le

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Lab Job #:	458608
Project No:	BOEING NPDES SSFL
Location:	Boeing NPDES SSFL - Arroyo Simi
Date Received:	02/22/22

Sample ID	Lab ID	Collected	Matrix
ARROYOSIMI_0222022 (570-85148-1)	458608-001	02/22/22 07:15	Water

ENTHALPY ANALYTICAL

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Virendra Patel	Lab Job Number: 458608 Project No: BOEING NPDES SSFL Location: Boeing NPDES SSFL - Arroyo Simi Date Received: 02/22/22

This data package contains sample and QC results for one water sample, requested for the above referenced project on 02/22/22. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

Eurofins Calscience
2841 Dow Avenue
Tustin, CA 92780
Phone: 949-261-1022 Fax: 949-260-3297

Chain of Custody Record

458608

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-158771.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-85148-1
Address: 931 W. Barkley Ave, ,	Due Date Requested:			
City: Orange	TAT Requested (days): Standard TAT			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Simi	Project #: ECI JOB# 570-85148			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Quant Tray - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ArroyoSimi_0222022 (570-85148-1)	2/22/22	0715	G	Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		2-22-2022 1120	EA		2/24/22 1120	EA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 5.2/5.9

3/8/2022

Test America Version 7/19/2010 CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
Haley & Aldrich, Inc. 5333 Mission Center Road, Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Arroyo Simi Sampler: Adrien Mobeka
Eurofins Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3269 **ECI #44024446**	Project Manager: Katherine Miller Phone Number: (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	E. coli (SM9221)									Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20220222	2/22/2022/0715	$Na_2S_2O_3$	10	X									Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Relinquished By Date/Time:
2-22-2022/1120

~~Relinquished By~~ Date/Time:
Received By 2/22/22 1120

Relinquished By Date/Time:

Turn around Time: (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal ___X___

Sample Integrity: (check)
Intact _____ On Ice: _____

Data Requirements: (check)
No Level IV ____ All Level IV ____

NPDES Level IV ____

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Eurofins Calscience Project: ECI JOB#570-85148

Date Received: 2/22/22 Sampler's Name Present: ☑ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2) Sample Temp (°C) (No Cooler) :_____

Sample Temp (°C), One from each cooler: #1: 5.9 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 5.2 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✔		
Are sample IDs present?	✔		
Are sampling dates & times present?	✔		
Is a relinquished signature present?	✔		
Are the tests required clearly indicated on the COC?	✔		
Are custody seals present?		✔	
If custody seals are present, were they intact?			✔
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	✔		
Did all samples arrive intact? If no, indicate in Section 4 below.	✔		
Did all bottle labels agree with COC? (ID, dates and times)	✔		
Were the samples collected in the correct containers for the required tests?	✔		
Are the containers labeled with the correct preservatives?	✔		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✔
Was a sufficient amount of sample submitted for the requested tests?	✔		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials:_____ Date/Time_____

☐ Email (email sent to/on):_____/_____

Project Manager's response:

Completed By: _____ Date: 2/22/22

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 458608 **Project#:** BOEING NPDES SSFL

Client: Eurofins Calscience Tustin **Location:** Boeing NPDES SSFL - Arroyo Simi

Field ID:	ARROYOSIMI_0222022 (570-85148-1)	**Batch#:**	284257	**Analyzed:**	02/23/22 10:50
Lab ID:	458608-001	**Sampled:**	02/22/22 07:15	**Prep:**	
Matrix:	Water	**Received:**	02/22/22	**Analysis:**	SM 9223Bb
DiIn Fac:	1.000	**Prepared:**	02/22/22 14:09	**Analyst:**	AJL

Analyte	Result	RL	Units
Coliform, E. Coli	**74**	1.0	MPN/100ml

Legend

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: SL Prep Date/Time: 2/22/22 1409 QC Batch ID: 284257 Batch Page 1 of 1

Read Analyst: AL Read Date/Time 2/23/22 1050

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: JT924 Pipette Lot #: A103909, A103931, 3 A103864

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 2/1/22 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: M3 Incubator In, Temp/Time: 35.1 1405 Incubator Out, Temp/Time: 35.2 1050

Fecal Coliform: Water Bath ID: NA Water Bath In, Temp/Time: NA Water Bath Out, Temp/Time: NA

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts Large Wells	Total Coliform Counts Small Wells	MPN Table Value	Final Result, MPN	E. coli Counts Large Wells	E. coli Counts Small Wells	MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only) Large Wells	Fecal Coliform Counts (Colilert 18 only) Small Wells	MPN Table Value	Final Result, MPN	Comments
PURE EFFECT		458599-001	1X	0	0	<1	<1	0	0	<1	<1					PE2-01
ECL-TUSTIN		458608-001	1X	49	31	648.8	650	35	9	74.3	74					EC-01
↓		↓	10X	36	5	69.7	700	13	3	18.3	180					EC-01
↓		↓	100X	5	1	6.3	~~6.3~~ 630	2	0	2.0	~~2.0~~ 200					EC-01
							SL 2/24/22				SL 2/24/22					
Quality Control	Culture ID															
Positive +/+ (E. Coli)	2/20/22			49	49	>2419.6	>2400	49	49	>2419.6	>2400					
Positive +/- (K. Pneumonia)	↓			49	48	>2419.6	>2400	0	0	<1	<1					
Negative -/- (P. Aeruginosa)	↓			0	0	<1	<1	0	0	<1	<1					

SL 2/24/22

SL 2/24/22

Data Entered By: M 3/7/22 Data Reviewed By:

Eurofins Calscience
2841 Dow Avenue
Tustin, CA 92780
Phone: 949-261-1022 Fax: 949-260-3297

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-158771.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-85148-1
Address: 931 W. Barkley Ave,	Due Date Requested:	Analysis Requested		Preservation Codes:
City: Orange	TAT Requested (days): Standard TAT			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: CA, 92868				
Phone:	PO #:			Other:
Email:	WO #:			
Project Name: Boeing NPDES SSFL – Arroyo Simi	Project #: ECI JOB# 570-85148			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Quant Tray - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ArroyoSimi_0222022 (570-85148-1)	2/22/22	0715	G	Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		2-22-2022 1120	HAL		2/24/22 1120	EA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Test America Version 7/19/2010 CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
Haley & Aldrich, Inc. 5333 Mission Center Road, Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Arroyo Simi Sampler: Adrien Mobeka
Eurofins Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3269 **ECI #44024446**	Project Manager: Katherine Miller Phone Number: (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	E. coli (SM9221)									Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20220222	2/22/2022/0715	$Na_2S_2O_3$	10	X									Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Relinquished By Date/Time: 2-22-2022/1120

Relinquished By Date/Time:

Rec'd By 2/22/22 1120

Relinquished By Date/Time:

Turn around Time: (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal ___X___

Sample Integrity: (check)
Intact _____ On Ice: _____

Data Requirements: (check)
No Level IV____ All Level IV ____

NPDES Level IV ____

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ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-85591-1
Client Project/Site: Boeing NPDES SSFL - Arroyo Simi

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
3/10/2022 4:17:16 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-85591-1
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-85591-1

Job ID: 570-85591-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-85591-1

Comments
No additional comments.

Receipt
The sample was received on 2/25/2022 9:22 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method Quant-Tray - E. Coli - level 4 required: This method was subcontracted to Enthalpy Analytical - Barkley. The subcontract laboratory certification is different from that of the facility issuing the final report.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-85591-1

Method	Method Description	Protocol	Laboratory
1103.1	E. Coli	EPA	Enthalpy

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-85591-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-85591-1	ArroyoSimi_20220225	Water	02/25/22 07:15	02/25/22 09:22

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 458848
Report Level: IV
Report Date: 03/10/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDES SSFL - Arroyo Simi #570-85591

Authorized for release by:

Quynhgiao Le

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel
Eurofins
Calscience Tustin
2841 Dow Avenue,
Suite 100
Tustin, CA 92780

Lab Job #:	458848
Project No:	BOEING NPDES SSFL
Location:	Boeing NPDES SSFL - Arroyo Simi #570-85591
Date Received:	02/25/22

Sample ID	Lab ID	Collected	Matrix
ARROYOSIMI_20220225 (570-85591-1)	458848-001	02/25/22 07:15	Water

ENTHALPY ANALYTICAL

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Virendra Patel	Lab Job Number:	458848
	Project No:	BOEING NPDES SSFL
	Location:	Boeing NPDES SSFL - Arroyo Simi #570-85591
	Date Received:	02/25/22

This data package contains sample and QC results for one water sample, requested for the above referenced project on 02/25/22. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494 Fax: 714-894-7501

458848

Chain of Custody Record

C570-85591

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-159274.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-85591-1
Address: 931 W. Barkley Ave, ,	Due Date Requested:			
City: Orange	TAT Requested (days): Standard TAT			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Simi	Project #: ECI 570-85591			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Quant Tray - E.Coli level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ArroyoSimi_20220225 (570-85591-1)	2/25/22	0715	G	Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	2-25-2022/0922			2/25/2022 9:22	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

2.1/1.7

Ver: 06/08/2021

3/10/22

Test America Version 7/19/2010

CHAIN OF CUSTODY FORM

Client Name/Address:
Haley & Aldrich, Inc.
5333 Mission Center Road, Suite 300
San Diego, CA 92108

Project:
Boeing-SSFL NPDES
Arroyo Simi

Sampler: Adrien Mobeka

Eurofins Contact: Virendra Patel
17461 Derian Ave Suite #100
Irvine CA 92614
Tel 949-260-3269
ECI #44024446

Project Manager: Katherine Miller
Phone Number:
(520) 289-8606, (520) 904-6944 (cell)
Field Manager: Mark Dominick
(978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	E. coli (SM9221)									Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20220225	2/25/2022/0715	$Na_2S_2O_3$	10	X									Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Relinquished By
Date/Time: 2-25-2022/0922

~~Relinquished~~ Received By
Date/Time: 2/25/2022/9:22am

Relinquished By
Date/Time:

Turn around Time: (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal __X__

Sample Integrity: (check)
Intact _____ On Ice: _____

Data Requirements: (check)
No Level IV ____ All Level IV ____

NPDES Level IV ____

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Eurofins Calscience

Project: Haley & aldrich, Inc.

Date Received: 2/25/2022

Sampler's Name Present: ☑ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2)

Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 2.5 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 9.2 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓		
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	✓		
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?			✓
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✓
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____ ☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: Yanira Date: 2/25/2022

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 458848 **Project#:** BOEING NPDES SSFL

Client: Eurofins Calscience Tustin **Location:** Boeing NPDES SSFL - Arroyo Simi #5...

Field ID:	ARROYOSIMI_20220225 (570-85591-1)	**Batch#:**	284517	**Analyzed:**	02/26/22 09:10
Lab ID:	458848-001	**Sampled:**	02/25/22 07:15	**Prep:**	
Matrix:	Water	**Received:**	02/25/22	**Analysis:**	SM 9223Bb
DiIn Fac:	1.000	**Prepared:**	02/25/22 13:47	**Analyst:**	SZL

Analyte	Result	RL	Units
Coliform, E. Coli	**21**	1.0	MPN/100ml

Legend

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: SL Prep Date/Time: 2/25/22 1347 QC Batch ID: 28457 Batch Page 1 of 1

Read Analyst: SL Read Date/Time: SL 2/26/22 2/25 2/26/22 0910

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: KT236 Pipette Lot #: A10309 3 A10931

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 2/11 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: M4 Incubator In, Temp/Time: 35.0 1402 Incubator Out, Temp/Time: 35.0 0910

Fecal Coliform: Water Bath ID: Water Bath In, Temp/Time: Water Bath Out, Temp/Time:

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
CITADEL		458832-001	1X	49	22	387.3	390	49	22	387.3	390					CI-01
		458833-001	↓	3	1	4.1	4.1	0	0	<1	<1					CE-01
ECL-TUSTIN		458848-001	↓	48	23	313.0	310	14	4	20.9	21					EC-01
		↓	10X	26	2	38.4	380	0	0	<1	<10					↓
			100X	2	1	3.0	300	0	0	<1	<100					
Quality Control		Culture ID														
Positive +/+ (E. Coli)		2/20/22		49	48	>2419.6	>2400	49	48	>2419.6	>2400					
Positive +/- (K. Pneumonia)		↓		49	48	>2419.6	>2400	0	0	<1	<1					
Negative -/- (P. Aeruginosa)				0	0	<1	<1	0	0	<1	<1					

3/7/22

Data Entered By: 3/7/22 Data Reviewed By:

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

C570-85591

eurofins

3/10/2022

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-159274.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-85591-1
Address: 931 W. Barkley Ave,	Due Date Requested:			
City: Orange	TAT Requested (days): Standard TAT			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Simi	Project #: ECI 570-85591			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Quant Tray - E.Coli level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ArroyoSimi_20220225 (570-85591-1)	2/25/22	0715	G	Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

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Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	2-25-2022/0922			2/25/2022 0922	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
		2.0/2.2

Ver: 06/08/2021

Test America Version 7/19/2010 CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
Haley & Aldrich, Inc. 5333 Mission Center Road, Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Arroyo Simi Sampler: Adrien Mobeka
Eurofins Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3269 **ECI #44024446**	Project Manager: Katherine Miller Phone Number: (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	E. coli (SM9221)									Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20220225	2/25/2022/0715	$Na_2S_2O_3$	10	X									Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Relinquished By: [signature] Date/Time: 2-25-2022/0922

~~Relinquished~~ Received By: [signature] Date/Time: 2/25/2022/9:22am

Relinquished By: Date/Time:

Turn around Time: (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal __X__

Sample Integrity: (check)
Intact _____ On Ice: _____

Data Requirements: (check)
No Level IV ____ All Level IV ____

NPDES Level IV ____

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-85591-1

Login Number: 85591
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.		
The cooler's custody seal, if present, is intact.		
Sample custody seals, if present, are intact.		
The cooler or samples do not appear to have been compromised or tampered with.		
Samples were received on ice.		
Cooler Temperature is acceptable.		
Cooler Temperature is recorded.		
COC is present.		
COC is filled out in ink and legible.		
COC is filled out with all pertinent information.		
Is the Field Sampler's name present on COC?		
There are no discrepancies between the containers received and the COC.		
Samples are received within Holding Time (excluding tests with immediate HTs)		
Sample containers have legible labels.		
Containers are not broken or leaking.		
Sample collection date/times are provided.		
Appropriate sample containers are used.		
Sample bottles are completely filled.		
Sample Preservation Verified.		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").		
Multiphasic samples are not present.		
Samples do not require splitting or compositing.		
Residual Chlorine Checked.		

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-85698-1
Client Project/Site: Boeing NPDES SSFL - Arroyo Simi

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
3/13/2022 10:44:11 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-85698-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-85698-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-85698-1

Comments
No additional comments.

Receipt
The sample was received on 2/28/2022 11:00 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method Quant-Tray - E. Coli - level 4 required: This method was subcontracted to Enthalpy Analytical - Barkley. The subcontract laboratory certification is different from that of the facility issuing the final report.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-85698-1

Method	Method Description	Protocol	Laboratory
1103.1	E. Coli	EPA	Enthalpy

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-85698-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-85698-1	ArroyoSimi_20220228	Water	02/28/22 08:20	02/28/22 11:00

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 458936
Report Level: IV
Report Date: 03/11/2022

Coliform - 9221 Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDES SSFL - Arroyo Simi (ECI Job#: 570-85698)

Authorized for release by:

Quynhgiao Le

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	Lab Job #: Project No: Location: Date Received:	458936 BOEING NPDES SSFL Boeing NPDES SSFL - Arroyo Simi (ECI Job#: 570-85698) 02/28/22

Sample ID	Lab ID	Collected	Matrix
ARROYOSIMI_20220228	458936-001	02/28/22 08:20	Water

Case Narrative

COLIFORM - 9221 TESTS (SM 9221F)

Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Virendra Patel	Lab Job Number:	458936
	Project No:	BOEING NPDES SSFL
	Location:	Boeing NPDES SSFL - Arroyo Simi (ECI Job#: 570-85698)
	Date Received:	02/28/22

This data package contains sample and QC results for one water sample, requested for the above referenced project on 02/28/22. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

458936

&702+(30143&

Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-159433.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-85698-1
Address: 931 W. Barkley Ave, ,	Due Date Requested:			
City: Orange	TAT Requested (days): Standard TAT			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Simi	Project #: ECI Job#: 570-85698			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Quant-Tray - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ArroyoSimi_20220228 (570-85698-1)	2/28/22	08:20		Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 02/28/22 1321	Company EC	Received by:	Date/Time: 2/28/22 1321	Company EA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
		5.5 / / 2

3/13/2022

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Eurofins Calscience — Project: Boeing NPDES SSFL - Arroyo Simi

Date Received: 2/28/22 — Sampler's Name Present: ☑ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2) — Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 5.5 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 1.2 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✔		
Are sample IDs present?	✔		
Are sampling dates & times present?	✔		
Is a relinquished signature present?	✔		
Are the tests required clearly indicated on the COC?	✔		
Are custody seals present?		✔	
If custody seals are present, were they intact?			✔
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)			✔
Did all samples arrive intact? If no, indicate in Section 4 below.	✔		
Did all bottle labels agree with COC? (ID, dates and times)	✔		
Were the samples collected in the correct containers for the required tests?	✔		
Are the containers labeled with the correct preservatives?	✔		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✔
Was a sufficient amount of sample submitted for the requested tests?	✔		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 2-28-22

Enthalpy Analytical, a subsidiary of Montrose Environmental Group ,Inc.
931 W. Barkley Ave, Orange, CA 92868 • T: (714) 771-6900 • F: (714) 538-1209
www.enthalpy.com/socal

Quynhgiao Le

From: Patel, Virendra <Virendra.Patel@eurofinset.com> on behalf of Patel, Virendra
Sent: Monday, February 28, 2022 2:35 PM
To: Quynhgiao Le; sample receiving
Cc: Budi vtext
Subject: RE: [EXTERNAL] Incoming E.Coli for Monday -- 02/28/2022

Continue with testing on with the alternate method for today's. The client will re-sample and submit an new sample on Thursday.

Best Regards,

Virendra Patel
Project Manager

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895 5494
Direct: 657-210-6327

Email: Virendra.Patel@eurofinsET.com
www.EurofinsUS.com/Env

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From: Quynhgiao Le <quynhgiao.le@enthalpy.com>
Sent: Monday, February 28, 2022 1:59 PM
To: Patel, Virendra <Virendra.Patel@eurofinset.com>; sample receiving <samp.receiving@montrose-env.com>
Cc: Budi vtext <7149045138@vtext.com>
Subject: RE: [EXTERNAL] Incoming E.Coli for Monday -- 02/28/2022

EXTERNAL EMAIL*

According to the tracking number they gave us, it will be delivered wednesday by 7:00 pm. Looks like this will need to be resampled.

Quynh Le
714-771-9929

From: Patel, Virendra <Virendra.Patel@eurofinset.com>
Sent: Monday, February 28, 2022 1:00 PM
To: Quynhgiao Le <quynhgiao.le@enthalpy.com>; sample receiving <samp.receiving@montrose-env.com>
Cc: Budi vtext <7149045138@vtext.com>
Subject: RE: [EXTERNAL] Incoming E.Coli for Monday -- 02/28/2022

Quynhgiao,

Client response:
I would prefer they run the same method as the other 4 samples we submitted in the last two weeks. When will they have equipment this week? We may resample if the equipment would arrive tomorrow or Wednesday.

Please advise when you can. Thank you!

Best Regards,

Virendra Patel
Project Manager

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895 5494
Direct: 657-210-6327

Email: Virendra.Patel@eurofinsET.com
www.EurofinsUS.com/Env

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From: Quynhgiao Le <quynhgiao.le@enthalpy.com>
Sent: Monday, February 28, 2022 11:49 AM
To: Patel, Virendra <Virendra.Patel@eurofinset.com>; sample receiving <samp.receiving@montrose-env.com>
Cc: Budi vtext <7149045138@vtext.com>
Subject: RE: [EXTERNAL] Incoming E.Coli for Monday -- 02/28/2022

EXTERNAL EMAIL*

It's method SM 9221 MTF (Multi-Tube Fermentation).

Quynh Le
714-771-9929

From: Patel, Virendra <Virendra.Patel@eurofinset.com>
Sent: Monday, February 28, 2022 11:39 AM
To: Quynhgiao Le <quynhgiao.le@enthalpy.com>; sample receiving <samp.receiving@montrose-env.com>
Cc: Budi vtext <7149045138@vtext.com>
Subject: RE: [EXTERNAL] Incoming E.Coli for Monday -- 02/28/2022

What is MTF? Please advise.

I would need to check with the client and get back to you.

Best Regards,

Virendra Patel
Project Manager

Eurofins Calscience

2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895 5494
Direct: 657-210-6327

Email: Virendra.Patel@eurofinsET.com
www.EurofinsUS.com/Env

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From: Quynhgiao Le <quynhgiao.le@enthalpy.com>
Sent: Monday, February 28, 2022 11:29 AM
To: Patel, Virendra <Virendra.Patel@eurofinset.com>; sample receiving <samp.receiving@montrose-env.com>
Cc: Budi vtext <7149045138@vtext.com>
Subject: RE: [EXTERNAL] Incoming E.Coli for Monday -- 02/28/2022

EXTERNAL EMAIL*

Hi Virendra,

Can we run this sample with the MTF method? We are still waiting on our order for quant-trays. Please advise.

Quynh Le
714-771-9929

From: Patel, Virendra <Virendra.Patel@eurofinset.com>
Sent: Monday, February 28, 2022 11:00 AM
To: Quynhgiao Le <quynhgiao.le@enthalpy.com>; sample receiving <samp.receiving@montrose-env.com>
Cc: Budi vtext <7149045138@vtext.com>
Subject: RE: [EXTERNAL] Incoming E.Coli for Monday -- 02/28/2022

You're welcome.

Virendra Patel
Project Manager
P: +1 714 895 5494

Email: virendrapatel@eurofinsET.com

From: Quynhgiao Le <quynhgiao.le@enthalpy.com>
Sent: Monday, February 28, 2022 11:00 AM
To: Patel, Virendra <Virendra.Patel@eurofinset.com>; sample receiving <samp.receiving@montrose-env.com>
Cc: Budi vtext <7149045138@vtext.com>
Subject: RE: [EXTERNAL] Incoming E.Coli for Monday -- 02/28/2022

EXTERNAL EMAIL*

Thank you!

Quynh Le
714-771-9929

From: Patel, Virendra <Virendra.Patel@eurofinset.com>
Sent: Monday, February 28, 2022 10:56 AM
To: Quynhgiao Le <quynhgiao.le@enthalpy.com>; sample receiving <samp.receiving@montrose-env.com>
Cc: Budi vtext <7149045138@vtext.com>
Subject: [EXTERNAL] Incoming E.Coli for Monday -- 02/28/2022
Importance: High

Quynhgiao/Enthalpy Sample Receiving:

Good Morning. COC attached for an incoming E. Coli sample headed your way. My driver will need the attached COC copy to drop off the sample.

Please advise of any issues with this request. Thank you!

Have a good day/week!

Best Regards,

Virendra Patel
Project Manager

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895 5494
Direct: 657-210-6327

Email: Virendra.Patel@eurofinsET.com
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Results & QC Summary

ENTHALPY ANALYTICAL

E. Coli

Lab #: 458936	**Project#:** BOEING NPDES SSFL		
Client: Eurofins Calscience Tustin	**Location:** Boeing NPDES SSFL - Arroyo Simi (E...		
Field ID: ARROYOSIMI_20220228	**Batch#:** 284664	**Analyzed:**	03/03/22 12:45
Lab ID: 458936-001	**Sampled:** 02/28/22 08:20	**Prep:**	
Matrix: Water	**Received:** 02/28/22	**Analysis:**	SM 9221F
DiIn Fac: 1.000	**Prepared:** 02/28/22 15:35	**Analyst:**	SMT

Analyte	Result	RL	Units
Coliform, E. Coli	**7.8**	1.8	MPN/100ml

Legend

RL: Reporting Limit

B-01

SM 9221 B, E, F, Coliform MTF SL 3/1/22

Prep Analyst Initials: SL Prep Date/Time: 02/28/22 1535 QC Batch ID: ~~458936~~ 284664 Batch Page 1 of 3

Client: ECL Client Sample ID: Enthalpy Sample ID: 458936-001

**For batches that are more than one page, the equipment ID, time/temp, and analyst records below can be recorded with "See Page ###" to reference the first page of the batch

Total Coliform, Presumptive

24 hrs (±2)	
Incu ID: A	Date/Time/Temp In: 02/28/22 1555 35.3
Analyst: SL	Read Date/Time/Temp: 3/1/22 1413 34.8
Transfer to Confirmations Below, Date/Time: N/A	

48 hrs (±3)	
Incu ID: A	Date/Time/Temp In: 3/1/22 1415 34.8
Analyst: ST	Read Date/Time/Temp: 03/02/22 1310 34.9
Transfer to Confirmations Below, Date/Time: 03/2/22 1315	

Volume (mL)		24h Tube 1 growth	24h Tube 1 gas	24h Tube 2 growth	24h Tube 2 gas	24h Tube 3 growth	24h Tube 3 gas	24h Tube 4 growth	24h Tube 4 gas	24h Tube 5 growth	24h Tube 5 gas	48h Tube 1 growth	48h Tube 1 gas	48h Tube 2 growth	48h Tube 2 gas	48h Tube 3 growth	48h Tube 3 gas	48h Tube 4 growth	48h Tube 4 gas	48h Tube 5 growth	48h Tube 5 gas
(10)	10	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
(1)	10	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
(10^{-1})		+	~~+~~ (−)	+	~~+~~ (−)	+	~~+~~ (−)	+	~~+~~ (−)	+	~~+~~ (−)	+	−	+	−	+	−	+	−	+	+
10^{-2}																					
10^{-3}					SL 3/1/22																
10^{-4}																					
10^{-5}																					
10^{-6}																					

QC	Negative	Positive
Presumptive 24	−	+
Presumptive 48	−	+
T.C. Confirm 24		
T.C. Confirm 48		
Fecal Coliform		
E. Coli	−	+

Total Coliform, Confirmation, SM 9221 B

(Section struck through — SL 3/9/22)

Tubes From 24hr Presumptive Transfer: 24 hrs (±2) — Incu. ID: Date/Time/Temp In: Analyst: Read Date/Time/Temp:; 48 hrs (±3) — Incu. ID: Date/Time/Temp In: Analyst: Read Date/Time/Temp:

Tubes From 48hr Presumptive Transfer: 24 hrs (±2) — Incu. ID: Date/Time/Temp In: Analyst: Read Date/Time/Temp:; 48 hrs (±3) — Incu. ID: Date/Time/Temp In: Analyst: Read Date/Time/Temp:

Tube 1–Tube 5 (growth, gas) for each period; # Of Positive Tubes; MPN; Circle One: /100mL, /g, /swab, /10g

Volume (mL)		Tubes (growth/gas)	# Of Positive Tubes	MPN	Circle One
10	10				/100mL,
1	10	SL			
10^{-1}		3/9/22			
10^{-2}					/g,
10^{-3}					
10^{-4}					
10^{-5}					/swab,
10^{-6}					/10g

Fecal Coliform, Confirmation, SM 9221 E

(Section struck through — SL 3/9/22)

Tubes From 24hr Presumptive Transfer, Read at 24hrs (±2): Waterbath Date/Time/Temp In: Waterbath Date/Time/Temp Out: Analyst: Waterbath ID:

Tubes From 48hr Presumptive Transfer, Read at 24hrs (±2): Waterbath Date/Time/Temp In: Waterbath Date/Time/Temp Out: Analyst: Waterbath ID:

Tube 1–Tube 5 (growth, gas) for each; # Of Positive Tubes; MPN; Circle One: /100mL, /g, /swab, /10g

Volume (mL)		Tubes (growth/gas)	# Of Positive Tubes	MPN	Circle One
10	10				/100mL,
1	10				
10^{-1}		SL			
10^{-2}		3/9/22			/g,
10^{-3}					
10^{-4}					
10^{-5}					/swab,
10^{-6}					/10g

(E. Coli) Completed Phase SM 9221 F

Presumptive 24hr transfer read at 24 hrs (±2): Waterbath Date/Time/Temp In: Waterbath Date/Time/Temp Out: Analyst: Waterbath ID:

Presumptive 48hr transfer read at 24 hrs (±2): Waterbath Date/Time/Temp In: 03/2/22 1320 44.4 Waterbath Date/Time/Temp Out: 3/3/22 1245 44.6 Analyst: SL Waterbath ID: 1

Volume (mL)		24h Tube 1 Fluoresce	24h Tube 2 Fluoresce	24h Tube 3 Fluoresce	24h Tube 4 Fluoresce	24h Tube 5 Fluoresce	48h Tube 1 Fluoresce	48h Tube 2 Fluoresce	48h Tube 3 Fluoresce	48h Tube 4 Fluoresce	48h Tube 5 Fluoresce	# Of Positive Tubes	MPN	Circle One
(10)	10						−	+	−	+	+	3		(/100mL,)
(1)	10						−	−	−	+	−	0		
(10^{-1})											−	0		
10^{-2}													7.8	/g,
10^{-3}														
10^{-4}														
10^{-5}														/swab,
10^{-6}														/10g

Media Prep Dates:			
2x LTB/LSB	2/23/22	EC	
1x LTB/LSB		EC-Mug	2/16/22
BGB	~~2/11/22~~ 3/3/22	Buffer/Sterile Water	2/11/22

Data Entered By — Initials: SL Date: 3/9/22

Data Validated By — Initials: Date:

Prep/Work Comments:

B-01 10X

SM 9221 B, E, F, Coliform MTF

Prep Analyst Initials: ST Prep Date/Time: 2/28/22 1535 QC Batch ID: 284664 Batch Page 2 of 3

Client: EOL Client Sample ID: Enthalpy Sample ID: 458936-001

**For batches that are more than one page, the equipment ID, time/temp, and analyst records below can be recorded with "See Page ###" to reference the first page of the batch

Total Coliform, Presumptive

	24 hrs (±2)		48 hrs (±3)	
Incu ID:	Date/Time/Temp In:	Incu ID:	Date/Time/Temp In:	
Analyst:	Read Date/Time/Temp: SEE PAGE 109	Analyst:	Read Date/Time/Temp:	
Transfer to Confirmations Below, Date/Time:		Transfer to Confirmations Below, Date/Time:		

Volume (mL)		Tube 1 growth	Tube 1 gas	Tube 2 growth	Tube 2 gas	Tube 3 growth	Tube 3 gas	Tube 4 growth	Tube 4 gas	Tube 5 growth	Tube 5 gas
10	10	+	+	+	+	+	+	+	+	+	+
1	10	+	+	+	−	+	−	+	−	+	−
10⁻¹		−	−	−	−	−	−	−	−	−	−
10⁻²											
10⁻³											
10⁻⁴											
10⁻⁵											
10⁻⁶											

Volume (mL)		Tube 1 growth	Tube 1 gas	Tube 2 growth	Tube 2 gas	Tube 3 growth	Tube 3 gas	Tube 4 growth	Tube 4 gas	Tube 5 growth	Tube 5 gas
10	10	+	+	+	+	+	+	+	+	+	+
1	10	+	+	+	−	+	−	+	−	+	−
10⁻¹		−	−	−	−	−	−	−	−	−	−
10⁻²											
10⁻³											
10⁻⁴											
10⁻⁵											
10⁻⁶											

QC	Negative	Positive
Presumptive 24	−	+
Presumptive 48	−	+
T.C. Confirm 24		
T.C. Confirm 48		
Fecal Coliform		
E. Coli	−	+

Total Coliform, Confirmation, SM 9221 B

	Tubes From 24hr Presumptive Transfer		Tubes From 48hr Presumptive Transfer	
	24 hrs (±2)	48 hrs (±3)	24 hrs (±2)	48 hrs (±3)
Incu. ID:	Date/Time/Temp In:	Date/Time/Temp In:	Date/Time/Temp In:	Date/Time/Temp In:
Analyst:	Read Date/Time/Temp:	Read Date/Time/Temp:	Read Date/Time/Temp:	Read Date/Time/Temp:

Volume (mL)		Tube 1 growth	Tube 1 gas	Tube 2 growth	Tube 2 gas	Tube 3 growth	Tube 3 gas	Tube 4 growth	Tube 4 gas	Tube 5 growth	Tube 5 gas	Tube 1 growth	Tube 1 gas	Tube 2 growth	Tube 2 gas	Tube 3 growth	Tube 3 gas	Tube 4 growth	Tube 4 gas	Tube 5 growth	Tube 5 gas	Tube 1 growth	Tube 1 gas	Tube 2 growth	Tube 2 gas	Tube 3 growth	Tube 3 gas	Tube 4 growth	Tube 4 gas	Tube 5 growth	Tube 5 gas	# Of Positive Tubes	MPN	Circle One
10	10															SL																/100mL,
1	10															3/9/22																
10⁻¹																																
10⁻²																																/g,
10⁻³																																
10⁻⁴																																
10⁻⁵																																/swab,
10⁻⁶																																/10g

Fecal Coliform, Confirmation, SM 9221 E

	Tubes From 24hr Presumptive Transfer, Read at 24hrs (±2)	Tubes From 48hr Presumptive Transfer, Read at 24hrs (±2)
Waterbath Date/Time/Temp In:		
Waterbath Date/Time/Temp Out:		
Analyst:	Waterbath ID:	Analyst: Waterbath ID:

Volume (mL)		Tube 1 growth	Tube 1 gas	Tube 2 growth	Tube 2 gas	Tube 3 growth	Tube 3 gas	Tube 4 growth	Tube 4 gas	Tube 5 growth	Tube 5 gas	Tube 1 growth	Tube 1 gas	Tube 2 growth	Tube 2 gas	Tube 3 growth	Tube 3 gas	Tube 4 growth	Tube 4 gas	Tube 5 growth	Tube 5 gas	# Of Positive Tubes	MPN	Circle One
10	10															SL								/100mL,
1	10															3/9/22								
10⁻¹																								
10⁻²																								/g,
10⁻³																								
10⁻⁴																								
10⁻⁵																								/swab,
10⁻⁶																								/10g

E. Coli, Completed Phase SM 9221 F

	Presumptive 24hr transfer read at 24 hrs (±2)	Presumptive 48hr transfer read at 24 hrs (±2)
Waterbath Date/Time/Temp In:		
Waterbath Date/Time/Temp Out:		SEE PAGE 109
Analyst:	Waterbath ID:	Analyst: Waterbath ID:

Volume (mL)		Tube 1 Fluoresce	Tube 2 Fluoresce	Tube 3 Fluoresce	Tube 4 Fluoresce	Tube 5 Fluoresce	Tube 1 Fluoresce	Tube 2 Fluoresce	Tube 3 Fluoresce	Tube 4 Fluoresce	Tube 5 Fluoresce	# Of Positive Tubes	MPN	Circle One
10	10						−	−	−	+	+	2		/100mL
1	10						−	+	−			0	4.5	
10⁻¹								SL 3/3/22				0	↓	
10⁻²														/g,
10⁻³														
10⁻⁴													45	
10⁻⁵														/swab,
10⁻⁶														/10g

Media Prep Dates:			
2x LTB/LSB	2/23/22	EC	
1x LTB/LSB		EC-Mug	2/16/22
BGB		Buffer/Sterile Water	2/11/22

Data Entered By	Data Validated By
Initials: SL	Initials:
Date: 3/9/22	Date:

Prep/Work Comments:

SM 9221 B, E, F, Coliform MTF

B-01 100X

Prep Analyst Initials: ST Prep Date/Time: 2/28/22 1535 QC Batch ID: 284664 Batch Page 3 of 3

Client: ECL Client Sample ID: Enthalpy Sample ID: 458936-001

**For batches that are more than one page, the equipment ID, time/temp, and analyst records below can be recorded with "See Page ###" to reference the first page of the batch

Total Coliform, Presumptive

24 hrs (±2): Incu ID: A; Date/Time/Temp In: 2/28/22 1555 35.3; Analyst: SL; Read Date/Time/Temp: 3/1/22 1413 34.8; Transfer to Confirmations Below, Date/Time: N/A

48 hrs (±3): Incu ID: A; Date/Time/Temp In: 3/1/22 1415 34.8; Analyst: ST; Read Date/Time/Temp: 3/2/22 1310 34.9; Transfer to Confirmations Below, Date/Time: 3/2/22 1315

Volume (mL)	24 hrs (±2) Tube 1	Tube 2	Tube 3	Tube 4	Tube 5	48 hrs (±3) Tube 1	Tube 2	Tube 3	Tube 4	Tube 5
	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas
10	+ / +	+ / −	+ / +	+ / +	+ / +	+ / +	+ / −	+ / +	+ / +	+ / +
1	+ / −	+ / −	+ / −	+ / −	+ / −	+ / +	+ / −	+ / −	+ / −	+ / −
10⁻¹	− / −	− / −	− / −	− / −	− / −	− / −	− / −	− / −	− / −	− / −
10⁻²										
10⁻³										
10⁻⁴										
10⁻⁵										
10⁻⁶										

QC	Negative	Positive
Presumptive 24	−	+
Presumptive 48	−	+
T.C. Confirm 24		
T.C. Confirm 48		
Fecal Coliform		
E. Coli	−	+

Total Coliform, Confirmation, SM 9221 B

Tubes From 24hr Presumptive Transfer: 24 hrs (±2) Incu. ID: / Date/Time/Temp In: / Analyst: / Read Date/Time/Temp:; 48 hrs (±3) Incu. ID: / Date/Time/Temp In: / Analyst: / Read Date/Time/Temp:

Tubes From 48hr Presumptive Transfer: 24 hrs (±2) Incu. ID: / Date/Time/Temp In: / Analyst: / Read Date/Time/Temp:; 48 hrs (±3) Incu. ID: / Date/Time/Temp In: / Analyst: / Read Date/Time/Temp:

Volume (mL)	Tubes From 24hr Presumptive Transfer, 24 hrs (±2) Tube 1	Tube 2	Tube 3	Tube 4	Tube 5	Tubes From 24hr Presumptive Transfer, 48 hrs (±3) Tube 1	Tube 2	Tube 3	Tube 4	Tube 5	Tubes From 48hr Presumptive Transfer, 24 hrs (±2) Tube 1	Tube 2	Tube 3	Tube 4	Tube 5	Tubes From 48hr Presumptive Transfer, 48 hrs (±3) Tube 1	Tube 2	Tube 3	Tube 4	Tube 5
	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas
10																				
1																				
10⁻¹																				
10⁻²																				
10⁻³																				
10⁻⁴																				
10⁻⁵																				
10⁻⁶																				

SL 3/9/22

# Of Positive Tubes	MPN	Circle One
		/100mL, /g, /swab, /10g

Fecal Coliform, Confirmation, SM 9221 E

Tubes From 24hr Presumptive Transfer, Read at 24hrs (±2): Waterbath Date/Time/Temp In: / Waterbath Date/Time/Temp Out: / Analyst: / Waterbath ID:

Tubes From 48hr Presumptive Transfer, Read at 24hrs (±2): Waterbath Date/Time/Temp In: / Waterbath Date/Time/Temp Out: / Analyst: / Waterbath ID:

Volume (mL)	Tubes From 24hr Presumptive Transfer, Tube 1	Tube 2	Tube 3	Tube 4	Tube 5	Tubes From 48hr Presumptive Transfer, Tube 1	Tube 2	Tube 3	Tube 4	Tube 5
	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas	growth / gas
10										
1										
10⁻¹										
10⁻²										
10⁻³										
10⁻⁴										
10⁻⁵										
10⁻⁶										

SL 3/9/22

# Of Positive Tubes	MPN	Circle One
		/100mL, /g, /swab, /10g

E. Coli, Completed Phase SM 9221 F

Presumptive 24hr transfer read at 24 hrs (±2): Waterbath Date/Time/Temp In: / Waterbath Date/Time/Temp Out: / Analyst: / Waterbath ID:

Presumptive 48hr transfer read at 24 hrs (±2): Waterbath Date/Time/Temp In: 3/2/22 1330 44.6; Waterbath Date/Time/Temp Out: 3/3/22 1245 44.6; Analyst: GT; Waterbath ID: 1

Volume (mL)	Presumptive 24hr transfer read at 24 hrs (±2) Tube 1	Tube 2	Tube 3	Tube 4	Tube 5	Presumptive 48hr transfer read at 24 hrs (±2) Tube 1	Tube 2	Tube 3	Tube 4	Tube 5
	Fluoresce	Fluoresce	Fluoresce	Fluoresce	Fluoresce	Fluoresce	Fluoresce	Fluoresce	Fluoresce	Fluoresce
10						−		−	−	−
1						−				
10⁻¹										
10⁻²										
10⁻³										
10⁻⁴										
10⁻⁵										
10⁻⁶										

# Of Positive Tubes	MPN	Circle One
0	<1.8 ↓ <180	/100mL, /g, /swab, /10g
0		
0		

Media Prep Dates			
2x LTB/LSB	2/23/22	EC	
1x LTB/LSB		EC-Mug	2/16/22
BGB		Buffer/Sterile Water	2/11/22

Data Entered By	Data Validated By
Initials: SL	Initials:
Date: 3/9/22	Date:

ep/Work Comments:

2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone. 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

&702+(30143&

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-159433.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-85698-1
Address: 931 W Barkley Ave, ,	Due Date Requested:			
City: Orange	TAT Requested (days): Standard TAT			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Simi	Project #: ECI Job#: 570-85698			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Quant-Tray - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ArroyoSimi_20220228 (570-85698-1)	2/28/22	08.20		Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

570-85698 Chain of Custody

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		02/28/22 1321	EC		2/28/22 1321	EA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Test America Version 7/19/2010 CHAIN OF CUSTODY FORM

Client Name/Address	Project
Haley & Aldrich, Inc. 5333 Mission Center Road, Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Arroyo Simi Sampler: Adrien Mobeka
Eurofins Contact. Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3269 **ECI #44024446**	Project Manager: Katherine Miller Phone Number: (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I D	Sampling Date/Time	Preservative	Bottle #	E coli (SM9221)									Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20220228	2/28/2022/0820	$Na_2S_2O_3$	10	X									Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Relinquished By Michelle Dallalah Date/Time 2/28/2022 1040

~~Relinquished~~ By Received Date/Time 02/28/22 10:40

Relinquished By Date/Time

Turn around Time (check)
24 Hours _____ 5 Days _____

48 Hours _____ 10 Days _____

72 Hours _____ Normal ___X___

Sample Integrity (check)
Intact _____ On Ice _____

Data Requirements: (check)
No Level IV ____ All Level IV ____

NPDES Level IV ____

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-86497-1
Client Project/Site: Boeing NPDES SSFL - Arroyo Simi

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
3/17/2022 1:14:27 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-86497-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-86497-1

Job ID: 570-86497-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-86497-1

Comments
No additional comments.

Receipt
The sample was received on 3/3/2022 10:02 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method Quant-Tray - E. Coli - level 4 required: This method was subcontracted to Enthalpy Analytical - Barkley. The subcontract laboratory certification is different from that of the facility issuing the final report.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-86497-1

Method	Method Description	Protocol	Laboratory
1103.1	E. Coli	EPA	Enthalpy

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-86497-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-86497-1	ArroyoSimi_20220303	Water	03/03/22 08:15	03/03/22 10:02

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 459189
Report Level: IV
Report Date: 03/17/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDES SSFL - Arroyo Simi #570-86497

Authorized for release by:

Quynhgiao Le

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel
Eurofins
Calscience Tustin
2841 Dow Avenue,
Suite 100
Tustin, CA 92780

Lab Job #:	459189
Project No:	BOEING NPDES SSFL
Location:	Boeing NPDES SSFL - Arroyo Simi #570-86497
Date Received:	03/03/22

Sample ID	Lab ID	Collected	Matrix
ARROYOSIMI_20220303 (570-86497-1)	459189-001	03/03/22 08:15	Water

ENTHALPY ANALYTICAL

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Virendra Patel	Lab Job Number:	459189
	Project No:	BOEING NPDES SSFL
	Location:	Boeing NPDES SSFL - Arroyo Simi #570-86497
	Date Received:	03/03/22

This data package contains sample and QC results for one water sample, requested for the above referenced project on 03/03/22. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494 Fax: 714-894-7501

459189

Chain of Custody Record

C570-86497

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-160609.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-86497-1
Address: 931 W. Barkley Ave, ,	Due Date Requested:			
City: Orange	TAT Requested (days): Standard TAT			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Simi	Project #: 570-86497			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	SUB (Quant-Tray - E. Coli - level 4 required)	Special Instructions/Note:
ArroyoSimi_20220303 (570-86497-1)	3/3/22	08:15 Pacific		Water	X	Run and report 1x, 10x, and 100x dilutions - level 4

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	03/03/22 1207	EC		3-3-22 12:07	EA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

4.9 / 3.8

Ver: 06/08/2021

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: EuroFins Calscience Project: 570-86497

Date Received: _____ Sampler's Name Present: ☑ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2) Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 4.9 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 3.8 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✔		
Are sample IDs present?	✔		
Are sampling dates & times present?	✔		
Is a relinquished signature present?	✔		
Are the tests required clearly indicated on the COC?	✔		
Are custody seals present?		✔	
If custody seals are present, were they intact?			✔
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)			✔
Did all samples arrive intact? If no, indicate in Section 4 below.	✔		
Did all bottle labels agree with COC? (ID, dates and times)	✔		
Were the samples collected in the correct containers for the required tests?	✔		
Are the containers labeled with the correct preservatives?	✔		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✔
Was a sufficient amount of sample submitted for the requested tests?	✔		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 3-3-22

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 459189 **Project#:** BOEING NPDES SSFL

Client: Eurofins Calscience Tustin **Location:** Boeing NPDES SSFL - Arroyo Simi

Field ID:	ARROYOSIMI_20220303 (570-86497-1)	**Batch#:**	284893	**Analyzed:**	03/04/22 11:34
Lab ID:	459189-001	**Sampled:**	03/03/22 08:15	**Prep:**	
Matrix:	Water	**Received:**	03/03/22	**Analysis:**	SM 9223Bb
Dil n Fac:	1.000	**Prepared:**	03/03/22 15:10	**Analyst:**	SZL

Analyte	Result	RL	Units
Coliform, E. Coli	**160**	1.0	MPN/100ml

Legend

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: SL Prep Date/Time: 3/3/22 1510 QC Batch ID: 284893 Batch Page 1 of 1

Read Analyst: SL Read Date/Time 3/4/22 1134

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert-24 Media Lot #: KT236 Pipette Lot #: A103665 ; A103931 ; A103909

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 3/2/22 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: M3 Incubator In, Temp/Time: 34.7 1519 Incubator Out, Temp/Time: 35.1 1134

Fecal Coliform: Water Bath ID: N/A Water Bath In, Temp/Time: N/A Water Bath Out, Temp/Time: N/A

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	SL 3/4/22 Total Coliform Counts		MPN Table Value	Final Result, MPN	SL 3/4/22 E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
ECL-GG1		459189-001	1X	~~47~~ 49	48	>2419.6	>2400	47	9	155.3	160					EU-01
↓		↓	10X	49 ~~46~~ SL 3/4/22	46	1986.3	20000	14 ~~10~~	5 ~~0~~	22.1	220					EU-01
			100X	46	11	151.5	15000	10	0	11.0	1100					EU-01
Quality Control		Culture ID														
Positive +/+ (E. Coli)		2/27/22		49	48	>2419.6	>2400	49	48	>2419.6	>2400					
Positive +/- (K. Pneumonia)		↓		49	48	>2419.6	>2400	0	0	<1	<1					
Negative -/- (P. Aeruginosa)				0	0	<1	<1	0	0	<1	<1					

SL 3/11/22

SL 3/11/22

Data Entered By: SL 3/11/22 Data Reviewed By:

Test America Version 7/19/2010

CHAIN OF CUSTODY FORM

Client Name/Address:
Haley & Aldrich, Inc.
5333 Mission Center Road, Suite 300
San Diego, CA 92108

Project:
Boeing-SSFL NPDES
Arroyo Simi

Sampler: Adrien Mobeka

Eurofins Contact: Virendra Patel
17461 Derian Ave Suite #100
Irvine CA 92614
Tel 949-260-3269
ECI #44024446

Project Manager: Katherine Miller
Phone Number:
(520) 289-8606, (520) 904-6944 (cell)
Field Manager: Mark Dominick
(978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	E. coli (SM9221)								Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20220303	3/3/2022/0815	$Na_2S_2O_3$	10	X								Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

ECI Job#: 570-86497

Relinquished By Date/Time:
Michelle Saddelah (H&A) 3/3/2022 10:02

Relinquished By Date/Time:
EC 03/03/22 10:02

Relinquished By Date/Time:

Turn around Time: (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal __X__

Sample Integrity: (check)
Intact _____ On Ice: _____

Data Requirements: (check)
No Level IV ____ All Level IV ____

NPDES Level IV____

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

C570-86497

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-160609 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-86497-1
Address: 931 W Barkley Ave, ,	Due Date Requested:	Analysis Requested		Preservation Codes:
City: Orange	TAT Requested (days): Standard TAT			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify)
State, Zip: CA, 92868				
Phone:	PO #:			Other:
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Simi	Project #: 570-86497			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	SUB (Quant-Tray - E. Coli - level 4 required)	Special Instructions/Note:
ArroyoSimi_20220303 (570-86497-1)	3/3/22	08:15 Pacific		Water	X	Run and report 1x, 10x, and 100x dilutions - level 4

570-86497 Chain of Custody

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		03/03/22 1207	EC		3-3-22 12:17	EA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Test America Version 7/19/2010 — CHAIN OF CUSTODY FORM

Client Name/Address	Project
Haley & Aldrich, Inc. 5333 Mission Center Road, Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Arroyo Simi Sampler: Adrien Mobeka
Eurofins Contact. Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3269 **ECI #44024446**	Project Manager: Katherine Miller Phone Number: (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D	Sampling Date/Time	Preservative	Bottle #	E. coli (SM9221)									Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20220303	3/3/2022/0815	$Na_2S_2O_3$	10	X									Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions Loc: 570 **86497**

Relinquished By — Date/Time

Michelle Gallagher (H&A) 3/3/2022 1002

Relinquished By — Date/Time

EC 03/03/22 10 02

Relinquished By — Date/Time.

Turn around Time (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal ___X___

Sample Integrity (check)
Intact _____ On Ice _____

Data Requirements: (check)
No Level IV ____ All Level IV ____

NPDES Level IV ____

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ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-88122-1
Client Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/1/2022 7:48:37 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-1
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-88122-1
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weath

Job ID: 570-88122-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-88122-1

Comments
No additional comments.

Receipt
The samples were received on 3/15/2022 12:15 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.8º C and 1.7º C.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-220178. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 608.3 LL

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-1
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Client Sample ID: Arroyo Simi_20220315_Grab
Lab Sample ID: 570-88122-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Hardness, as CaCO3	660		0.91	0.17	mg/L	1		SM 2340B	Total Recoverable
Total Suspended Solids	4.8		1.7	1.4	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-1
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Method: 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Arroyo Simi_20220315_Grab
Lab Sample ID: 570-88122-1
Date Collected: 03/15/22 07:30
Matrix: Water
Date Received: 03/15/22 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.033	0.026	ug/L		03/17/22 07:38	03/23/22 10:38	1
4,4'-DDD	ND		0.0067	0.0044	ug/L		03/17/22 07:38	03/23/22 10:38	1
4,4'-DDE	ND		0.0033	0.0019	ug/L		03/17/22 07:38	03/23/22 10:38	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		03/17/22 07:38	03/23/22 10:38	1
Dieldrin	ND		0.0033	0.0013	ug/L		03/17/22 07:38	03/23/22 10:38	1
Toxaphene	ND		0.067	0.054	ug/L		03/17/22 07:38	03/23/22 10:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*60*		*20 - 139*	*03/17/22 07:38*	*03/23/22 10:38*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-1
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: Arroyo Simi_20220315_Grab
Lab Sample ID: 570-88122-1
Date Collected: 03/15/22 07:30
Matrix: Water
Date Received: 03/15/22 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		03/17/22 07:38	03/22/22 01:45	1
Aroclor 1221	ND		0.10	0.044	ug/L		03/17/22 07:38	03/22/22 01:45	1
Aroclor 1232	ND		0.10	0.044	ug/L		03/17/22 07:38	03/22/22 01:45	1
Aroclor 1242	ND		0.10	0.044	ug/L		03/17/22 07:38	03/22/22 01:45	1
Aroclor 1248	ND		0.10	0.044	ug/L		03/17/22 07:38	03/22/22 01:45	1
Aroclor 1254	ND		0.10	0.052	ug/L		03/17/22 07:38	03/22/22 01:45	1
Aroclor 1260	ND		0.10	0.052	ug/L		03/17/22 07:38	03/22/22 01:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*82*		*20 - 139*	*03/17/22 07:38*	*03/22/22 01:45*	*1*
DCB Decachlorobiphenyl (Surr)	*40*		*20 - 154*	*03/17/22 07:38*	*03/22/22 01:45*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-1
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Client Sample ID: Arroyo Simi_20220315_Grab
Lab Sample ID: 570-88122-1
Date Collected: 03/15/22 07:30
Matrix: Water
Date Received: 03/15/22 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	660		0.91	0.17	mg/L			03/29/22 18:30	1

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-1
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

General Chemistry

Client Sample ID: Arroyo Simi_20220315_Grab
Lab Sample ID: 570-88122-1
Date Collected: 03/15/22 07:30
Matrix: Water
Date Received: 03/15/22 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	4.8		1.7	1.4	mg/L			03/18/22 10:58	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Job ID: 570-88122-1

Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	TCX1 (20-139)
570-88122-1	Arroyo Simi_20220315_Grab	60
570-88122-1 MS	Arroyo Simi_20220315_Grab	44
570-88122-1 MSD	Arroyo Simi_20220315_Grab	67
LCS 570-220178/2-A	Lab Control Sample	69
LCSD 570-220178/3-A	Lab Control Sample Dup	73
MB 570-220178/1-A	Method Blank	72

Surrogate Legend

TCX = Tetrachloro-m-xylene

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	TCX1 (20-139)	DCB1 (20-154)
570-88122-1	Arroyo Simi_20220315_Grab	82	40
LCS 570-220178/4-A	Lab Control Sample	71	54
LCSD 570-220178/5-A	Lab Control Sample Dup	61	54
MB 570-220178/1-A	Method Blank	72	61

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)
DCB = DCB Decachlorobiphenyl (Surr)

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-220178/1-A
Matrix: Water
Analysis Batch: 221201

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 220178

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.033	0.026	ug/L		03/17/22 07:38	03/22/22 22:43	1
4,4'-DDD	ND		0.0067	0.0044	ug/L		03/17/22 07:38	03/22/22 22:43	1
4,4'-DDE	ND		0.0033	0.0019	ug/L		03/17/22 07:38	03/22/22 22:43	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		03/17/22 07:38	03/22/22 22:43	1
Dieldrin	ND		0.0033	0.0013	ug/L		03/17/22 07:38	03/22/22 22:43	1
Toxaphene	ND		0.067	0.054	ug/L		03/17/22 07:38	03/22/22 22:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*72*		*20 - 139*	*03/17/22 07:38*	*03/22/22 22:43*	*1*

Lab Sample ID: LCS 570-220178/2-A
Matrix: Water
Analysis Batch: 221201

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 220178

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
4,4'-DDD			0.0333	0.0360		ug/L		108	31 - 141		
4,4'-DDE			0.0333	0.0339		ug/L		102	30 - 145		
4,4'-DDT			0.0333	0.0466		ug/L		140	25 - 160		
Dieldrin			0.0333	0.0304		ug/L		91	36 - 146		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*69*		*20 - 139*

Lab Sample ID: LCSD 570-220178/3-A
Matrix: Water
Analysis Batch: 221201

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 220178

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD			0.0333	0.0375		ug/L		112	31 - 141	4	39
4,4'-DDE			0.0333	0.0346		ug/L		104	30 - 145	2	35
4,4'-DDT			0.0333	0.0478		ug/L		143	25 - 160	3	42
Dieldrin			0.0333	0.0313		ug/L		94	36 - 146	3	49

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*73*		*20 - 139*

Lab Sample ID: 570-88122-1 MS
Matrix: Water
Analysis Batch: 221201

Client Sample ID: Arroyo Simi_20220315_Grab
Prep Type: Total/NA
Prep Batch: 220178

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
4,4'-DDD	ND		0.0333	0.0406		ug/L		122	31 - 141		
4,4'-DDE	ND		0.0333	0.0372		ug/L		112	30 - 145		
4,4'-DDT	ND		0.0333	0.0481		ug/L		144	25 - 160		
Dieldrin	ND		0.0333	0.0317		ug/L		95	36 - 146		

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: 570-88122-1 MS
Matrix: Water
Analysis Batch: 221201

Client Sample ID: Arroyo Simi_20220315_Grab
Prep Type: Total/NA
Prep Batch: 220178

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tetrachloro-m-xylene	*44*		*20 - 139*

Lab Sample ID: 570-88122-1 MSD
Matrix: Water
Analysis Batch: 221201

Client Sample ID: Arroyo Simi_20220315_Grab
Prep Type: Total/NA
Prep Batch: 220178

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	ND		0.0333	0.0352		ug/L		106	31 - 141	14	39
4,4'-DDE	ND		0.0333	0.0310		ug/L		93	30 - 145	18	35
4,4'-DDT	ND		0.0333	0.0422		ug/L		127	25 - 160	13	42
Dieldrin	ND		0.0333	0.0274		ug/L		82	36 - 146	15	49

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*67*		*20 - 139*

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 570-220178/1-A
Matrix: Water
Analysis Batch: 220919

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 220178

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		03/17/22 07:38	03/22/22 00:48	1
Aroclor 1221	ND		0.10	0.044	ug/L		03/17/22 07:38	03/22/22 00:48	1
Aroclor 1232	ND		0.10	0.044	ug/L		03/17/22 07:38	03/22/22 00:48	1
Aroclor 1242	ND		0.10	0.044	ug/L		03/17/22 07:38	03/22/22 00:48	1
Aroclor 1248	ND		0.10	0.044	ug/L		03/17/22 07:38	03/22/22 00:48	1
Aroclor 1254	ND		0.10	0.052	ug/L		03/17/22 07:38	03/22/22 00:48	1
Aroclor 1260	ND		0.10	0.052	ug/L		03/17/22 07:38	03/22/22 00:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*72*		*20 - 139*	*03/17/22 07:38*	*03/22/22 00:48*	*1*
DCB Decachlorobiphenyl (Surr)	*61*		*20 - 154*	*03/17/22 07:38*	*03/22/22 00:48*	*1*

Lab Sample ID: LCS 570-220178/4-A
Matrix: Water
Analysis Batch: 220919

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 220178

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor 1016			0.133	0.144		ug/L		108	50 - 140		
Aroclor 1260			0.133	0.117		ug/L		88	8 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*71*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*54*		*20 - 154*

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC) (Continued)

Lab Sample ID: LCSD 570-220178/5-A
Matrix: Water
Analysis Batch: 220919

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 220178

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016			0.133	0.119		ug/L		89	50 - 140	19	36
Aroclor 1260			0.133	0.132		ug/L		99	8 - 140	12	38

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*61*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*54*		*20 - 154*

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-220606/1
Matrix: Water
Analysis Batch: 220606

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.83	mg/L			03/18/22 10:31	1

Lab Sample ID: LCS 570-220606/2
Matrix: Water
Analysis Batch: 220606

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			100	110		mg/L		110	77 - 116		

Lab Sample ID: LCSD 570-220606/3
Matrix: Water
Analysis Batch: 220606

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Suspended Solids			100	107		mg/L		107	77 - 116	3	10

Lab Sample ID: 570-88161-C-1 DU
Matrix: Water
Analysis Batch: 220606

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	18			18.8		mg/L				4	10

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-1
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

GC Semi VOA

Prep Batch: 220178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-88122-1	Arroyo Simi_20220315_Grab	Total/NA	Water	608	
MB 570-220178/1-A	Method Blank	Total/NA	Water	608	
LCS 570-220178/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 570-220178/4-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-220178/3-A	Lab Control Sample Dup	Total/NA	Water	608	
LCSD 570-220178/5-A	Lab Control Sample Dup	Total/NA	Water	608	
570-88122-1 MS	Arroyo Simi_20220315_Grab	Total/NA	Water	608	
570-88122-1 MSD	Arroyo Simi_20220315_Grab	Total/NA	Water	608	

Analysis Batch: 220919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-88122-1	Arroyo Simi_20220315_Grab	Total/NA	Water	608.3	220178
MB 570-220178/1-A	Method Blank	Total/NA	Water	608.3	220178
LCS 570-220178/4-A	Lab Control Sample	Total/NA	Water	608.3	220178
LCSD 570-220178/5-A	Lab Control Sample Dup	Total/NA	Water	608.3	220178

Analysis Batch: 221201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-88122-1	Arroyo Simi_20220315_Grab	Total/NA	Water	608.3	220178
MB 570-220178/1-A	Method Blank	Total/NA	Water	608.3	220178
LCS 570-220178/2-A	Lab Control Sample	Total/NA	Water	608.3	220178
LCSD 570-220178/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	220178
570-88122-1 MS	Arroyo Simi_20220315_Grab	Total/NA	Water	608.3	220178
570-88122-1 MSD	Arroyo Simi_20220315_Grab	Total/NA	Water	608.3	220178

Metals

Analysis Batch: 670088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-88122-1	Arroyo Simi_20220315_Grab	Total Recoverable	Water	SM 2340B	

General Chemistry

Analysis Batch: 220606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-88122-1	Arroyo Simi_20220315_Grab	Total/NA	Water	SM 2540D	
MB 570-220606/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-220606/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-220606/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
570-88161-C-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-1
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Client Sample ID: Arroyo Simi_20220315_Grab
Lab Sample ID: 570-88122-1
Date Collected: 03/15/22 07:30
Matrix: Water
Date Received: 03/15/22 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			1500 mL	1 mL	220178	03/17/22 07:38	OAJ3	ECL 4
Total/NA	Analysis	608.3		1			221201	03/23/22 10:38	UHHN	ECL 4
	Instrument ID: GC52A									
Total/NA	Prep	608			1500 mL	1 mL	220178	03/17/22 07:38	OAJ3	ECL 4
Total/NA	Analysis	608.3		1	1 mL	1.0 mL	220919	03/22/22 01:45	UHHN	ECL 4
	Instrument ID: GC64A									
Total Recoverable	Analysis	SM 2340B		1			670088	03/29/22 18:30	W1BQ	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540D		1	600 mL	1000 mL	220606	03/18/22 10:58	FRT7	ECL 4
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-1
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-31-23
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-1
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Method	Method Description	Protocol	Laboratory
608.3	Organochlorine Pesticides in Water	40CFR136A	ECL 4
608.3	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	ECL 4
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	IRV 2
SM 2540D	Solids, Total Suspended (TSS)	SM	ECL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	ECL 4

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Job ID: 570-88122-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-88122-1	Arroyo Simi_20220315_Grab	Water	03/15/22 07:30	03/15/22 09:00

Eurofins Calscience
2841 Dow Avenue Suite 100
Tustin, CA 92780
Phone 714-895-5494

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-162404 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-88122-1
Address: 880 Riverside Parkway,	Due Date Requested: 3/25/2022			
City: West Sacramento	TAT Requested (days)			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Arroyo Simi_20220315_Grab (570-88122-1)	3/15/22	07 30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero; Use Boeing glassware
Arroyo Simi_20220315_Extra (570-88122-2)	3/15/22	07 30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero; Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		3/16/22 1215				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Loc: 570
88122

Eurofins Calscience Tustin

CHAIN OF CUSTODY FORM

570-88122 Chain of Custody

									A	Q	A	A	Q	Q			
Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108			Project: Boeing-SSFL NPDES Permit 2015 **Annual Arroyo Simi-Frontier Park** **Dry Weather**						ANALYSIS REQUIRED								Field Readings | Meter serial # \ L5 CUVKT
Eurofins Calscience Project Manager Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel 714-895-5494 **ECI Project #44024446**																	**Field Readings: (Include units)** Time of Readings: 0715 pH 6.74 pH unit Temp 55.1 °C/°F Velocity 0.0 ft/sec
Eurofins Calscience's services under this COC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2022-26-Eurofins Calscience by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and Eurofins Calscience Laboratories Inc.			Project Manager Katherine Miller 520.289 8606, 520 904 6944 (cell)														**Field readings QC** Checked by: Virendra Patel Date/Time: 3-15-2022/0715
Sampler Adrien Mobeka			Field Manager Mark Dominick 978.234 5033, 818.599 0702 (cell)														
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	E coli (SM9221) Enthalpy Analytical Orange CA	Hardness as $CaCO_3$, Recoverable (SM2340B)	TCDD (and all congeners) (E1613B)	TSS (Method 160.2 (SM2540D))	Chlorpyrifos Diazinon (E525.2) Weck Labs in Hacienda Heights CA	Pesticides Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)			**Comments**
Arroyo Simi	Arroyo Simi_20220315_Grab	3/15/2022/0730	WS	125 mL Sterile Poly	3	$Na_2S_2O_3$	10	No	X								Deliver to lab ASAP 8 hr hold time Need 1x, 5x, 10x dilutions
			WS	250 mL Poly	3	HNO_3	100	Yes		X							
			WS	1L Glass Amber	2	None	110	No			X						
			WS	1L Poly	1	None	185	No				X					
			WS	1L Glass Amber	6	None	275	Yes					X				Extract within 24-Hours of sampling at Weck Labs
			WS	1L Glass Amber	6	None	285	Yes						X			
	Arroyo Simi_20220315_Extra	3/15/2022/0730	WS	1L Glass Amber	2	None	110	No			H						Hold
			WS	1L Glass Amber	2	None	275	No					H				Hold
			WS	1L Glass Amber	2	None	285	No						H			Hold

Legend: A=Annual, Q=Quarterly

Relinquished By	Date/Time:	Company	Received By	Date/Time:
Virendra Patel	3-15-2022/0920	H A		
	03/15/22 1215			3/15/22 1215

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day X
48 Hour _____ 5 Day _____ Normal: _____

Sample Integrity (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV _____ All Level IV: X

2.5|0.8 SC6 2.8|17 SC6

4/1/2022
2021-2022 Rainy Season
Version 4

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-88122-1

Login Number: 88122
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-88122-2
Client Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/1/2022 7:51:24 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-2
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-88122-2
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weath

Job ID: 570-88122-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-88122-2

Comments
No additional comments.

Receipt
The samples were received on 3/15/2022 12:15 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.8º C and 1.7º C.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method Quant-Tray - E. Coli - level 4 required - E. Coli - level 4 required: This method was subcontracted to Enthalpy Analytical - Barkley. The subcontract laboratory certification is different from that of the facility issuing the final report.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-2
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Method	Method Description	Protocol	Laboratory
1103.1	E. Coli	EPA	Enthalpy

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Job ID: 570-88122-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-88122-1	Arroyo Simi_20220315_Grab	Water	03/15/22 07:30	03/15/22 09:00

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 459726
Report Level: IV
Report Date: 03/24/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDES SSFL Outfalls (570-88122)

Authorized for release by:

Quynhgiao Le

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	Lab Job #: Project No: Location: Date Received:	459726 BOEING NPDES SSFL Boeing NPDES SSFL Outfalls (570-88122) 03/15/22

Sample ID	Lab ID	Collected	Matrix
ARROYO SIMI_20220315_GRAB (570-88122-1)	459726-001	03/15/22 07:30	Water

ENTHALPY ANALYTICAL

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Virendra Patel	Lab Job Number: 459726 Project No: BOEING NPDES SSFL Location: Boeing NPDES SSFL Outfalls (570-88122) Date Received: 03/15/22

This data package contains sample and QC results for one water sample, requested for the above referenced project on 03/15/22. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

459726

Chain of Custody Record

C570-88122

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-162223.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-88122-1
Address: 931 W. Barkley Ave, ,	Due Date Requested:	Analysis Requested		Preservation Codes:
City: Orange	TAT Requested (days): Standard TAT			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: CA, 92868				
Phone:	PO #:			Other:
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 570-88122			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	SUB (Quant-Tray - E. Coli - level 4 required - E. Coli - level 4 required)	Special Instructions/Note:
Arroyo Simi_20220315_Grab (570-88122-1)	3/15/22	07:30 Pacific		Water	X	E Coli (1x, 10x, 100x Dilutions) - 8 hour hold time - level 4

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	03/15/22 1145	EC		3/15/22 1145	ES
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: EUROFINS CALSCIENCE Project: BOEING NPDES SSFL OUT FALLS

Date Received: 3/15/22 Sampler's Name Present: ☐ Yes ☑ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2) Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 6.0 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 0.7 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓		
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	✓		
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?	✓		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✓
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 5 Explanations/Comments

_____

_____

_____

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 3/15/22

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 459726 **Project#:** BOEING NPDES SSFL

Client: Eurofins Calscience Tustin **Location:** Boeing NPDES SSFL Outfalls (570-88...

Field ID:	ARROYO SIMI_20220315_GRAB (570-88122-1)	**Batch#:**	285600	**Analyzed:**	03/16/22 11:02
Lab ID:	459726-001	**Sampled:**	03/15/22 07:30	**Prep:**	
Matrix:	Water	**Received:**	03/15/22	**Analysis:**	SM 9223Bb
DilIn Fac:	1.000	**Prepared:**	03/15/22 14:07	**Analyst:**	AJL

Analyte	Result	RL	Units
Coliform, E. Coli	**40**	1.0	MPN/100ml

Legend

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: SL Prep Date/Time: 3/15/22 1407 QC Batch ID: 285600 Batch Page 1 of 1

Read Analyst: AL Read Date/Time 3/16/22 1102

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: KT236 Pipette Lot #: A103931, A103909, & A103864

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 3/2/22 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: M3 Incubator In, Temp/Time: 34.9 1420 Incubator Out, Temp/Time: 35.2 1102

Fecal Coliform: Water Bath ID: N/A Water Bath In, Temp/Time: N/A Water Bath Out, Temp/Time: N/A

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts Large Wells	Total Coliform Counts Small Wells	MPN Table Value	Final Result, MPN	E. coli Counts Large Wells	E. coli Counts Small Wells	AL 3/16/22 MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only) Large Wells	Fecal Coliform Counts (Colilert 18 only) Small Wells	MPN Table Value	Final Result, MPN	Comments
ECL		459726-001	1X	49	48	>2419.6	>2400	27	2	~~30.0~~ 40.4	40					EC-01
↓		↓	10X	49	22	387.3	3900	5	0	5.2	~~5.2~~ 52	AL 3/24/22				↓
↓		↓	100X	23	2	~~25.8~~ 32.9	3300	3	0	3.1	~~3.1~~ 31	AL 3/24/22				
						AL 3/16/22										

Quality Control	Culture ID										
Positive +/+ (E. Coli)	3/13/22	49	48	>2419.6	>2400	49	48	>2419.6	>2400		
Positive +/- (K. Pneumonia)	↓	49	48	>2419.6	>2400	0	0	<1	<1		
Negative -/- (P. Aeruginosa)	↓	0	0	<1	<1	0	0	<1	<1		

AL 3/24/22

Data Entered By: AL 3/24/22 Data Reviewed By:

Enthalpy Analytical, Orange, Logbook # BK774

Eurofins Calscience
2841 Dow Avenue Suite 100
Tustin, CA 92780
Phone 714-895-5494

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-162404 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-88122-1
Address: 880 Riverside Parkway,	Due Date Requested: 3/25/2022			
City: West Sacramento	TAT Requested (days)			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Arroyo Simi_20220315_Grab (570-88122-1)	3/15/22	07 30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero; Use Boeing glassware
Arroyo Simi_20220315_Extra (570-88122-2)	3/15/22	07 30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero; Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time: 3/16/22 1215	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

4/1/2022

Loc: 570
88122

Eurofins Calscience Tustin

CHAIN OF CUSTODY FORM

570-88122 Chain of Custody

A Q A A Q Q

Client Name/Address.	Project:	ANALYSIS REQUIRED	Field Readings	Meter serial # \ L 5 C U V K T
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2015 **Annual Arroyo Simi-Frontier Park** **Dry Weather**		**Field Readings: (Include units)** **Time of Readings:** 0715	
Eurofins Calscience Project Manager Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel 714-895-5494 **ECI Project #44024446**			pH 6.74 pH unit Temp 55.1 °C/°F Velocity 0.0 ft/sec	
Eurofins Calscience's services under this COC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2022-26-Eurofins Calscience by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and Eurofins Calscience Laboratories Inc.	Project Manager Katherine Miller 520.289 8606, 520 904 6944 (cell)		**Field readings QC** Checked by:	
Sampler Adrien Mobeka	Field Manager Mark Dominick 978.234 5033, 818.599 0702 (cell)		Date/Time: 3-15-2022/0715	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	E coli (SM9221) Enthalpy Analytical Orange CA	Hardness as $CaCO_3$, Recoverable (SM2340B)	TCDD (and all congeners) (E1613B)	TSS (Method 160.2 (SM2540D))	Chlorpyrifos Diazinon (E525.2) Weck Labs in Hacienda Heights CA	Pesticides Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)			Comments
Arroyo Simi	Arroyo Simi_20220315_Grab	3/15/2022/0730	WS	125 mL Sterile Poly	3	$Na_2S_2O_3$	10	No	X								Deliver to lab ASAP 8 hr hold time Need 1x, 5x, 10x dilutions
			WS	250 mL Poly	3	HNO_3	100	Yes		X							
			WS	1L Glass Amber	2	None	110	No			X						
			WS	1L Poly	1	None	185	No				X					
			WS	1L Glass Amber	6	None	275	Yes					X				Extract within 24-Hours of sampling at W eck Labs
			WS	1L Glass Amber	6	None	285	Yes						X			
	Arroyo Simi_20220315_Extra	3/15/2022/0730	WS	1L Glass Amber	2	None	110	No			H						Hold
			WS	1L Glass Amber	2	None	275	No					H				Hold
			WS	1L Glass Amber	2	None	285	No						H			Hold

Legend: A=Annual, Q=Quarterly

Relinquished By	Date/Time:	Company	Received By	Date/Time:
[signature]	3-15-2022/0920	H A	[signature]	3-15-22 0920
[signature]	03/15/22 1215		[signature]	3/15/22 1215

Turn-around time: (Check)
24 Hour ____ 72 Hour ____ 10 Day ___X___
48 Hour ____ 5 Day ____ Normal: ____

Sample Integrity (Check)
Intact: ____ On Ice: ____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV ____ All Level IV: ___X___

2.5|0.8 SC6 2.8|17 SC6

4/1/2022
2021-2022 Rainy Season
Version 4

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-88122-2

Login Number: 88122
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-88122-3
Client Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/12/2022 6:45:39 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@et.eurofinsus.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-3
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-88122-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-88122-3

Comments
No additional comments.

Receipt
The samples were received on 3/15/2022 12:15 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.8º C and 1.7º C.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV040922). The 13C-1,2,3,4-TCDD and associated with the following samples run on instrument 11D2 exceeded this criteria: Arroyo Simi_20220315_Grab (570-88122-1), (CCV 320-579217/2), (MB 320-575630/1-A) and (WDM 320-579217/1). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-3
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Client Sample ID: Arroyo Simi_20220315_Grab
Lab Sample ID: 570-88122-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000021	J,DX MB	0.000051	0.00000054	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000022	J,DX MB	0.000051	0.00000046	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000028	J,DX MB	0.000051	0.00000048	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000013	J,DX MB	0.000051	0.00000046	ug/L	1		1613B	Total/NA
OCDD	0.000016	J,DX MB	0.00010	0.00000098	ug/L	1		1613B	Total/NA
OCDF	0.0000034	J,DX MB	0.00010	0.00000067	ug/L	1		1613B	Total/NA
Total TCDD	0.0000029	J,DX MB	0.000010	0.00000058	ug/L	1		1613B	Total/NA
Total TCDF	0.0000024	J,DX MB	0.000010	0.00000032	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000021	J,DX MB	0.000051	0.00000046	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000022	J,DX MB	0.000051	0.00000038	ug/L	1		1613B	Total/NA
Total HpCDD	0.0000057	J,DX MB	0.000051	0.00000048	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000013	J,DX MB	0.000051	0.00000046	ug/L	1		1613B	Total/NA
2,3,7,8-TCDF - RA	0.0000010	J,DX MB	0.000010	0.00000045	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Arroyo Simi_20220315_Grab
Lab Sample ID: 570-88122-1
Date Collected: 03/15/22 07:30
Matrix: Water
Date Received: 03/15/22 09:00

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000058	ug/L		03/24/22 15:30	04/05/22 16:02	1
1,2,3,7,8-PeCDD	ND		0.000051	0.0000010	ug/L		03/24/22 15:30	04/05/22 16:02	1
1,2,3,7,8-PeCDF	ND		0.000051	0.00000059	ug/L		03/24/22 15:30	04/05/22 16:02	1
2,3,4,7,8-PeCDF	ND		0.000051	0.00000063	ug/L		03/24/22 15:30	04/05/22 16:02	1
1,2,3,4,7,8-HxCDD	**0.0000021**	**J,DX MB**	0.000051	0.00000054	ug/L		03/24/22 15:30	04/05/22 16:02	1
1,2,3,6,7,8-HxCDD	ND		0.000051	0.00000057	ug/L		03/24/22 15:30	04/05/22 16:02	1
1,2,3,7,8,9-HxCDD	ND		0.000051	0.00000046	ug/L		03/24/22 15:30	04/05/22 16:02	1
1,2,3,4,7,8-HxCDF	ND		0.000051	0.00000045	ug/L		03/24/22 15:30	04/05/22 16:02	1
1,2,3,6,7,8-HxCDF	ND		0.000051	0.00000041	ug/L		03/24/22 15:30	04/05/22 16:02	1
1,2,3,7,8,9-HxCDF	**0.0000022**	**J,DX MB**	0.000051	0.00000046	ug/L		03/24/22 15:30	04/05/22 16:02	1
2,3,4,6,7,8-HxCDF	ND		0.000051	0.00000038	ug/L		03/24/22 15:30	04/05/22 16:02	1
1,2,3,4,6,7,8-HpCDD	**0.0000028**	**J,DX MB**	0.000051	0.00000048	ug/L		03/24/22 15:30	04/05/22 16:02	1
1,2,3,4,6,7,8-HpCDF	**0.0000013**	**J,DX MB**	0.000051	0.00000046	ug/L		03/24/22 15:30	04/05/22 16:02	1
1,2,3,4,7,8,9-HpCDF	ND		0.000051	0.00000065	ug/L		03/24/22 15:30	04/05/22 16:02	1
OCDD	**0.000016**	**J,DX MB**	0.00010	0.00000098	ug/L		03/24/22 15:30	04/05/22 16:02	1
OCDF	**0.0000034**	**J,DX MB**	0.00010	0.00000067	ug/L		03/24/22 15:30	04/05/22 16:02	1
Total TCDD	**0.0000029**	**J,DX MB**	0.000010	0.00000058	ug/L		03/24/22 15:30	04/05/22 16:02	1
Total TCDF	**0.0000024**	**J,DX MB**	0.000010	0.00000032	ug/L		03/24/22 15:30	04/05/22 16:02	1
Total PeCDD	ND		0.000051	0.0000010	ug/L		03/24/22 15:30	04/05/22 16:02	1
Total PeCDF	ND		0.000051	0.00000059	ug/L		03/24/22 15:30	04/05/22 16:02	1
Total HxCDD	**0.0000021**	**J,DX MB**	0.000051	0.00000046	ug/L		03/24/22 15:30	04/05/22 16:02	1
Total HxCDF	**0.0000022**	**J,DX MB**	0.000051	0.00000038	ug/L		03/24/22 15:30	04/05/22 16:02	1
Total HpCDD	**0.0000057**	**J,DX MB**	0.000051	0.00000048	ug/L		03/24/22 15:30	04/05/22 16:02	1
Total HpCDF	**0.0000013**	**J,DX MB**	0.000051	0.00000046	ug/L		03/24/22 15:30	04/05/22 16:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*74*		*25 - 164*	*03/24/22 15:30*	*04/05/22 16:02*	*1*
13C-2,3,7,8-TCDF	*70*		*24 - 169*	*03/24/22 15:30*	*04/05/22 16:02*	*1*
13C-1,2,3,7,8-PeCDD	*81*		*25 - 181*	*03/24/22 15:30*	*04/05/22 16:02*	*1*
13C-1,2,3,7,8-PeCDF	*78*		*24 - 185*	*03/24/22 15:30*	*04/05/22 16:02*	*1*
13C-2,3,4,7,8-PeCDF	*79*		*21 - 178*	*03/24/22 15:30*	*04/05/22 16:02*	*1*
13C-1,2,3,4,7,8-HxCDD	*87*		*32 - 141*	*03/24/22 15:30*	*04/05/22 16:02*	*1*
13C-1,2,3,6,7,8-HxCDD	*83*		*28 - 130*	*03/24/22 15:30*	*04/05/22 16:02*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Arroyo Simi_20220315_Grab
Lab Sample ID: 570-88122-1
Date Collected: 03/15/22 07:30
Matrix: Water
Date Received: 03/15/22 09:00

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8-HxCDF	91		26 - 152	03/24/22 15:30	04/05/22 16:02	1
13C-1,2,3,6,7,8-HxCDF	88		26 - 123	03/24/22 15:30	04/05/22 16:02	1
13C-1,2,3,7,8,9-HxCDF	79		29 - 147	03/24/22 15:30	04/05/22 16:02	1
13C-2,3,4,6,7,8-HxCDF	87		28 - 136	03/24/22 15:30	04/05/22 16:02	1
13C-1,2,3,4,6,7,8-HpCDD	87		23 - 140	03/24/22 15:30	04/05/22 16:02	1
13C-1,2,3,4,6,7,8-HpCDF	81		28 - 143	03/24/22 15:30	04/05/22 16:02	1
13C-1,2,3,4,7,8,9-HpCDF	87		26 - 138	03/24/22 15:30	04/05/22 16:02	1
13C-OCDD	81		17 - 157	03/24/22 15:30	04/05/22 16:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	89		35 - 197	03/24/22 15:30	04/05/22 16:02	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: Arroyo Simi_20220315_Grab
Lab Sample ID: 570-88122-1
Date Collected: 03/15/22 07:30
Matrix: Water
Date Received: 03/15/22 09:00

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**0.0000010**	**J,DX MB**	0.000010	0.00000045	ug/L		03/24/22 15:30	04/09/22 12:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*81*		*24 - 169*	*03/24/22 15:30*	*04/09/22 12:45*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*97*		*35 - 197*	*03/24/22 15:30*	*04/09/22 12:45*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Job ID: 570-88122-3

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-88122-1	Arroyo Simi_20220315_Grab	89
570-88122-1 - RA	Arroyo Simi_20220315_Grab	97
MB 320-575630/1-A	Method Blank	80
MB 320-575630/1-A - RA	Method Blank	92

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-575630/2-A	Lab Control Sample	83
LCSD 320-575630/3-A	Lab Control Sample Dup	83

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Job ID: 570-88122-3

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-88122-1	Arroyo Simi_20220315_Grab	74	70	81	78	79	87	83	91
570-88122-1 - RA	Arroyo Simi_20220315_Grab		81						
MB 320-575630/1-A	Method Blank	50	47	63	56	60	69	65	70
MB 320-575630/1-A - RA	Method Blank		54						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-88122-1	Arroyo Simi_20220315_Grab	88	79	87	87	81	87	81
570-88122-1 - RA	Arroyo Simi_20220315_Grab							
MB 320-575630/1-A	Method Blank	68	62	69	69	62	65	64
MB 320-575630/1-A - RA	Method Blank							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-575630/2-A	Lab Control Sample	57	54	71	64	68	77	73	79
LCSD 320-575630/3-A	Lab Control Sample Dup	55	52	66	60	64	75	68	76

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-575630/2-A	Lab Control Sample	75	69	77	75	68	73	73
LCSD 320-575630/3-A	Lab Control Sample Dup	73	66	73	71	64	70	68

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-3
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-575630/1-A
Matrix: Water
Analysis Batch: 577745

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 575630

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000060	ug/L		03/24/22 15:30	04/05/22 12:12	1
2,3,7,8-TCDF	0.00000225	J,DX	0.000010	0.00000036	ug/L		03/24/22 15:30	04/05/22 12:12	1
1,2,3,7,8-PeCDD	0.00000237	J,DX	0.000050	0.00000069	ug/L		03/24/22 15:30	04/05/22 12:12	1
1,2,3,7,8-PeCDF	0.00000224	J,DX	0.000050	0.00000052	ug/L		03/24/22 15:30	04/05/22 12:12	1
2,3,4,7,8-PeCDF	0.00000205	J,DX	0.000050	0.00000052	ug/L		03/24/22 15:30	04/05/22 12:12	1
1,2,3,4,7,8-HxCDD	0.00000414	J,DX	0.000050	0.00000065	ug/L		03/24/22 15:30	04/05/22 12:12	1
1,2,3,6,7,8-HxCDD	0.00000321	J,DX	0.000050	0.00000064	ug/L		03/24/22 15:30	04/05/22 12:12	1
1,2,3,7,8,9-HxCDD	0.00000250	J,DX	0.000050	0.00000053	ug/L		03/24/22 15:30	04/05/22 12:12	1
1,2,3,4,7,8-HxCDF	0.00000273	J,DX	0.000050	0.00000058	ug/L		03/24/22 15:30	04/05/22 12:12	1
1,2,3,6,7,8-HxCDF	0.00000236	J,DX	0.000050	0.00000053	ug/L		03/24/22 15:30	04/05/22 12:12	1
1,2,3,7,8,9-HxCDF	0.00000451	J,DX	0.000050	0.00000057	ug/L		03/24/22 15:30	04/05/22 12:12	1
2,3,4,6,7,8-HxCDF	0.00000293	J,DX	0.000050	0.00000046	ug/L		03/24/22 15:30	04/05/22 12:12	1
1,2,3,4,6,7,8-HpCDD	0.00000379	J,DX	0.000050	0.00000035	ug/L		03/24/22 15:30	04/05/22 12:12	1
1,2,3,4,6,7,8-HpCDF	0.00000289	J,DX	0.000050	0.00000037	ug/L		03/24/22 15:30	04/05/22 12:12	1
1,2,3,4,7,8,9-HpCDF	0.00000283	J,DX	0.000050	0.00000053	ug/L		03/24/22 15:30	04/05/22 12:12	1
OCDD	0.0000132	J,DX	0.00010	0.00000076	ug/L		03/24/22 15:30	04/05/22 12:12	1
OCDF	0.00000660	J,DX	0.00010	0.00000050	ug/L		03/24/22 15:30	04/05/22 12:12	1
Total TCDD	0.00000497	J,DX	0.000010	0.00000060	ug/L		03/24/22 15:30	04/05/22 12:12	1
Total TCDF	0.00000349	J,DX	0.000010	0.00000036	ug/L		03/24/22 15:30	04/05/22 12:12	1
Total PeCDD	0.00000237	J,DX	0.000050	0.00000069	ug/L		03/24/22 15:30	04/05/22 12:12	1
Total PeCDF	0.00000498	J,DX	0.000050	0.00000052	ug/L		03/24/22 15:30	04/05/22 12:12	1
Total HxCDD	0.00000985	J,DX	0.000050	0.00000053	ug/L		03/24/22 15:30	04/05/22 12:12	1
Total HxCDF	0.0000125	J,DX	0.000050	0.00000046	ug/L		03/24/22 15:30	04/05/22 12:12	1
Total HpCDD	0.00000575	J,DX	0.000050	0.00000035	ug/L		03/24/22 15:30	04/05/22 12:12	1
Total HpCDF	0.00000572	J,DX	0.000050	0.00000037	ug/L		03/24/22 15:30	04/05/22 12:12	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*50*		*25 - 164*	*03/24/22 15:30*	*04/05/22 12:12*	*1*
13C-2,3,7,8-TCDF	*47*		*24 - 169*	*03/24/22 15:30*	*04/05/22 12:12*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-575630/1-A
Matrix: Water
Analysis Batch: 577745

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 575630

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDD	63		25 - 181	03/24/22 15:30	04/05/22 12:12	1
13C-1,2,3,7,8-PeCDF	56		24 - 185	03/24/22 15:30	04/05/22 12:12	1
13C-2,3,4,7,8-PeCDF	60		21 - 178	03/24/22 15:30	04/05/22 12:12	1
13C-1,2,3,4,7,8-HxCDD	69		32 - 141	03/24/22 15:30	04/05/22 12:12	1
13C-1,2,3,6,7,8-HxCDD	65		28 - 130	03/24/22 15:30	04/05/22 12:12	1
13C-1,2,3,4,7,8-HxCDF	70		26 - 152	03/24/22 15:30	04/05/22 12:12	1
13C-1,2,3,6,7,8-HxCDF	68		26 - 123	03/24/22 15:30	04/05/22 12:12	1
13C-1,2,3,7,8,9-HxCDF	62		29 - 147	03/24/22 15:30	04/05/22 12:12	1
13C-2,3,4,6,7,8-HxCDF	69		28 - 136	03/24/22 15:30	04/05/22 12:12	1
13C-1,2,3,4,6,7,8-HpCDD	69		23 - 140	03/24/22 15:30	04/05/22 12:12	1
13C-1,2,3,4,6,7,8-HpCDF	62		28 - 143	03/24/22 15:30	04/05/22 12:12	1
13C-1,2,3,4,7,8,9-HpCDF	65		26 - 138	03/24/22 15:30	04/05/22 12:12	1
13C-OCDD	64		17 - 157	03/24/22 15:30	04/05/22 12:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	80		35 - 197	03/24/22 15:30	04/05/22 12:12	1

Lab Sample ID: LCS 320-575630/2-A
Matrix: Water
Analysis Batch: 577745

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 575630

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,3,7,8-TCDD	0.000200	0.000208		ug/L		104	67 - 158
2,3,7,8-TCDF	0.000200	0.000210		ug/L		105	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.000940		ug/L		94	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.000952		ug/L		95	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000949		ug/L		95	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000916		ug/L		92	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000974		ug/L		97	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000874		ug/L		87	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000931		ug/L		93	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000940		ug/L		94	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.000935		ug/L		93	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000942		ug/L		94	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000921		ug/L		92	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000954		ug/L		95	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000929		ug/L		93	78 - 138
OCDD	0.00200	0.00189		ug/L		94	78 - 144
OCDF	0.00200	0.00186		ug/L		93	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	57		20 - 175
13C-2,3,7,8-TCDF	54		22 - 152
13C-1,2,3,7,8-PeCDD	71		21 - 227
13C-1,2,3,7,8-PeCDF	64		21 - 192
13C-2,3,4,7,8-PeCDF	68		13 - 328
13C-1,2,3,4,7,8-HxCDD	77		21 - 193

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-575630/2-A
Matrix: Water
Analysis Batch: 577745

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 575630

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,6,7,8-HxCDD	73		25 - 163
13C-1,2,3,4,7,8-HxCDF	79		19 - 202
13C-1,2,3,6,7,8-HxCDF	75		21 - 159
13C-1,2,3,7,8,9-HxCDF	69		17 - 205
13C-2,3,4,6,7,8-HxCDF	77		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	75		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	68		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	73		20 - 186
13C-OCDD	73		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	83		31 - 191

Lab Sample ID: LCSD 320-575630/3-A
Matrix: Water
Analysis Batch: 577745

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 575630

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000209		ug/L		104	67 - 158	0	50
2,3,7,8-TCDF			0.000200	0.000215		ug/L		107	75 - 158	2	50
1,2,3,7,8-PeCDD			0.00100	0.000970		ug/L		97	70 - 142	3	50
1,2,3,7,8-PeCDF			0.00100	0.000975		ug/L		97	80 - 134	2	50
2,3,4,7,8-PeCDF			0.00100	0.000973		ug/L		97	68 - 160	2	50
1,2,3,4,7,8-HxCDD			0.00100	0.000955		ug/L		95	70 - 164	4	50
1,2,3,6,7,8-HxCDD			0.00100	0.00100		ug/L		100	76 - 134	3	50
1,2,3,7,8,9-HxCDD			0.00100	0.000896		ug/L		90	64 - 162	3	50
1,2,3,4,7,8-HxCDF			0.00100	0.000969		ug/L		97	72 - 134	4	50
1,2,3,6,7,8-HxCDF			0.00100	0.000947		ug/L		95	84 - 130	1	50
1,2,3,7,8,9-HxCDF			0.00100	0.000959		ug/L		96	78 - 130	3	50
2,3,4,6,7,8-HxCDF			0.00100	0.000978		ug/L		98	70 - 156	4	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.000948		ug/L		95	70 - 140	3	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.000974		ug/L		97	82 - 122	2	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000941		ug/L		94	78 - 138	1	50
OCDD			0.00200	0.00190		ug/L		95	78 - 144	1	50
OCDF			0.00200	0.00190		ug/L		95	63 - 170	2	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	55		20 - 175
13C-2,3,7,8-TCDF	52		22 - 152
13C-1,2,3,7,8-PeCDD	66		21 - 227
13C-1,2,3,7,8-PeCDF	60		21 - 192
13C-2,3,4,7,8-PeCDF	64		13 - 328
13C-1,2,3,4,7,8-HxCDD	75		21 - 193
13C-1,2,3,6,7,8-HxCDD	68		25 - 163
13C-1,2,3,4,7,8-HxCDF	76		19 - 202
13C-1,2,3,6,7,8-HxCDF	73		21 - 159
13C-1,2,3,7,8,9-HxCDF	66		17 - 205

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-575630/3-A
Matrix: Water
Analysis Batch: 577745

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 575630

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,4,6,7,8-HxCDF	73		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	71		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	64		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	70		20 - 186
13C-OCDD	68		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	83		31 - 191

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-575630/1-A
Matrix: Water
Analysis Batch: 579217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 575630

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	0.00000136	J,DX	0.000010	0.00000055	ug/L		03/24/22 15:30	04/09/22 12:07	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF - RA	54		24 - 169	03/24/22 15:30	04/09/22 12:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD - RA	92		35 - 197	03/24/22 15:30	04/09/22 12:07	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-3
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Specialty Organics

Prep Batch: 575630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-88122-1 - RA	Arroyo Simi_20220315_Grab	Total/NA	Water	1613B	
570-88122-1	Arroyo Simi_20220315_Grab	Total/NA	Water	1613B	
MB 320-575630/1-A - RA	Method Blank	Total/NA	Water	1613B	
MB 320-575630/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-575630/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-575630/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 577745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-88122-1	Arroyo Simi_20220315_Grab	Total/NA	Water	1613B	575630
MB 320-575630/1-A	Method Blank	Total/NA	Water	1613B	575630
LCS 320-575630/2-A	Lab Control Sample	Total/NA	Water	1613B	575630
LCSD 320-575630/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	575630

Analysis Batch: 579217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-88122-1 - RA	Arroyo Simi_20220315_Grab	Total/NA	Water	1613B	575630
MB 320-575630/1-A - RA	Method Blank	Total/NA	Water	1613B	575630

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-3
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Client Sample ID: Arroyo Simi_20220315_Grab
Lab Sample ID: 570-88122-1
Date Collected: 03/15/22 07:30
Matrix: Water
Date Received: 03/15/22 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B	RA		984.8 mL	20.0 uL	575630	03/24/22 15:30	CGB	TAL SAC
Total/NA	Analysis	1613B	RA	1			579217	04/09/22 12:45	SMA	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	1613B			984.8 mL	20.0 uL	575630	03/24/22 15:30	CGB	TAL SAC
Total/NA	Analysis	1613B		1			577745	04/05/22 16:02	GRB	TAL SAC
	Instrument ID: 12D5									

Laboratory References:
TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-3
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-23
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-30-23
Hawaii	State	<cert No.>	01-29-23
Illinois	NELAP	200060	03-17-23
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-31-23
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-02-23
Ohio	State	41252	01-29-23
Oregon	NELAP	4040	01-29-23
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	01-23-23
Utah	NELAP	CA000442021-12	03-01-22 *
Virginia	NELAP	460278	03-14-23
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-22
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-3
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Job ID: 570-88122-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-88122-1	Arroyo Simi_20220315_Grab	Water	03/15/22 07:30	03/15/22 09:00

Eurofins Calscience
2841 Dow Avenue Suite 100
Tustin, CA 92780
Phone 714-895-5494

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-162404 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-88122-1
Address: 880 Riverside Parkway,	Due Date Requested: 3/25/2022			
City: West Sacramento	TAT Requested (days)			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Arroyo Simi_20220315_Grab (570-88122-1)	3/15/22	07 30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero; Use Boeing glassware
Arroyo Simi_20220315_Extra (570-88122-2)	3/15/22	07 30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero; Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		3/16/22 1215				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

4/12/2022

Loc: 570
88122

Eurofins Calscience Tustin

CHAIN OF CUSTODY FORM

570-88122 Chain of Custody

A Q A A Q Q

Client Name/Address.	Project:	ANALYSIS REQUIRED	Field Readings	Meter serial # \ L 5 C U V K T
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2015 **Annual Arroyo Simi-Frontier Park** **Dry Weather**		**Field Readings: (Include units)** **Time of Readings:** 0715	
Eurofins Calscience Project Manager Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel 714-895-5494 **ECI Project #44024446**			pH 6.74 pH unit Temp 55.1 °C/°F Velocity 0.0 ft/sec	
Eurofins Calscience's services under this COC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2022-26-Eurofins Calscience by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and Eurofins Calscience Laboratories Inc.	Project Manager Katherine Miller 520.289 8606, 520 904 6944 (cell)		**Field readings QC** **Checked by:**	
Sampler Adrien Mobeka	Field Manager Mark Dominick 978.234 5033, 818.599 0702 (cell)		**Date/Time:** 3-15-2022/0715	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	E coli (SM9221) Enthalpy Analytical Orange CA	Hardness as $CaCO_3$, Recoverable (SM2340B)	TCDD (and all congeners) (E1613B)	TSS (Method 160.2 (SM2540D))	Chlorpyrifos Diazinon (E525.2) Weck Labs in Hacienda Heights CA	Pesticides Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)			Comments
Arroyo Simi	Arroyo Simi_20220315_Grab	3/15/2022/0730	WS	125 mL Sterile Poly	3	$Na_2S_2O_3$	10	No	X								Deliver to lab ASAP 8 hr hold time Need 1x, 5x, 10x dilutions
			WS	250 mL Poly	3	HNO_3	100	Yes		X							
			WS	1L Glass Amber	2	None	110	No			X						
			WS	1L Poly	1	None	185	No				X					
			WS	1L Glass Amber	6	None	275	Yes					X				Extract within 24-Hours of sampling at W eck Labs
			WS	1L Glass Amber	6	None	285	Yes						X			
	Arroyo Simi_20220315_Extra	3/15/2022/0730	WS	1L Glass Amber	2	None	110	No			H						Hold
			WS	1L Glass Amber	2	None	275	No					H				Hold
			WS	1L Glass Amber	2	None	285	No						H			Hold

Legend: A=Annual, Q=Quarterly

Relinquished By	Date/Time:	Company	Received By	Date/Time:
[signature]	3-15-2022/0920	H A	[signature]	3-15-22 0920
[signature]	03/15/22 1215		[signature]	3/15/22 1215

Turn-around time: (Check)
24 Hour ____ 72 Hour ____ 10 Day ___X___
48 Hour ____ 5 Day ____ Normal: ____

Sample Integrity (Check)
Intact: ____ On Ice: ____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV ____ All Level IV: ___X___

2.5|0.8 SC6 2.8|17 SC6

4/12/2022

2021-2022 Rainy Season
Version 4

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-162404.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-88122-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 3/25/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
Preservation Code:										
Arroyo Simi_20220315_Grab (570-88122-1)	3/15/22	07:30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero; Use Boeing glassware.
Arroyo Simi_20220315_Extra (570-88122-2)	3/15/22	07:30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero; Use Boeing glassware.

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

4/12/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-88122-3

Login Number: 88122
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-88122-3

Login Number: 88122
List Number: 2
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 03/17/22 12:37 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.1c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-88122-4
Client Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/12/2022 8:34:44 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@et.eurofinsus.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-88122-4
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-88122-4
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Job ID: 570-88122-4

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-88122-4

Comments
No additional comments.

Receipt
The samples were received on 3/15/2022 12:15 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.8º C and 1.7º C.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units): This method was subcontracted to Weck Laboratories, Inc.. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-4
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Client Sample ID: Arroyo Simi_20220315_Grab
Lab Sample ID: 570-88122-1

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-4
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Method	Method Description	Protocol	Laboratory
Subcontract	Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units)	None	Weck Lab

Protocol References:

None = None

Laboratory References:

Weck Lab = Weck Laboratories, Inc., 14859 E. Clark Avenue, City of Industry, CA 91745

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-88122-4
Project/Site: Boeing NPDES SSFL Outfalls-Arroyo Simi-Dry Weather

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-88122-1	Arroyo Simi_20220315_Grab	Water	03/15/22 07:30	03/15/22 09:00

WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Work Orders: 2C15033

Project: 570-88122-1

Attn: Virendra Patel

Client: Eurofins Calscience - Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Report Date: 4/04/2022
Received Date: 3/15/2022
Turnaround Time: Normal
Phones: (949) 261-1022
Fax: (949) 260-3297
P.O. #:
Billing Code:

Dear Virendra Patel,

Enclosed are the results of analyses for samples received 3/15/22 with the Chain-of-Custody document. The samples were received in good condition, at 5.8 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Sample Results

Sample: Arroyo_Simi_20220315_Grab (570-88122-1) Sampled: 03/15/22 7:30 by Client
2C15033-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 525.2M			**Instr:** GCMS13				
Batch ID: W2C1079 **Preparation:** EPA 525.2/SPE			**Prepared:** 03/15/22 13:46				**Analyst:** EFC
Chlorpyrifos	ND	6.9	10	ng/l	1	03/24/22	
Diazinon	ND	5.2	10	ng/l	1	03/24/22	
Surrogate(s)							
1,3-Dimethyl-2-nitrobenzene	*62%*		*50-141*	*Conc: 312*		*03/24/22*	
Triphenyl phosphate	*128%*		*63-200*	*Conc: 638*		*03/24/22*	

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

Quality Control Results

Semivolatile Organics - Low Level by Tandem GC/MS/MS

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Blank (W2C1079-BLK1)					**Prepared: 03/15/22**	**Analyzed: 03/24/22**					
Chlorpyrifos	ND	6.9	10	ng/l							
Diazinon	ND	5.2	10	ng/l							
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*318*			*ng/l*	*500*		*64*	*50-141*			
Triphenyl phosphate	*721*			*ng/l*	*500*		*144*	*63-200*			
LCS (W2C1079-BS1)					**Prepared: 03/15/22**	**Analyzed: 03/24/22**					
Chlorpyrifos	42.6	6.9	10	ng/l	50.0		85	63-145			
Diazinon	31.3	5.2	10	ng/l	50.0		63	25-180			
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*387*			*ng/l*	*500*		*77*	*50-141*			
Triphenyl phosphate	*713*			*ng/l*	*500*		*143*	*63-200*			
Matrix Spike (W2C1079-MS1)	**Source: 2C15033-01**				**Prepared: 03/15/22**	**Analyzed: 03/24/22**					
Chlorpyrifos	39.9	6.9	10	ng/l	50.0	*ND*	80	37-168			
Diazinon	35.9	5.2	10	ng/l	50.0	*ND*	72	36-153			
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*369*			*ng/l*	*500*		*74*	*50-141*			
Triphenyl phosphate	*651*			*ng/l*	*500*		*130*	*63-200*			
Matrix Spike Dup (W2C1079-MSD1)	**Source: 2C15033-01**				**Prepared: 03/15/22**	**Analyzed: 03/24/22**					
Chlorpyrifos	35.4	6.9	10	ng/l	50.0	*ND*	71	37-168	12	30	
Diazinon	33.6	5.2	10	ng/l	50.0	*ND*	67	36-153	7	30	
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*307*			*ng/l*	*500*		*61*	*50-141*			
Triphenyl phosphate	*619*			*ng/l*	*500*		*124*	*63-200*			

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www.wecklabs.com

Notes and Definitions

Item	Definition
J	Estimated conc. detected <MRL and >MDL.
%REC	Percent Recovery
Dil	Dilution
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

Reviewed by:

Rahul R. Nair
Project Manager

EPA-UCMR #CA00211 ● Guam-EPA #17-008R ● LACSD #10143 ● NJ-DEP #CA015 ● NV-DEP #NAC 445A ● SCAQMD #93LA1006

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

C570-88122

eurofins | Environment Testing America

2C15033

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-162222.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-88122-1
Address: 14859 E. Clark Avenue,	Due Date Requested:			
City: City of Industry	TAT Requested (days): Standard TAT - level IV requried			
State, Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 570-88122			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Arroyo Simi_20220315_Grab (570-88122-1)	3/15/22	07:30 Pacific		Water			X		3	525.2- 24 hour Ext Hold Time for Diaznon and Chlorpyrifos level IV package needed.
Arroyo Simi_20220315_Extra (570-88122-2)	3/15/22	07:30 Pacific		Water				H	3	Hold sample

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	03/15/22	EC		03/15/22 1018	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 5.8C -0.2C

WECK LABORATORIES, INC.

Sample Receipt Checklist

Weck WKO: 2C15033
WKO Logged by: Jaime Gomez
Samples Checked by: Jaime Gomez

Date/Time Received: 03/15/22 11:08
# of Samples: 2
Delivered by: Client

	Task	Yes	No	N/A	Comments
COC	COC present at receipt?	☒	☐		
	COC properly completed?	☒	☐		
	COC matches sample labels?	☒	☐		
		☒	☐		
	Project Manager notified?	☐	☒	☐	
Receipt Information	Sample Temperature	5.8°C			
	Samples received on ice?	☒	☐		
	Ice Type (Blue/Wet)				
	All samples intact?	☒	☐		
	Samples in proper containers?	☒	☐		
	Sufficient sample volume?	☒	☐		
	Samples intact?	☒	☐		
	Received within holding time?	☒	☐		
		☐	☐		
	Project Manager notified?	☐	☒	☐	
Sample Preservation Verification?	Sample labels checked for correct preservation?	☒	☐	☐	
	VOC Headspace: none, <6mm/<Pea size? 524.2, 524.3, 624.1, 8260, 1666 P/T, LUFT	☐	☐	☒	
	pH verified upon receipt? Metals <2; H2SO4 pres tests <2; 522<4; TOC <2; 608.3 5-9	☐	☐	☒	
	Free Chlorine Tested <0.1	☒	☐	☐	
	O&G pH <2 verified?	☐	☐	☐	pH paper Lot#
	pH adjusted for O&G	☐	☐	☐	pH Reading: Acid Lot# Amt added:
	Project Manager notified?	☐	☒	☐	

PM Comments

Sample Receipt Checklist Prepared by:

Signature: JG Date: 03/15/22

Eurofins Calscience
2841 Dow Avenue Suite 100
Tustin, CA 92780
Phone 714-895-5494

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-162404 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-88122-1
Address: 880 Riverside Parkway,	Due Date Requested: 3/25/2022			
City: West Sacramento	TAT Requested (days)			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Arroyo Simi_20220315_Grab (570-88122-1)	3/15/22	07 30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero; Use Boeing glassware
Arroyo Simi_20220315_Extra (570-88122-2)	3/15/22	07 30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero; Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
	Relinquished by	Date/Time: 3/16/22 1215	Company	Received by	Date/Time:	Company
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

4/12/2022

Loc: 570
88122

Eurofins Calscience Tustin

CHAIN OF CUSTODY FORM

570-88122 Chain of Custody

A Q A A Q Q

Client Name/Address.	Project:	ANALYSIS REQUIRED	Field Readings	Meter serial # \ L 5 C U V K T
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2015 **Annual Arroyo Simi-Frontier Park** **Dry Weather**		**Field Readings: (Include units)** **Time of Readings:** 0715	
Eurofins Calscience Project Manager Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel 714-895-5494 **ECI Project #44024446**			pH 6.74 pH unit Temp 55.1 °C/°F Velocity 0.0 ft/sec	
Eurofins Calscience's services under this COC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2022-26-Eurofins Calscience by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and Eurofins Calscience Laboratories Inc.	Project Manager Katherine Miller 520.289 8606, 520 904 6944 (cell)		**Field readings QC** Checked by:	
Sampler Adrien Mobeka	Field Manager Mark Dominick 978.234 5033, 818.599 0702 (cell)		Date/Time: 3-15-2022/0715	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	E coli (SM9221) Enthalpy Analytical Orange CA	Hardness as $CaCO_3$, Recoverable (SM2340B)	TCDD (and all congeners) (E1613B)	TSS (Method 160.2 (SM2540D))	Chlorpyrifos Diazinon (E525.2) Weck Labs in Hacienda Heights CA	Pesticides Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)			Comments
Arroyo Simi	Arroyo Simi_20220315_Grab	3/15/2022/0730	WS	125 mL Sterile Poly	3	$Na_2S_2O_3$	10	No	X								Deliver to lab ASAP 8 hr hold time Need 1x, 5x, 10x dilutions
			WS	250 mL Poly	3	HNO_3	100	Yes		X							
			WS	1L Glass Amber	2	None	110	No			X						
			WS	1L Poly	1	None	185	No				X					
			WS	1L Glass Amber	6	None	275	Yes					X				Extract within 24-Hours of sampling at W eck Labs
			WS	1L Glass Amber	6	None	285	Yes						X			
	Arroyo Simi_20220315_Extra	3/15/2022/0730	WS	1L Glass Amber	2	None	110	No			H						Hold
			WS	1L Glass Amber	2	None	275	No					H				Hold
			WS	1L Glass Amber	2	None	285	No						H			Hold

Legend: A=Annual, Q=Quarterly

Relinquished By	Date/Time:	Company	Received By	Date/Time:
Mark Dominick	3-15-2022/0920	H A		
	03/15/22 1215			3/15/22 1215

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day ___X___
48 Hour _____ 5 Day _____ Normal: _____

Sample Integrity (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV _____ All Level IV: ___X___

2.5|0.8 SC6 2.8|17 SC6

4/12/2022

2021-2022 Rainy Season
Version 4

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-88122-4

Login Number: 88122

List Source: Eurofins Calscience

List Number: 1

Creator: Patel, Virendra

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-88621-1
Client Project/Site: Boeing NPDES SSFL - Arroyo Simi

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/6/2022 3:25:06 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@et.eurofinsus.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-88621-1

Glossary

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TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc.
Job ID: 570-88621-1
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-88621-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-88621-1

Comments
No additional comments.

Receipt
The sample was received on 3/18/2022 10:07 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-88621-1

Method	Method Description	Protocol	Laboratory
1103.1	E. Coli	EPA	Enthalpy

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-88621-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-88621-1	ArroyoSimi_20220318	Water	03/18/22 07:15	03/18/22 10:07

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 459948
Report Level: IV
Report Date: 03/25/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDES SSFL (570-88621)

Authorized for release by:

Quynhgiao Le

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	Lab Job #: Project No: Location: Date Received:	459948 BOEING NPDES SSFL Boeing NPDES SSFL (570-88621) 03/18/22

Sample ID	Lab ID	Collected	Matrix
ARROYOSIMI_20220318 (570-88621-1)	459948-001	03/18/22 07:15	Water

ENTHALPY ANALYTICAL

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience Tustin	Lab Job Number: 459948
2841 Dow Avenue, Suite 100	Project No: BOEING NPDES SSFL
Tustin, CA 92780	Location: Boeing NPDES SSFL (570-88621)
Virendra Patel	Date Received: 03/18/22

This data package contains sample and QC results for one water sample, requested for the above referenced project on 03/17/22. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

459948

Chain of Custody Record

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eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-162594.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-88621-1
Address: 931 W. Barkley Ave, ,	Due Date Requested:	Analysis Requested		Preservation Codes:
City: Orange	TAT Requested (days): Standard TAT			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify) Other:
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Simi	Project #: 570-88621			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Quant-Tray - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						C/5.4 S/5.4
ArroyoSimi_20220318 (570-88621-1)	3/18/22	0715	G	Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		3-18-2022/1007	H:A		03/18/22 1007	EC
2		03/18/22	EC		03/18/22 10:07	eo
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Eurofins

Project: Boeing NPDES SSFL - arroyo Simi

Date Received: 3/18/2022

Sampler's Name Present: ☐ Yes ☑ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2)

Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 5.4 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 5.4 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓		
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)		✓	
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?	✓		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✓
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: Yanira Date: 3/18/2022

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 459948 **Project#:** BOEING NPDES SSFL

Client: Eurofins Calscience Tustin **Location:** Boeing NPDES SSFL (570-88621)

Field ID:	ARROYOSIMI_20220318 (570-88621-1)	**Batch#:**	285888	**Analyzed:**	03/19/22 13:53
Lab ID:	459948-001	**Sampled:**	03/18/22 07:15	**Prep:**	
Matrix:	Water	**Received:**	03/18/22	**Analysis:**	SM 9223Bb
DiIn Fac:	1.000	**Prepared:**	03/18/22 12:18	**Analyst:**	SMT

Analyte	Result	RL	Units
Coliform, E. Coli	**93**	1.0	MPN/100ml

Legend

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: SF Prep Date/Time: 03/18/22 1218 QC Batch ID: 285888 Batch Page 1 of 1

Read Analyst: SF Read Date/Time 3/19/22 1353

Media Used (check one): ☐Colisure ☐Colilert 18 ☒Colilert 24 Media Lot #: FT402B Pipette Lot #: A103909 & A103665 & A103931

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 03/02/22 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: M3 Incubator In, Temp/Time: 34.9 1727 Incubator Out, Temp/Time: 1353 35.0

Fecal Coliform: Water Bath ID: NA Water Bath In, Temp/Time: NA Water Bath Out, Temp/Time: NA

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
ECL		459948-001	1X	49	48	>2419.6	>2400	40	8	93.3	93					EC-01
			10X	48	27	378.4	3800 350 SF 3/25/22	5	1	6.3	60 6.3 SF 3/25/22					-01 10X
			100X	29	2	44.8	4500	1	0	1.0	100 1.0 SF 3/25/22					-01 100X
											SF 3/25/22					

Quality Control	Culture ID														
Positive +/+ (E. Coli)	3/13/22		49	48	>2419.6	>2400	49	48	>2419.6	>2400					
Positive +/- (K. Pneumonia)	1		49	48	>2419.6	>2400	0	0	<1	<1					
Negative -/- (P. Aeruginosa)			0	0	<1	<1	0	0	<1	<1					

Data Entered By: SF 3/25/22 Data Reviewed By: _____

Eurofins Calscience Version 3/10/2022 CHAIN OF CUSTODY FORM

Client Name/Address: Haley & Aldrich, Inc. 5333 Mission Center Road, Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Arroyo Simi Sampler: Adrian Mobeka
Eurofins Calscience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 ECI Project #44024446	Project Manager: Katherine Miller Phone Number: (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	E. coli (SM9221)					Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20220318_Grab	3/22/2018/0715	$Na_2S_2O_3$	10	X					Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Correct sampling date is 3/18/2022. Revised by M. Dominick 4/4/2022

Relinquished By: [signature] Date/Time: 3-18-2022/1007

Received By: [signature] Date/Time: 03/18/22 10:07

Received By: Date/Time:

Turn around Time: (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal __X__

Sample Integrity: (check)
Intact _____ On Ice: _____

Data Requirements: (check)
No Level IV __X__ All Level IV ____

NPDES Level IV ____

Loc: 570
88621

570-88621 Chain of Custody

Eurofins Calscience Version 3/10/2022 CHAIN OF CUSTODY FORM

Client Name/Address: Haley & Aldrich, Inc. 5333 Mission Center Road, Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Arroyo Simi Sampler: Adrian Mobeka
Eurofins Calscience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 ECI Project #44024446	Project Manager: Katherine Miller Phone Number: (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	E. coli (SM9221)					Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20220318_Grab	3/22/2018/0715	$Na_2S_2O_3$	10	X					Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Relinquished By Date/Time:
3-18-2022/1007

Received By Date/Time:
03/18/22 10:07

Received By Date/Time:

Turn around Time: (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal __X__

Sample Integrity: (check)
Intact _____ On Ice: _____

Data Requirements: (check)
No Level IV __X__ All Level IV ____

NPDES Level IV ____

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-88621-1

Login Number: 88621
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-88633-1
Client Project/Site: Boeing NPDES SSFL - Arroyo Simi

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/6/2022 3:26:30 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@et.eurofinsus.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-88633-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-88633-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-88633-1

Comments
No additional comments.

Receipt
The sample was received on 3/22/2022 10:15 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.8º C.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method Quant-Tray - E. Coli - level 4 required: This method was subcontracted to Enthalpy Analytical - Barkley. The subcontract laboratory certification is different from that of the facility issuing the final report.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-88633-1

Method	Method Description	Protocol	Laboratory
1103.1	E. Coli	EPA	Enthalpy

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-88633-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-88633-1	ArroyoSimi_20220322_Grab	Water	03/22/22 07:15	03/22/22 10:15

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 460043
Report Level: IV
Report Date: 03/31/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDES SSFL - Arroyo Simi (570-88633)

Authorized for release by:

Quynhgiao Le

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel
Eurofins
Calscience Tustin
2841 Dow Avenue,
Suite 100
Tustin, CA 92780

Lab Job #:	460043
Project No:	BOEING NPDES SSFL
Location:	Boeing NPDES SSFL - Arroyo Simi (570-88633)
Date Received:	03/22/22

Sample ID	Lab ID	Collected	Matrix
ARROYOSIMI_20220322 (570-88633-1)	460043-001	03/22/22 07:15	Water

ENTHALPY ANALYTICAL

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Virendra Patel	Lab Job Number:	460043
	Project No:	BOEING NPDES SSFL
	Location:	Boeing NPDES SSFL - Arroyo Simi (570-88633)
	Date Received:	03/22/22

This data package contains sample and QC results for one water sample, requested for the above referenced project on 03/22/22. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

460043

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eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-162619.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-88633-1
Address: 931 W. Barkley Ave, ,	Due Date Requested:			
City: Orange	TAT Requested (days): Standard TAT			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Simi	Project #: 570-88633			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB/Quant-Tray - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ArroyoSimi_20220322 (570-88633-1)	3/22/22	0715	G	Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

6.3/1.7

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 3-22-2022/1015	Company	Received by:	Date/Time: 03/22/22 1015	Company EC
Relinquished by:	Date/Time: 03/22/22 1200	Company EC	Received by:	Date/Time: 3/22/22 1200	Company EA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Eurofins Calscience

Project: Boeing NPDES SSFL

Date Received: 3/22/22

Sampler's Name Present: ☐ Yes ☑ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2)

Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 6.3 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 1.7 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓		
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	✓		
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?	✓		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✓
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 3/22/22

Enthalpy Analytical, a subsidiary of Montrose Environmental Group ,Inc.
931 W. Barkley Ave, Orange, CA 92868 • T: (714) 771-6900 • F: (714) 538-1209
www.enthalpy.com/socal

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 460043 **Project#:** BOEING NPDES SSFL

Client: Eurofins Calscience Tustin **Location:** Boeing NPDES SSFL - Arroyo Simi (5...

Field ID:	ARROYOSIMI_20220322 (570-88633-1)	**Batch#:**	286052	**Analyzed:**	03/23/22 16:03
Lab ID:	460043-001	**Sampled:**	03/22/22 07:15	**Prep:**	
Matrix:	Water	**Received:**	03/22/22	**Analysis:**	SM 9223Bb
Dil n Fac:	1.000	**Prepared:**	03/22/22 13:45	**Analyst:**	SMT

Analyte	Result	RL	Units
Coliform, E. Coli	**100**	1.0	MPN/100ml

Legend

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: AL Prep Date/Time: 3/22/22 1345 QC Batch ID: 286052 Batch Page 1 of 1

Read Analyst: SR Read Date/Time 3/23/22 1603

Media Used (check one): ☐Colisure ☐Colilert 18 ☑Colilert 24 Media Lot #: FT402B Pipette Lot #: A103842/A103909/A103931

Monthly Quanti-tray Sealer Check: Did it Pass? ☑Yes ☐No Date of last check*: 3/2/22 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: M3 Incubator In, Temp/Time: 34.8 1406 Incubator Out, Temp/Time: 35.0 1603

Fecal Coliform: Water Bath ID: NA Water Bath In, Temp/Time: NA Water Bath Out, Temp/Time: NA

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
ECL		460043-001	1x	49	48	>2419.6	>2400	42	7	101.7	100					EC-01
↓		↓	10x	49	37	920.8	9200	8	1	9.7	100					↓
↓		↓	100x	41	8	98.7	9900	0	0	<1	<100					↓
Quality Control		Culture ID														
Positive +/+ (E. Coli)		3/20/22		49	48	>2419.6	>2400	49	48	>2419.6	>2400					
Positive +/- (K. Pneumonia)		↓		49	45	>2419.6	>2400	0	0	<1	<1					
Negative -/- (P. Aeruginosa)		↓		0	0	<1	<1	0	0	<1	<1					

Data Entered By: 3/28/22 Data Reviewed By:

88633

Eurofins Calscience Version 3/10/2022 CHAIN OF CUSTODY FORM

Client Name/Address.	Project:
Haley & Aldrich, Inc. 5333 Mission Center Road, Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Arroyo Simi Sampler: Adrian Mobeka
Eurofins Calscience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel. 714-895-5494 **ECI Project #44024446**	Project Manager: Katherine Miller Phone Number (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I D	Sampling Date/Time	Preservative	Bottle #	E coli (SM9221)					Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20220322_Grab	3/22/2022/0715	$Na_2S_2O_3$	10	X					Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Relinquished By: Date/Time: 3-22-2022/1015

Received By: Date/Time: 03/22/22 1015

Received By: Date/Time

Turn around Time: (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal ___X___

Sample Integrity: (check)
Intact _____ On Ice: _____

Data Requirements. (check)
No Level IV __X__ All Level IV ____

NPDES Level IV ____

570-88633 Chain of Custody

3/3/18 SCL

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

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eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-162619.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-88633-1
Address: 931 W. Barkley Ave, ,	Due Date Requested:	Analysis Requested		Preservation Codes:
City: Orange	TAT Requested (days): Standard TAT			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: CA, 92868				
Phone:	PO #:			Other:
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Simi	Project #: 570-88633			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Quant-Tray - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ArroyoSimi_20220322 (570-88633-1)	3/22/22	0715	G	Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

6.5/1.7

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		3-22-2022/1015			03/22/22 1015	EC
2		03/22/22 1200	EC		3/22/22 1200	EA
3		Date/Time:	Company		Date/Time:	Company

Custody Seals Intact:	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

88633

Eurofins Calscience Version 3/10/2022 CHAIN OF CUSTODY FORM

Client Name/Address.	Project:
Haley & Aldrich, Inc. 5333 Mission Center Road, Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Arroyo Simi Sampler: Adrian Mobeka
Eurofins Calscience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 **ECI Project #44024446**	Project Manager: Katherine Miller Phone Number: (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I D	Sampling Date/Time	Preservative	Bottle #	E coli (SM9221)					Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20220322_Grab	3/22/2022/0715	$Na_2S_2O_3$	10	X					Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Relinquished By: [signature] Date/Time: 3-22-2022/1015

Received By: [signature] Date/Time: 03/22/22 10 15

Received By: Date/Time

Turn around Time: (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal ___X___

Sample Integrity: (check)
Intact _____ On Ice: _____

Data Requirements: (check)
No Level IV __X__ All Level IV ____

NPDES Level IV ____

570-88633 Chain of Custody

3/3/18 SCC

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-88633-1

Login Number: 88633
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-88634-1
Client Project/Site: Boeing NPDES SSFL - Arroyo Simi
Revision: 2

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/11/2022 4:03:06 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@et.eurofinsus.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-88634-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc.
Job ID: 570-88634-1
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-88634-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-88634-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 4/7/2022. The report (revision 2) is being revised due to: Enthalpy report cover page updated to reference 570-88634.

Report revision history
Revision 1 - 4/11/2022 - Reason - Enthalpy report cover page updated to reference 570-88634.

Receipt
The sample was received on 3/25/2022 11:53 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-88634-1

Method	Method Description	Protocol	Laboratory
1103.1	E. Coli	EPA	Enthalpy

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-88634-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-88634-1	ArroyoSimi_20220325	Water	03/25/22 07:20	03/25/22 11:53

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 460254
Report Level: IV
Report Date: 04/11/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDES SSFL - Arroyo Simi (570-88634)

Authorized for release by:

Quynhgiao Le

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	Lab Job #: Project No: Location: Date Received:	460254 BOEING NPDES SSFL Boeing NPDES SSFL - Arroyo Simi (570-88634) 03/25/22

Sample ID	Lab ID	Collected	Matrix
ARROYOSIMI_20220325 (570-88634-1)	460254-001	03/25/22 07:20	Water

ENTHALPY ANALYTICAL

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Virendra Patel	Lab Job Number: 460254 Project No: BOEING NPDES SSFL Location: Boeing NPDES SSFL - Arroyo Simi (570-88634) Date Received: 03/25/22

This data package contains sample and QC results for one water sample, requested for the above referenced project on 03/25/22. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

460254

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eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-162622.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-88634-1
Address: 931 W. Barkley Ave, ,	Due Date Requested:			
City: Orange	TAT Requested (days): Standard			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Simi	Project #: 570-88634			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Quant-Tray - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ArroyoSimi_20220325 (570-88634-1)	3/25/22	0720	G	Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

4.0/3.5

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 3-25-2022/1153	Company HA	Received by:	Date/Time: 3/25/22 1153	Company EA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Eurofins Calscience Version 3/10/2022 CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
Haley & Aldrich, Inc. 5333 Mission Center Road, Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Arroyo Simi Sampler: Adrian Mobeka
Eurofins Calscience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 **ECI Project #44024446**	Project Manager: Katherine Miller Phone Number: (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	E. coli (SM9221)					Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20220325_Grab	3/25/2022/0720	$Na_2S_2O_3$	10	X					Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Relinquished By Date/Time:
3-25-2022/1153

Received By Date/Time:
3/25/22 1153

Received By Date/Time:

Turn around Time: (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal ___X___

Sample Integrity: (check)
Intact _____ On Ice: _____

Data Requirements: (check)
No Level IV __X__ All Level IV ____

NPDES Level IV ____

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Eurofins Calscience Project: Boeing NPDES

Date Received: 3/25/22 Sampler's Name Present: ☑ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2) Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 6.0 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 3.5 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓		
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	✓		
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?	✓		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✓
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____ ☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 3/25/22

Enthalpy Analytical, a subsidiary of Montrose Environmental Group ,Inc.
931 W. Barkley Ave, Orange, CA 92868 • T: (714) 771-6900 • F: (714) 538-1209
www.enthalpy.com/socal

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 460254 **Project#:** BOEING NPDES SSFL

Client: Eurofins Calscience Tustin **Location:** Boeing NPDES SSFL - Arroyo Simi (5...

Field ID:	ARROYOSIMI_20220325 (570-88634-1)	**Batch#:**	286285	**Analyzed:**	03/26/22 12:55
Lab ID:	460254-001	**Sampled:**	03/25/22 07:20	**Prep:**	
Matrix:	Water	**Received:**	03/25/22	**Analysis:**	SM 9223Bb
Dil n Fac:	1.000	**Prepared:**	03/25/22 15:03	**Analyst:**	SMT

Analyte	Result	RL	Units
Coliform, E. Coli	**68**	1.0	MPN/100ml

Legend

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: SI Prep Date/Time: 3/25/22 1503 QC Batch ID: 276285 Batch Page 1 of 1

Read Analyst: SI Read Date/Time 3/26/22 1255

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: KT2356 Pipette Lot #: A103909, A103931, A103842

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 03/02/22 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: M3 Incubator In, Temp/Time: 34.9 1512 Incubator Out, Temp/Time: 34.5 1255

Fecal Coliform: Water Bath ID: n/a Water Bath In, Temp/Time: n/a Water Bath Out, Temp/Time: n/a

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
ECL		460254-001	1X	49	48	>2419.6	>2400	36	4	67.7	68					AS-01 1X
↓		↓ 001	10X	49	28	~~>2419.6~~ 547.5	~~>2400~~ 5500	6	1	7.4	70					-01 10X
↓		↓ 001	100X	48	6	153.9	15,000	0	0	<1	<100					-01 100X
Quality Control		**Culture ID**														
Positive +/+ (E. Coli)		3/20/22		49	48	>2419.6	>2400	49	48	>2419.6	>2400					
Positive +/- (K. Pneumonia)		↓		49	48	>2419.6	>2400	0	0	<1	<1					
Negative -/- (P. Aeruginosa)				0	0	<1	<1	0	0	<1	<1					

Data Entered By: 3/28/22 Data Reviewed By:

Eurofins Calscience Version 3/10/2022 CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
Haley & Aldrich, Inc. 5333 Mission Center Road, Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Arroyo Simi Sampler: Adrian Mobeka
Eurofins Calscience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 **ECI Project #44024446**	Project Manager: Katherine Miller Phone Number: (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	E. coli (SM9221)					Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20220325_Grab	3/25/2022/0720	$Na_2S_2O_3$	10	X					Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Relinquished By Date/Time:
3-25-2022/1153

Received By Date/Time:
3/25/22 1153

Received By Date/Time:

Turn around Time: (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal ___X___

Sample Integrity: (check)
Intact _____ On Ice: _____

Data Requirements: (check)
No Level IV __X__ All Level IV ____

NPDES Level IV ____

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-88634-1

Login Number: 88634
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-88635-1
Client Project/Site: Boeing NPDES SSFL - Arroyo Simi

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/11/2022 2:00:16 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@et.eurofinsus.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-88635-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc.
Job ID: 570-88635-1
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-88635-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-88635-1

Comments
No additional comments.

Receipt
The sample was received on 3/29/2022 10:19 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.8º C.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method Quant-Tray - E. Coli - level 4 required: This method was subcontracted to Enthalpy Analytical - Barkley. The subcontract laboratory certification is different from that of the facility issuing the final report.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-88635-1

Method	Method Description	Protocol	Laboratory
1103.1	E. Coli	EPA	Enthalpy

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Arroyo Simi

Job ID: 570-88635-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-88635-1	ArroyoSimi_20220329	Water	03/29/22 07:45	03/29/22 10:19

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 460464
Report Level: IV
Report Date: 04/07/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDES SSFL - Arroyo Simi #570-88635

Authorized for release by:

Quynhgiao Le

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel
Eurofins
Calscience Tustin
2841 Dow Avenue,
Suite 100
Tustin, CA 92780

Lab Job #:	460464
Project No:	BOEING NPDES SSFL
Location:	Boeing NPDES SSFL - Arroyo Simi #570-88635
Date Received:	03/29/22

Sample ID	Lab ID	Collected	Matrix
ARROYOSIMI_20220329_GRAB	460464-001	03/29/22 07:45	Water

ENTHALPY ANALYTICAL

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Virendra Patel	Lab Job Number:	460464
	Project No:	BOEING NPDES SSFL
	Location:	Boeing NPDES SSFL - Arroyo Simi #570-88635
	Date Received:	03/29/22

This data package contains sample and QC results for one water sample, requested for the above referenced project on 03/29/22. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

460464

Chain of Custody Record

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eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-162623.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-88635-1
Address: 931 W. Barkley Ave, ,	Due Date Requested:			
City: Orange	TAT Requested (days): Standard			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Simi	Project #: 570-88635			
Site:	SSOW#:			

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB:(Quant-Tray - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
~~ArroyoSimi_20220329~~ MW (570-88635-1)	3/29/22	7:45	G	Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4
ArroyoSimi_20220329_Grab									

5.6 / 1.3

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Michelle Dallalah (H&A)	3/29/2022 10:19			03/29/22 1019	EC
2		03/29/22	EC		3-29-22 1859	EA
3						

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Eurofins Calscience

Project: Boeing NPDES SSFL - Arroyo Simi

Date Received: 3/29/22

Sampler's Name Present: ☑ Yes ☑ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2)

Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 5.6 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 1.3 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✔		
Are sample IDs present?	✔		
Are sampling dates & times present?	✔		
Is a relinquished signature present?	✔		
Are the tests required clearly indicated on the COC?	✔		
Are custody seals present?		✔	
If custody seals are present, were they intact?			✔
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)			✔
Did all samples arrive intact? If no, indicate in Section 4 below.	✔		
Did all bottle labels agree with COC? (ID, dates and times)	✔		
Were the samples collected in the correct containers for the required tests?	✔		
Are the containers labeled with the correct preservatives?	✔		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✔
Was a sufficient amount of sample submitted for the requested tests?	✔		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 3-29-22

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 460464		**Project#:** BOEING NPDES SSFL	
Client: Eurofins Calscience Tustin		**Location:** Boeing NPDES SSFL - Arroyo Simi #5...	
Field ID: ARROYOSIMI_20220329_GRAB	**Batch#:** 286479	**Analyzed:** 03/30/22 13:31	
Lab ID: 460464-001	**Sampled:** 03/29/22 07:45	**Prep:**	
Matrix: Water	**Received:** 03/29/22	**Analysis:** SM 9223Bb	
DiIn Fac: 1.000	**Prepared:** 03/29/22 13:16	**Analyst:** SMT	

Analyte	Result	RL	Units
Coliform, E. Coli	**2,000**	1.0	MPN/100ml

Legend

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: EL Prep Date/Time: 3/29/22 1316 QC Batch ID: 286479 Batch Page 1 of 1

Read Analyst: EL Read Date/Time 3/30/22 1331

Media Used (check one): ☒ Colisure ☐ Colilert 18 ☐ Colilert 24 Media Lot #: AT 270B Pipette Lot #: A103931 A103864

Monthly Quanti-tray Sealer Check: Did it Pass? ☒ Yes ☐ No Date of last check*: 03/2/22 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: D Incubator In, Temp/Time: 34.5 1327 Incubator Out, Temp/Time: 35.1 1331

Fecal Coliform: Water Bath ID: NA Water Bath In, Temp/Time: NA Water Bath Out, Temp/Time: NA

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
ECL		460969-001	1X	49	48	>2419.6	>2400	49	48 46 (3/30/22)	1986.3	2000					EC-01 1X
↓		↓ -001	10X	49	48	>2419.6	>2400	49	36	866.4	8700					↓ -01 10X
↓		↓ -001	100X	49	48	>2419.6	>2400	40	8	93.3	9300 (3/30/22)					↓ -01 100X
Quality Control		Culture ID														
Positive +/+ (E. Coli)		3/27/22		49	48	>2419.6	>2400	49	48	>2419.6	>2400					
Positive +/- (K. Pneumonia)		↓		49	48	>2419.6	>2400	0	0	<1	<1					
Negative -/- (P. Aeruginosa)				0	0	<1	<1	0	0	<1	<1					

AL 4/6/22

AL 4/6/22

Data Entered By: AL 4/6/22 Data Reviewed By:

Eurofins Calscience Version 3/10/2022 CHAIN OF CUSTODY FORM

Client Name/Address. Haley & Aldrich, Inc. 5333 Mission Center Road, Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Arroyo Simi Sampler: Adrian Mobeka
Eurofins Calscience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 **ECI Project #44024446**	Project Manager: Katherine Miller Phone Number: (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I D	Sampling Date/Time	Preservative	Bottle #	E coli (SM9221)					Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20220329_Grab	3/29/2022 7:45	$Na_2S_2O_3$	10	X					Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Relinquished By Date/Time.
Michelle Dallabach (H&A) 3/29/2022 10 19

Received By Date/Time.
EC 03129122 10 19

Received By Date/Time.

Turn around Time: (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal ___X___

Sample Integrity: (check)
Intact _____ On Ice: _____

Data Requirements. (check)
No Level IV __X__ All Level IV ____
NPDES Level IV ____

3 3/18 SCC

570-88635 Chain of Custody

88635

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

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eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-162623.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-88635-1
Address: 931 W Barkley Ave, ,	Due Date Requested:	Analysis Requested		Preservation Codes:
City: Orange	TAT Requested (days): Standard			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: CA, 92868				
Phone:	PO #:			Other:
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Simi	Project #: 570-88635			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Quant-Tray - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
~~ArroyoSimi_20220329~~ NO (570-88635-1)	3/29/22	7:45	G	Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4
ArroyoSimi_20220329_Grab									

Page 1 of 18

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Rachelle Dallalah (H&A)	3/29/2022 10:19			03/29/22 1019	EC
2		03/29/22	EC		3-29-22 1859	EA
3						

4/11/2022

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

4.7.1.2

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-88635-1

Login Number: 88635
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-82057-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/2/2022 3:20:35 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-82057-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-82057-1

Comments
No additional comments.

Receipt
The samples were received on 1/19/2022 6:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.7° C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 2540F: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with analytical batch 440-665055.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-208668. 8015B_DRO.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82057-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab

Client Sample ID: Outfall001_20220119_Grab
Lab Sample ID: 570-82057-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C13-C28	0.049		0.048	0.035	mg/L	1		8015B	Total/NA
Specific Conductance	250		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: TB-20220119
Lab Sample ID: 570-82057-3

No Detections.

This Detection Summary does not include radiochemical test results.

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall001_20220119_Grab **Lab Sample ID: 570-82057-1**
Date Collected: 01/19/22 10:30 **Matrix: Water**
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/21/22 00:53	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/21/22 00:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			01/21/22 00:53	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/21/22 00:53	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/21/22 00:53	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/21/22 00:53	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	0.58	ug/L			01/21/22 00:53	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/21/22 00:53	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/21/22 00:53	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/21/22 00:53	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/21/22 00:53	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/21/22 00:53	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/21/22 00:53	1
Acrolein	ND		5.0	4.6	ug/L			01/21/22 00:53	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/21/22 00:53	1
Benzene	ND		0.50	0.28	ug/L			01/21/22 00:53	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/21/22 00:53	1
Bromoform	ND		1.0	0.25	ug/L			01/21/22 00:53	1
Bromomethane	ND		0.50	0.22	ug/L			01/21/22 00:53	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/21/22 00:53	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/21/22 00:53	1
Chloroethane	ND		1.0	0.29	ug/L			01/21/22 00:53	1
Chloroform	ND		0.50	0.19	ug/L			01/21/22 00:53	1
Chloromethane	ND		0.50	0.30	ug/L			01/21/22 00:53	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/21/22 00:53	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/21/22 00:53	1
Cyclohexane	ND		2.0	0.79	ug/L			01/21/22 00:53	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/21/22 00:53	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/21/22 00:53	1
m,p-Xylene	ND		1.0	0.17	ug/L			01/21/22 00:53	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/21/22 00:53	1
Naphthalene	ND		1.0	0.33	ug/L			01/21/22 00:53	1
o-Xylene	ND		0.50	0.15	ug/L			01/21/22 00:53	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/21/22 00:53	1
Toluene	ND		0.50	0.23	ug/L			01/21/22 00:53	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/21/22 00:53	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/21/22 00:53	1
Trichloroethene	ND		0.50	0.17	ug/L			01/21/22 00:53	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			01/21/22 00:53	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/21/22 00:53	1
Xylenes, Total	ND		1.0	0.17	ug/L			01/21/22 00:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*60 - 140*		*01/21/22 00:53*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 140*		*01/21/22 00:53*	*1*
Toluene-d8 (Surr)	*101*		*60 - 140*		*01/21/22 00:53*	*1*

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: TB-20220119
Date Collected: 01/19/22 10:30
Date Received: 01/19/22 18:20

Lab Sample ID: 570-82057-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/21/22 01:22	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/21/22 01:22	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			01/21/22 01:22	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/21/22 01:22	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/21/22 01:22	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/21/22 01:22	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	0.58	ug/L			01/21/22 01:22	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/21/22 01:22	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/21/22 01:22	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/21/22 01:22	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/21/22 01:22	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/21/22 01:22	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/21/22 01:22	1
Acrolein	ND		5.0	4.6	ug/L			01/21/22 01:22	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/21/22 01:22	1
Benzene	ND		0.50	0.28	ug/L			01/21/22 01:22	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/21/22 01:22	1
Bromoform	ND		1.0	0.25	ug/L			01/21/22 01:22	1
Bromomethane	ND		0.50	0.22	ug/L			01/21/22 01:22	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/21/22 01:22	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/21/22 01:22	1
Chloroethane	ND		1.0	0.29	ug/L			01/21/22 01:22	1
Chloroform	ND		0.50	0.19	ug/L			01/21/22 01:22	1
Chloromethane	ND		0.50	0.30	ug/L			01/21/22 01:22	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/21/22 01:22	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/21/22 01:22	1
Cyclohexane	ND		2.0	0.79	ug/L			01/21/22 01:22	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/21/22 01:22	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/21/22 01:22	1
m,p-Xylene	ND		1.0	0.17	ug/L			01/21/22 01:22	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/21/22 01:22	1
Naphthalene	ND		1.0	0.33	ug/L			01/21/22 01:22	1
o-Xylene	ND		0.50	0.15	ug/L			01/21/22 01:22	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/21/22 01:22	1
Toluene	ND		0.50	0.23	ug/L			01/21/22 01:22	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/21/22 01:22	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/21/22 01:22	1
Trichloroethene	ND		0.50	0.17	ug/L			01/21/22 01:22	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			01/21/22 01:22	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/21/22 01:22	1
Xylenes, Total	ND		1.0	0.17	ug/L			01/21/22 01:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*60 - 140*		*01/21/22 01:22*	*1*
Dibromofluoromethane (Surr)	*107*		*60 - 140*		*01/21/22 01:22*	*1*
Toluene-d8 (Surr)	*101*		*60 - 140*		*01/21/22 01:22*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Client Sample ID: Outfall001_20220119_Grab **Lab Sample ID: 570-82057-1**
Date Collected: 01/19/22 10:30 **Matrix: Water**
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		50	30	ug/L			01/21/22 17:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*20 - 144*		*01/21/22 17:18*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-82057-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab

Method: 8015B - Diesel Range Organics (DRO) (GC)

Client Sample ID: Outfall001_20220119_Grab
Lab Sample ID: 570-82057-1
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C28	0.049		0.048	0.035	mg/L		01/21/22 09:10	01/26/22 00:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*106*		*53 - 151*	*01/21/22 09:10*	*01/26/22 00:02*	*1*

Client: Haley & Aldrich, Inc. Job ID: 570-82057-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab

General Chemistry

Client Sample ID: Outfall001_20220119_Grab **Lab Sample ID: 570-82057-1**
Date Collected: 01/19/22 10:30 **Matrix: Water**
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	ND		1.0	0.53	mg/L		01/20/22 09:08	01/20/22 09:08	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	**250**		1.0	1.0	umhos/cm			01/26/22 10:44	1
Settleable Solids	ND		0.10	0.10	mL/L/Hr			01/21/22 09:18	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82057-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(60-140)	(60-140)	(60-140)
570-81928-A-1 MS	Matrix Spike	102	99	101
570-81928-B-1 MSD	Matrix Spike Duplicate	107	98	96
570-82057-1	Outfall001_20220119_Grab	99	103	101
570-82057-3	TB-20220119	98	107	101
LCS 440-664976/1002	Lab Control Sample	103	101	95
LCS 440-664976/1003	Lab Control Sample	97	106	110
MB 440-664976/4	Method Blank	93	112	107

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8015B - Gasoline Range Organics - (GC)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
		BFB1
Lab Sample ID	Client Sample ID	(20-144)
570-82057-1	Outfall001_20220119_Grab	90
570-82258-K-4 MS	Matrix Spike	102
570-82258-K-4 MSD	Matrix Spike Duplicate	106
LCS 570-208714/3	Lab Control Sample	102
LCSD 570-208714/4	Lab Control Sample Dup	100
MB 570-208714/5	Method Blank	89

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: 8015B - Diesel Range Organics (DRO) (GC)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
		OTCSN1
Lab Sample ID	Client Sample ID	(53-151)
570-82057-1	Outfall001_20220119_Grab	106
LCS 570-208668/2-A	Lab Control Sample	101
LCSD 570-208668/3-A	Lab Control Sample Dup	103
MB 570-208668/1-A	Method Blank	86

Surrogate Legend

OTCSN = n-Octacosane (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-664976/4
Matrix: Water
Analysis Batch: 664976

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/20/22 16:10	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/20/22 16:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			01/20/22 16:10	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/20/22 16:10	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/20/22 16:10	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/20/22 16:10	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	0.58	ug/L			01/20/22 16:10	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/20/22 16:10	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/20/22 16:10	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/20/22 16:10	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/20/22 16:10	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/20/22 16:10	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/20/22 16:10	1
Acrolein	ND		5.0	4.6	ug/L			01/20/22 16:10	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/20/22 16:10	1
Benzene	ND		0.50	0.28	ug/L			01/20/22 16:10	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/20/22 16:10	1
Bromoform	ND		1.0	0.25	ug/L			01/20/22 16:10	1
Bromomethane	ND		0.50	0.22	ug/L			01/20/22 16:10	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/20/22 16:10	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/20/22 16:10	1
Chloroethane	ND		1.0	0.29	ug/L			01/20/22 16:10	1
Chloroform	ND		0.50	0.19	ug/L			01/20/22 16:10	1
Chloromethane	ND		0.50	0.30	ug/L			01/20/22 16:10	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/20/22 16:10	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/20/22 16:10	1
Cyclohexane	ND		2.0	0.79	ug/L			01/20/22 16:10	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/20/22 16:10	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/20/22 16:10	1
m,p-Xylene	ND		1.0	0.17	ug/L			01/20/22 16:10	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/20/22 16:10	1
Naphthalene	ND		1.0	0.33	ug/L			01/20/22 16:10	1
o-Xylene	ND		0.50	0.15	ug/L			01/20/22 16:10	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/20/22 16:10	1
Toluene	ND		0.50	0.23	ug/L			01/20/22 16:10	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/20/22 16:10	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/20/22 16:10	1
Trichloroethene	ND		0.50	0.17	ug/L			01/20/22 16:10	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			01/20/22 16:10	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/20/22 16:10	1
Xylenes, Total	ND		1.0	0.17	ug/L			01/20/22 16:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*60 - 140*		*01/20/22 16:10*	*1*
Dibromofluoromethane (Surr)	*112*		*60 - 140*		*01/20/22 16:10*	*1*
Toluene-d8 (Surr)	*107*		*60 - 140*		*01/20/22 16:10*	*1*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-664976/1002
Matrix: Water
Analysis Batch: 664976

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,1,1-Trichloroethane			25.0	25.3		ug/L		101	69 - 151		
1,1,2,2-Tetrachloroethane			25.0	25.5		ug/L		102	68 - 136		
1,1,2-Trichloroethane			25.0	24.0		ug/L		96	75 - 136		
1,1-Dichloroethane			25.0	25.9		ug/L		103	71 - 143		
1,1-Dichloroethene			25.0	26.5		ug/L		106	19 - 212		
1,2-Dichlorobenzene			25.0	24.7		ug/L		99	59 - 174		
1,2-Dichloroethane			25.0	25.2		ug/L		101	72 - 137		
1,2-Dichloropropane			25.0	26.5		ug/L		106	19 - 181		
1,3-Dichlorobenzene			25.0	25.1		ug/L		100	75 - 144		
1,4-Dichlorobenzene			25.0	24.4		ug/L		98	59 - 174		
2-Chloroethyl vinyl ether			25.0	28.3		ug/L		113	10 - 252		
Acrolein			24.7	26.0		ug/L		105	50 - 150		
Acrylonitrile			250	252		ug/L		101	50 - 150		
Benzene			25.0	25.2		ug/L		101	75 - 125		
Bromodichloromethane			25.0	25.7		ug/L		103	50 - 140		
Bromoform			25.0	24.3		ug/L		97	57 - 156		
Bromomethane			25.0	28.6		ug/L		115	10 - 206		
Carbon tetrachloride			25.0	25.9		ug/L		104	65 - 125		
Chlorobenzene			25.0	25.2		ug/L		101	82 - 137		
Chloroethane			25.0	26.4		ug/L		106	42 - 202		
Chloroform			25.0	25.0		ug/L		100	68 - 121		
Chloromethane			25.0	28.6		ug/L		114	10 - 230		
cis-1,2-Dichloroethene			25.0	25.2		ug/L		101	60 - 140		
cis-1,3-Dichloropropene			25.0	24.4		ug/L		98	5 - 195		
Dibromochloromethane			25.0	24.8		ug/L		99	69 - 133		
Ethylbenzene			25.0	23.3		ug/L		93	75 - 134		
m,p-Xylene			25.0	22.2		ug/L		89	60 - 140		
Methylene Chloride			25.0	25.8		ug/L		103	10 - 205		
Naphthalene			25.0	25.0		ug/L		100	60 - 140		
o-Xylene			25.0	24.0		ug/L		96	60 - 140		
Tetrachloroethene			25.0	22.4		ug/L		90	70 - 130		
Toluene			25.0	23.4		ug/L		94	75 - 134		
trans-1,2-Dichloroethene			25.0	25.6		ug/L		102	70 - 130		
trans-1,3-Dichloropropene			25.0	26.6		ug/L		106	38 - 162		
Trichloroethene			25.0	23.7		ug/L		95	75 - 138		
Trichlorofluoromethane			25.0	26.7		ug/L		107	45 - 158		
Vinyl chloride			25.0	29.2		ug/L		117	10 - 218		
Xylenes, Total			50.0	46.2		ug/L		92			

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*60 - 140*
Dibromofluoromethane (Surr)	*101*		*60 - 140*
Toluene-d8 (Surr)	*95*		*60 - 140*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-664976/1003
Matrix: Water
Analysis Batch: 664976

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2-Dichloro-1,1,2-trifluoroethane			25.0	25.2		ug/L		101	60 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*60 - 140*
Dibromofluoromethane (Surr)	*106*		*60 - 140*
Toluene-d8 (Surr)	*110*		*60 - 140*

Lab Sample ID: 570-81928-A-1 MS
Matrix: Water
Analysis Batch: 664976

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,1,1-Trichloroethane	ND		25.0	26.6		ug/L		106	52 - 162		
1,1,2,2-Tetrachloroethane	ND		25.0	26.9		ug/L		108	46 - 157		
1,1,2-Trichloroethane	ND		25.0	23.8		ug/L		95	52 - 150		
1,1-Dichloroethane	ND		25.0	26.2		ug/L		105	59 - 155		
1,1-Dichloroethene	ND		25.0	28.3		ug/L		113	10 - 234		
1,2-Dichloro-1,1,2-trifluoroethane	ND		25.0	23.7		ug/L		95	60 - 140		
1,2-Dichlorobenzene	ND		25.0	26.6		ug/L		107	18 - 190		
1,2-Dichloroethane	ND		25.0	25.1		ug/L		101	49 - 155		
1,2-Dichloropropane	ND		25.0	26.5		ug/L		106	10 - 210		
1,3-Dichlorobenzene	ND		25.0	26.8		ug/L		107	59 - 156		
1,4-Dichlorobenzene	ND		25.0	25.4		ug/L		102	18 - 190		
2-Chloroethyl vinyl ether	ND		25.0	24.9		ug/L		100	10 - 305		
Acrolein	ND		24.7	20.8		ug/L		84	40 - 160		
Acrylonitrile	ND		250	254		ug/L		102	40 - 160		
Benzene	ND		25.0	26.0		ug/L		104	37 - 151		
Bromodichloromethane	ND		25.0	25.1		ug/L		100	35 - 155		
Bromoform	ND		25.0	23.8		ug/L		95	45 - 169		
Bromomethane	ND		25.0	28.9		ug/L		116	10 - 242		
Carbon tetrachloride	ND		25.0	27.6		ug/L		111	70 - 140		
Chlorobenzene	ND		25.0	25.3		ug/L		101	37 - 160		
Chloroethane	ND		25.0	27.5		ug/L		110	14 - 230		
Chloroform	ND		25.0	24.8		ug/L		99	51 - 138		
Chloromethane	ND		25.0	29.8		ug/L		119	10 - 273		
cis-1,2-Dichloroethene	ND		25.0	25.0		ug/L		100	60 - 140		
cis-1,3-Dichloropropene	ND		25.0	25.4		ug/L		102	10 - 227		
Dibromochloromethane	ND		25.0	24.4		ug/L		98	53 - 149		
Ethylbenzene	ND		25.0	25.3		ug/L		101	37 - 162		
m,p-Xylene	ND		25.0	24.3		ug/L		97	60 - 140		
Methylene Chloride	ND		25.0	24.6		ug/L		99	10 - 221		
Naphthalene	ND		25.0	26.5		ug/L		106	60 - 140		
o-Xylene	ND		25.0	25.5		ug/L		102	60 - 140		
Tetrachloroethene	ND		25.0	26.5		ug/L		106	64 - 148		
Toluene	ND		25.0	26.2		ug/L		105	47 - 150		
trans-1,2-Dichloroethene	ND		25.0	25.4		ug/L		102	54 - 156		
trans-1,3-Dichloropropene	ND		25.0	23.9		ug/L		96	17 - 183		
Trichloroethene	ND		25.0	26.0		ug/L		104	70 - 157		

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-81928-A-1 MS **Client Sample ID: Matrix Spike**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 664976

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	ND		25.0	26.4		ug/L		105	17 - 181
Vinyl chloride	ND		25.0	32.0		ug/L		128	10 - 251
Xylenes, Total	ND		50.0	49.8		ug/L		100	

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*60 - 140*
Dibromofluoromethane (Surr)	*99*		*60 - 140*
Toluene-d8 (Surr)	*101*		*60 - 140*

Lab Sample ID: 570-81928-B-1 MSD **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 664976

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		25.0	25.5		ug/L		102	52 - 162	4	36
1,1,2,2-Tetrachloroethane	ND		25.0	26.0		ug/L		104	46 - 157	3	61
1,1,2-Trichloroethane	ND		25.0	23.9		ug/L		95	52 - 150	0	45
1,1-Dichloroethane	ND		25.0	25.9		ug/L		103	59 - 155	1	40
1,1-Dichloroethene	ND		25.0	28.2		ug/L		113	10 - 234	0	32
1,2-Dichloro-1,1,2-trifluoroethane	ND		25.0	26.4		ug/L		106	60 - 140	11	35
1,2-Dichlorobenzene	ND		25.0	25.5		ug/L		102	18 - 190	4	57
1,2-Dichloroethane	ND		25.0	25.0		ug/L		100	49 - 155	1	49
1,2-Dichloropropane	ND		25.0	26.1		ug/L		105	10 - 210	1	55
1,3-Dichlorobenzene	ND		25.0	26.7		ug/L		107	59 - 156	0	43
1,4-Dichlorobenzene	ND		25.0	25.5		ug/L		102	18 - 190	0	57
2-Chloroethyl vinyl ether	ND		25.0	27.3		ug/L		109	10 - 305	9	71
Acrolein	ND		24.7	18.7		ug/L		76	40 - 160	11	60
Acrylonitrile	ND		250	245		ug/L		98	40 - 160	4	60
Benzene	ND		25.0	25.5		ug/L		102	37 - 151	2	61
Bromodichloromethane	ND		25.0	24.7		ug/L		99	35 - 155	1	56
Bromoform	ND		25.0	23.3		ug/L		93	45 - 169	2	42
Bromomethane	ND		25.0	26.9		ug/L		108	10 - 242	7	61
Carbon tetrachloride	ND		25.0	26.9		ug/L		108	70 - 140	3	41
Chlorobenzene	ND		25.0	25.2		ug/L		101	37 - 160	1	53
Chloroethane	ND		25.0	25.8		ug/L		103	14 - 230	7	78
Chloroform	ND		25.0	24.5		ug/L		98	51 - 138	1	54
Chloromethane	ND		25.0	27.3		ug/L		109	10 - 273	9	60
cis-1,2-Dichloroethene	ND		25.0	25.0		ug/L		100	60 - 140	0	35
cis-1,3-Dichloropropene	ND		25.0	25.2		ug/L		101	10 - 227	1	58
Dibromochloromethane	ND		25.0	25.1		ug/L		100	53 - 149	3	50
Ethylbenzene	ND		25.0	24.0		ug/L		96	37 - 162	5	63
m,p-Xylene	ND		25.0	23.3		ug/L		93	60 - 140	4	35
Methylene Chloride	ND		25.0	23.7		ug/L		95	10 - 221	4	28
Naphthalene	ND		25.0	24.8		ug/L		99	60 - 140	6	35
o-Xylene	ND		25.0	24.2		ug/L		97	60 - 140	5	35
Tetrachloroethene	ND		25.0	25.6		ug/L		102	64 - 148	4	39
Toluene	ND		25.0	24.9		ug/L		100	47 - 150	5	41
trans-1,2-Dichloroethene	ND		25.0	25.2		ug/L		101	54 - 156	1	45

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-81928-B-1 MSD
Matrix: Water
Analysis Batch: 664976

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,3-Dichloropropene	ND		25.0	26.0		ug/L		104	17 - 183	8	86
Trichloroethene	ND		25.0	25.8		ug/L		103	70 - 157	1	48
Trichlorofluoromethane	ND		25.0	24.7		ug/L		99	17 - 181	7	84
Vinyl chloride	ND		25.0	30.0		ug/L		120	10 - 251	6	66
Xylenes, Total	ND		50.0	47.5		ug/L		95		5	

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*60 - 140*
Dibromofluoromethane (Surr)	*98*		*60 - 140*
Toluene-d8 (Surr)	*96*		*60 - 140*

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 570-208714/5
Matrix: Water
Analysis Batch: 208714

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		50	30	ug/L			01/21/22 12:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*20 - 144*		*01/21/22 12:46*	*1*

Lab Sample ID: LCS 570-208714/3
Matrix: Water
Analysis Batch: 208714

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (C4-C13)			1970	1990		ug/L		101	71 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*20 - 144*

Lab Sample ID: LCSD 570-208714/4
Matrix: Water
Analysis Batch: 208714

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)			1970	1960		ug/L		100	71 - 120	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*20 - 144*

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: 570-82258-K-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208714

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (C4-C13)	ND		1970	1840		ug/L		93	54 - 125		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*20 - 144*

Lab Sample ID: 570-82258-K-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208714

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	ND		1970	1970		ug/L		100	54 - 125	6	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*20 - 144*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 570-208668/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208750 — **Prep Batch: 208668**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C28	ND		0.050	0.036	mg/L		01/21/22 09:10	01/21/22 15:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*86*		*53 - 151*	*01/21/22 09:10*	*01/21/22 15:32*	*1*

Lab Sample ID: LCS 570-208668/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208750 — **Prep Batch: 208668**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C28			4.00	4.39		mg/L		110	70 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane (Surr)	*101*		*53 - 151*

Lab Sample ID: LCSD 570-208668/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208750 — **Prep Batch: 208668**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28			4.00	4.78		mg/L		119	70 - 131	9	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane (Surr)	*103*		*53 - 151*

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-208430/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 208529
Prep Batch: 208430

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	ND		1.0	0.51	mg/L		01/20/22 09:08	01/20/22 09:08	1

Lab Sample ID: LCS 570-208430/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 208529
Prep Batch: 208430

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM: Oil and Grease	40.0	38.6		mg/L		97	78 - 114

Lab Sample ID: LCSD 570-208430/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 208529
Prep Batch: 208430

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM: Oil and Grease	40.0	36.5		mg/L		91	78 - 114	6	18

Lab Sample ID: 440-294401-A-1-A MS
Client Sample ID: Matrix Spike
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 208529
Prep Batch: 208430

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM: Oil and Grease	2.6		39.7	40.5		mg/L		95	78 - 114

Lab Sample ID: 440-294401-B-1-A MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 208529
Prep Batch: 208430

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM: Oil and Grease	2.6		39.5	40.6		mg/L		96	78 - 114	0	18

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 440-665384/3
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 665384

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			01/26/22 10:44	1

Lab Sample ID: LCS 440-665384/4
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 665384

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	687	679		umhos/cm		99	90 - 110

Client: Haley & Aldrich, Inc.
Job ID: 570-82057-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab

Method: SM 2510B - Conductivity, Specific Conductance (Continued)

Lab Sample ID: 570-82057-1 DU
Client Sample ID: Outfall001_20220119_Grab
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 665384

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Specific Conductance	250			252		umhos/cm				0	5

GC/MS VOA

Analysis Batch: 664976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82057-1	Outfall001_20220119_Grab	Total/NA	Water	624.1	
570-82057-3	TB-20220119	Total/NA	Water	624.1	
MB 440-664976/4	Method Blank	Total/NA	Water	624.1	
LCS 440-664976/1002	Lab Control Sample	Total/NA	Water	624.1	
LCS 440-664976/1003	Lab Control Sample	Total/NA	Water	624.1	
570-81928-A-1 MS	Matrix Spike	Total/NA	Water	624.1	
570-81928-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	624.1	

GC VOA

Analysis Batch: 208714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82057-1	Outfall001_20220119_Grab	Total/NA	Water	8015B	
MB 570-208714/5	Method Blank	Total/NA	Water	8015B	
LCS 570-208714/3	Lab Control Sample	Total/NA	Water	8015B	
LCSD 570-208714/4	Lab Control Sample Dup	Total/NA	Water	8015B	
570-82258-K-4 MS	Matrix Spike	Total/NA	Water	8015B	
570-82258-K-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B	

GC Semi VOA

Prep Batch: 208668

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82057-1	Outfall001_20220119_Grab	Total/NA	Water	3510C	
MB 570-208668/1-A	Method Blank	Total/NA	Water	3510C	
LCS 570-208668/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 570-208668/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 208750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-208668/1-A	Method Blank	Total/NA	Water	8015B	208668
LCS 570-208668/2-A	Lab Control Sample	Total/NA	Water	8015B	208668
LCSD 570-208668/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	208668

Analysis Batch: 209434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82057-1	Outfall001_20220119_Grab	Total/NA	Water	8015B	208668

General Chemistry

Prep Batch: 208430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82057-1	Outfall001_20220119_Grab	Total/NA	Water	1664A	
MB 570-208430/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-208430/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-208430/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	
440-294401-A-1-A MS	Matrix Spike	Total/NA	Water	1664A	
440-294401-B-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1664A	

Analysis Batch: 208529

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82057-1	Outfall001_20220119_Grab	Total/NA	Water	1664A	208430

General Chemistry (Continued)

Analysis Batch: 208529 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-208430/1-A	Method Blank	Total/NA	Water	1664A	208430
LCS 570-208430/2-A	Lab Control Sample	Total/NA	Water	1664A	208430
LCSD 570-208430/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	208430
440-294401-A-1-A MS	Matrix Spike	Total/NA	Water	1664A	208430
440-294401-B-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1664A	208430

Analysis Batch: 665055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82057-1	Outfall001_20220119_Grab	Total/NA	Water	SM 2540F	

Analysis Batch: 665384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82057-1	Outfall001_20220119_Grab	Total/NA	Water	SM 2510B	
MB 440-665384/3	Method Blank	Total/NA	Water	SM 2510B	
LCS 440-665384/4	Lab Control Sample	Total/NA	Water	SM 2510B	
570-82057-1 DU	Outfall001_20220119_Grab	Total/NA	Water	SM 2510B	

Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 570-82057-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab

Client Sample ID: Outfall001_20220119_Grab
Lab Sample ID: 570-82057-1
Date Collected: 01/19/22 10:30 **Matrix: Water**
Date Received: 01/19/22 18:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	664976	01/21/22 00:53	N1A	IRV 2
	Instrument ID: GCMS13									
Total/NA	Analysis	8015B		1	5 mL	5 mL	208714	01/21/22 17:18	A9VE	ECL 2
	Instrument ID: GC1									
Total/NA	Prep	3510C			258.9 mL	2.5 mL	208668	01/21/22 09:10	UFLU	ECL 1
Total/NA	Analysis	8015B		1			209434	01/26/22 00:02	A1W	ECL 1
	Instrument ID: GC47									
Total/NA	Prep	1664A			966 mL	1000 mL	208430	01/20/22 09:08	UWEZ	ECL 1
Total/NA	Analysis	1664A		1			208529	01/20/22 09:08	L6IE	ECL 1
	Instrument ID: ICPMS05									
Total/NA	Analysis	SM 2510B		1			665384	01/26/22 10:44	VY3D	IRV 2
	Instrument ID: COND13									
Total/NA	Analysis	SM 2540F		1			665055	01/21/22 09:18	W1BQ	IRV 2
	Instrument ID: NOEQUIP									

Client Sample ID: TB-20220119
Lab Sample ID: 570-82057-3
Date Collected: 01/19/22 10:30 **Matrix: Water**
Date Received: 01/19/22 18:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	664976	01/21/22 01:22	N1A	IRV 2
	Instrument ID: GCMS13									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-82057-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
624.1		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
624.1		Water	1,2-Dichloro-1,1,2-trifluoroethane
624.1		Water	cis-1,2-Dichloroethene
624.1		Water	Cyclohexane
624.1		Water	Naphthalene
624.1		Water	Xylenes, Total

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82057-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	IRV 2
8015B	Gasoline Range Organics - (GC)	SW846	ECL 2
8015B	Diesel Range Organics (DRO) (GC)	SW846	ECL 1
1664A	HEM and SGT-HEM	1664A	ECL 1
SM 2510B	Conductivity, Specific Conductance	SM	IRV 2
SM 2540F	Solids, Settleable	SM	IRV 2
Subcontract	9223- Colilert 18 - E. Coli - level 4 required	None	Enthalpy
1664A	HEM and SGT-HEM (Aqueous)	1664A	ECL 1
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ECL 1
5030C	Purge and Trap	SW846	ECL 2

Protocol References:

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82057-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-82057-1	Outfall001_20220119_Grab	Water	01/19/22 10:30	01/19/22 18:20
570-82057-3	TB-20220119	Water	01/19/22 10:30	01/19/22 18:20

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 457058
Report Level: IV
Report Date: 02/02/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDES SSFL Outfall - Outfall 001 Grab #570-82057

Authorized for release by:

Quynhgiao Le

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	Lab Job #: Project No: Location: Date Received:	457058 BOEING NPDES SSFL Boeing NPDES SSFL Outfall - Outfall 001 Grab #570-82057 01/19/22

Sample ID	Lab ID	Collected	Matrix
OUTFALL001_20220119_GRAB (570-82057-1)	457058-001	01/19/22 10:30	Water

ENTHALPY ANALYTICAL

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Virendra Patel	Lab Job Number:	457058
	Project No:	BOEING NPDES SSFL
	Location:	Boeing NPDES SSFL Outfall - Outfall 001 Grab #570-82057
	Date Received:	01/19/22

This data package contains sample and QC results for one water sample, requested for the above referenced project on 01/19/22. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

457058

Chain of Custody Record

C570-82057

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-151998.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-82057-1
Address: 931 W. Barkley Ave, ,	Due Date Requested: 2/1/2022			
City: Orange	TAT Requested (days): Standard TAT			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Grab	Project #: 570-82057			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	SUB (9223- Colilert 18 - E. Coli - level 4 required)	Special Instructions/Note:
Outfall001_20220119_Grab (570-82057-1)	1/19/22	10:30 Pacific		Water	X	Run and report 1x, 10x, and 100x dilutions - level 4
						1.2, 0.8

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	01/19/22	EC	[signature]	1/19/22 17:30	EA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Calscience

Project: _____

Date Received: 1/19/22

Sampler's Name Present: ☐ Yes ☑ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2)

Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 1.2 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: temp for vials, ambient for air

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 0.9 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓		
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	✓		✓ CR 1/19/22
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?	✓		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✓
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____ ☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 1/19/22

Enthalpy Analytical, a subsidiary of Montrose Environmental Group ,Inc.
931 W. Barkley Ave, Orange, CA 92868 • T: (714) 771-6900 • F: (714) 538-1209
www.enthalpy.com/socal

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 457058 **Project#:** BOEING NPDES SSFL

Client: Eurofins Calscience Tustin **Location:** Boeing NPDES SSFL Outfall - Outfal...

Field ID:	OUTFALL001_20220119_GRAB (570-82057-1)	**Batch#:**	282142	**Analyzed:**	01/20/22 13:10
Lab ID:	457058-001	**Sampled:**	01/19/22 10:30	**Prep:**	
Matrix:	Water	**Received:**	01/19/22	**Analysis:**	SM 9223Bb
Dil'n Fac:	1.000	**Prepared:**	01/19/22 17:40	**Analyst:**	SMT

Analyte	Result	RL	Units
Coliform, E. Coli	**9.7**	1.0	MPN/100ml

Legend

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: ST Prep Date/Time: 01/19/22 1740 QC Batch ID: 282142 Batch Page 1 of 1

Read Analyst: ST Read Date/Time 01/20/22 1310

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: HT510 Pipette Lot #: A103909

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 1/4/22 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: MU Incubator In, Temp/Time: 34.9 1750 Incubator Out, Temp/Time: 34.9 1310

Fecal Coliform: Water Bath ID: N/A Water Bath In, Temp/Time: N/A Water Bath Out, Temp/Time: N/A

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
ECL-GG		457058-001	1X	49	48	>2419.6	>2400	8	1	9.7	9.7					EC-01
↓		↓	10X	49	32	686.7	6900	0	0	<1	<10					↓
			100X	41	8	98.7	9900	0	0	<1	<100					
Quality Control		Culture ID														
Positive +/+ (E. Coli)		1/16/22		49	48	>2419.6	>2400	49	48	>2419.6	>2400					
Positive +/- (K. Pneumonia)		↓		49	48	>2419.6	>2400	0	0	<1	<1					
Negative -/- (P. Aeruginosa)				0	0	<1	<1	0	0	<1	<1					

1/24/22

1/24/22

Data Entered By: 1/24/22 Data Reviewed By:

82057

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-82057 Chain of Custody

VLJ OUVKT

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Grab
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	**Project Manager: Katherine Miller** 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	**Field Manager: Mark Dominick** 978.234.5033, 818.599.0702 (cell)
Sampler: Adrian Mobeka	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	MST-Bacteroidates, Human (SAM348-357) Source Molecular in Miami Lakes, FL	E. coli (SM9221) Enthalpy Analytical Orange, CA	Settleable Solids (E160.5 (SM2540F))	Conductivity (SM2510B / E120.1)	Oil & Grease (E1664A-HEM)	VOCs + VOCs PP + xylenes, Freon 11 Freon 113, Freon 123A, Cyclohexane, cis-1,2-DCE (E624)	VOCs - only A+A+2CVE (E624)	TPH: gas (GRO(C4-C12)) (SW8015B)	TPH: diesel/jet fuel (DRO (C13-C28)) (SW8015B)				Comments
									A	A	R	R	R	R/Q/A	A	A	A				
Outfall 001	Outfall001_20220119_Grab	1/19/2022 1030 *	WM	125mL Sterile Poly	1	None	5	No	X												Deliver to lab ASAP 8 hr hold time
			WM	125mL Sterile Poly	3	$Na_2S_2O_3$	10	No		X											Deliver to lab ASAP 8 hr hold ms. Need 0x 100x dilution
			WM	1 L Glass Amber	2	HCl	15	No					X								
			WM	40 mL VOA	3	HCl	45	No						X							
			WM	40 mL VOA	3	None	55	No							X						
			WM	40 mL VOA	3	HCl	60	No								X					
			WM	1 L Glass Amber	2	None	65	No									X				
			WM	1 L Poly	1	None	70	No			X										
			WM	500 mL Poly	1	None	75	No				X									
	Outfall001_20220119_Grab_Extra	1/19/2022 1030	WM	1 L Glass Amber	2	HCl	15	No					H								Hold
			WM	40 mL VOA	3	HCl	45	No						H							Hold
			WM	40 mL VOA	3	None	55	No							H						Hold
			WM	500 mL Poly	1	None	75	No				H									Hold
Trip Blanks	TB-20220119	1/19/2022 1030	WQ	40 mL VOA	2	HCl	45	No						X							
			WQ	40 mL VOA	2	None	55	No							X						

Field Readings	Meter serial #
Field Readings: (Include units)	
Time of Readings: 1030	
DO 1.32 mg/L	
pH 7.80 pH unit	
Temp 51.6 °C/°F	
TRC 0.00 mg/L	
Field readings QC	
Checked by:	
Date/Time: 1-19-2022 1030	

Legend: A=Annual, R=Routine, Q=Quarterly

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	1-19-2022	1400 H&A		ECI 01/19/22 1400
	01/19/22	18:20 ECI		1/19/22 1820

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: X
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV: _____ All Level IV: X

*Shipped via FedEx to Source Molecular

2.2|3.7 SCG

2/2/2022
2019-2020 Rainy Season
Version 5

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82057-1

Login Number: 82057

List Number: 1

Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82057-1

Login Number: 82057
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 01/20/22 05:41 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

LUMINULTRA®

15280 NW 79th Court, Suite 107 Miami Lakes, Florida 33016

ACCREDITED CERT#4126.01

Fecal Host Quantification ID Test Results Report

Detection and quantification of the fecal host associated gene biomarker by quantitative Polymerase Chain Reaction (qPCR) DNA analytical technology

ND: Not Detected DNQ: Detected, Not Quantifiable ROQ: Detected, Quantifiable

Submitter: Haley and Aldrich
Report Generated: 1/24/2022

SM #	Sample ID	Date Collected	Time Collected	Analysis Requested	Ct, Rep1	Ct, Rep2	Marker Quantified	Results Qualifier	LOD (Limit of detection)	LOQ (Limit of Quantification)	Result Unit
SM22A20148	Outfall001_20220119_Grab	1/19/2022	10:30 AM	Human_HF183	ND	ND	0.00E+00	ND	1.50E+02	5.00E+02	copies per 100ml

Reported Results Authorized By: Anda Quintero, Quality Manager

Results reported herein apply only to the sample matrices as received.
Results reported herein relate to the genetic material extracted from the sample matrix processed and included in the analysis.

LUMINULTRA®

15280 NW 79th Court, Suite 107 Miami Lakes, Florida 33016

ACCREDITED CERT#4126.01

Fecal Host Quantification ID Test Results Report

Sample Processing and Analysis Information

Submitter: Haley and Aldrich
Report Generated: 1/24/2022

SM #	Sample ID	Analysis Requested	Sample Type	Processed Date	Extraction Date	Analysis Date	Amount Processed	Amount Processed Unit	Analytical Volume (ul)	PCR Plate ID	Sample Comments
SM22A20148	Outfall001_20220119_Grab	Human_HF183	Water	1/20/2022	1/21/2022	1/21/2022	100	ml	2	20220121_q01	

Reported Results Authorized By: Anda Quintero, Quality Manager

Results reported herein apply only to the sample matrices as received.
Results reported herein relate to the genetic material extracted from the sample matrix processed and included in the analysis.

LUMINULTRA

15280 NW 79th Court, Suite 107 Miami Lakes, Florida 33016

ACCREDITED CERT#4126.01

Fecal Host Quantification ID Test Results Report

qPCR Analysis QAQC information

Submitter: Haley and Aldrich
Report Generated: 1/24/2022

Analysis Requested	PCR Plate ID	Y-intercept	Slope	R^2	Efficiency %	NTC1 (no template control)	NTC2 (no template control)	NTC3 (no template control)	Positive control Ct (if applicable)	Comments
Human_HF183	20220121_q01	36.071	-3.31	0.996	100.509	ND	ND	ND		

Reported Results Authorized By: Anda Quintero, Quality Manager

Results reported herein apply only to the sample matrices as received.
Results reported herein relate to the genetic material extracted from the sample matrix processed and included in the analysis.

Revision 2.1
Effective Date: 11/1/2021

Laboratory Comments

Submitter: Haley and Aldrich
Report Generated: 1/24/2022

Non-Detect (ND) Results
In sample(s) classified as non-detect, the host-associated fecal gene biomarker(s) was either not detected in test replicates, one replicate was detected at a cycle threshold greater than 35 and the other was not, or one replicate was detected at a cycle threshold less than 35 and the other was not after repeated analysis.

Detected Not Quantified (DNQ) Results
In sample(s) classified as Detected Not Quantified (DNQ), the host-associated fecal biomarker was detected in both test replicates but in quantities below the limit of quantification (LOQ, see below). This result indicates that fecal indicators associated with the respective host was present in the sample(s) but in low concentrations, and the confidence of such quantification will be lower than that declared by the definition of LOQ.

Quantifiable Results (ROQ)
Sample results are within the range of quantification of calibration curves (standard curves) of a validation qPCR method. For most qPCR assays, the range is 1E1 to 1E5 copies/reaction. Copy number measurements reported are relative, not absolute, quantification.

LOD (Limit of Detection, lower)
A general consensus was reached around the definition of the LOD as the lowest amount of analyte, which can be detected with more than a stated percentage of confidence (95%), but, not necessarily quantified as an exact value. It must be noted that LOD is not a limiting value and therefore, that Ct vlaues below the LOD cannot automatically be considered as negative. From the definition of LOD, it is evident that values below LOD are absolutely valid in terms of microornanism prescence. However, the probabality of their repeated detection is lower than 95%.

LOQ (Limit of Quantification, lower)
The LOQ was defined as the smallest amount of analyte, which can be measured and quantified with defined precision and accuracy under the experimental conditions by the method under validation. Numerically, the LOQ is defined as the lowest concentration of analyte, which gives a predefined variability (coeffecient of variation, CV) of under 25%.

Inhibition check
A 1:10 dilution of the original sample is analyzed togther each time with the undiluted sample to evaluate the effect of PCR inhibition. If the sample is inhibited, where 1:10 dilution produces a high signal than undiluted sample, the 1:10 dilution results will be used for quantification. The use of 1:10 dilution sample results will be reflected in Analytical Volume(ul). For example, if the analytical volume for undiluted sample is 2ul, the analytical volume for 1:10 dilution will be 0.2ul.

Fecal Reference Samples
The client is encouraged to submit fecal samples from suspected sources in the surrounding area in order to gain a better understanding of the concentration of the host-associated biomarker with the regional population. A more precise interpretation would be available to the client with the submittal of such baseline samples.

Result Interpretations
The presence of the biomarker does not signify the presence or absence of that form of fecal pollution conclusively. The most reliable way to accurately test for contamination is to combine genetic testing with scientifically sound and adequate study design appropriate for the environmental quality questions to be answered or issues to be resolved.

Additional Testing
A portion of all samples has been frozen and will be archived for 3 months. The client is encouraged to perform additional tests on the sample(s) for other hosts suspected of contributing to the fecal contamination.

Qualitification Assay Results (Detected/Non-Detected only)
Such results are only reported as Detected or Non-Detected without quantification. Non-Detected results are defined as stated above, and Detected results are defined as detected Ct in both replicate qPCR reactions.

Limitation of Damages – Repayment of Service Price
It is agreed that in the event of breach of any warranty or breach of contract, or negligence of LuminUltra Technologies Inc, as well as its agents or representatives, the liability of the company shall be limited to the repayment, to the purchaser (submitter), of the individual analysis price paid by him/her to LuminUltra Technologies Inc. The company shall not be liable for any damages, either direct or consequentialLuminUltra Technologies Inc provides analytical services on a PRIME CONTRACT BASIS ONLY. Terms are available upon request. The sample(s) cited in this report may be used for research purposes after an archiving period of 3 months from the date of this report. Research includes, but is not limited to internal validation studies and peer-reviewed research publications. Anonymity of the sample(s), including the exact geographic location will be maintained by assigning an arbitrary internal reference. These anonymous samples will only be grouped by state / province of origin for research purposes. The client must contact LuminUltra Technologies Inc in writing within 10 days from the date of this report if he/she does not wish for their submitted sample(s) to be used for any type of future research.

DNA Analytical Method Explanation
Water Samples: Each submitted water sample is filtered through 0.45 micron membrane filter(s). Each filter is placed in a separate, sterile 2ml disposable tube containing a unique mix of beads and lysis buffer. The sample is homogenized for and the DNA extracted per kit manufacturer's protocol. Devitations to these procedures may occur at the client's request.

Non-Water Samples: Each non-water sample submitted by the client is processed as per internal laboratory extraction procedures. An extracted DNA sample is proceed directly to PCR analysis. Details available upon request.

Amplifications to detect the target gene biomarker were run in a final reaction volume of 20ul sample extract, forward primer, reverse primer, probe and an optimized buffer. All assays are run in duplicate. Quantification is achieved by extrapolating target gene copy numbers from a standard curve generated from serial dilutions of known gene copy numbers.

For quality control purposes, a positive control and a negative control, were run alongside the sample(s) to ensure a properly functioning reaction and reveal any false negatives or false positives.

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-82066-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp
Revision: 1

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
3/17/2022 1:57:28 PM

Virendra Patel, Project Manager I
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Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
BA	Relative percent difference out of control
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LR	LCS/LCSD recovery below method control limits

GC Semi VOA

Qualifier	Qualifier Description
PI	Primary and confirm results varied by > than 40% RPD

HPLC/IC

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
EY	Result exceeds normal dynamic range; reported as a min. est.
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Metals

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

General Chemistry

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LN	MS and/or MSD below acceptance limits. See Blank Spike (LCS)

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: Haley & Aldrich, Inc. Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Job ID: 570-82066-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-82066-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 2/4/2022. The report (revision 1) is being revised due to: The PDF and EDD files have been revised to include the analyte list requested on the COC..

Receipt
The samples were received on 1/19/2022 6:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.1º C, 3.1º C and 3.7º C.

Receipt Exceptions

The following samples were received at the laboratory without a sample collection time documented on the chain of custody: Outfall001_20220119_Comp (570-82066-1), Outfall001_20220119_Comp_Extra (570-82066-2) and Outfall001_20220119_Comp_F (570-82066-3).

Logged in per collection time in labels (10:30am for all samples).

The clients office was contacted with the above sample receipt anomalies. The laboratory was provided written direction on how to proceed, please refer to the COC section of the report for further details.

GC/MS VOA
Method 8260B SIM: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-210396.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method 625.1 SIM: The following analyte(s) recovered outside control limits for the LCS/ associated with preparation batch 570-209053 and analytical batch 570-209773: 2-Chloronaphthalene and 4,6-Dinitro-2-methylphenol. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method 625.1 SIM: The following analyte(s) recovered outside control limits for the LCSD associated with preparation batch 570-209053 and analytical batch 570-209773: 2-Chloronaphthalene. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method 625.1 SIM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 570-209053 and analytical batch 570-209773 recovered outside control limits for the following analytes: Hexachlorocyclopentadiene and Di-n-octyl phthalate.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall001_20220119_Comp_F (570-82066-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been

Job ID: 570-82066-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

reported.

Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for 440-666079 contained Chromium above the method detection limit (MDL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed. (CCB 440-666079/21)

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall001_20220119_Comp_F (570-82066-3). These samples were filtered and preserved upon receipt to the laboratory.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method SM 5540C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 440-665021 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-208417. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 608.3 PEST/PCB

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-209053. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 625.1 Sim

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Client Sample ID: Outfall001_20220119_Comp
Lab Sample ID: 570-82066-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	30		2.5	1.3	mg/L	5		300.0	Total/NA
Nitrate as N	1.5		0.11	0.055	mg/L	1		300.0	Total/NA
Sulfate	29		0.50	0.25	mg/L	1		300.0	Total/NA
Nitrate Nitrite as N	1.5		0.15	0.055	mg/L	1		NO3NO2 Calc	Total/NA
Barium	21		10	2.2	ug/L	1		200.7 Rev 4.4	Total Recoverable
Boron	95		50	25	ug/L	1		200.7 Rev 4.4	Total Recoverable
Iron	150		100	50	ug/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	21		20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Copper	3.9		2.0	0.50	ug/L	1		200.8	Total Recoverable
Antimony	0.69	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Hardness, as CaCO3	62		0.91	0.17	mg/L	1		SM 2340B	Total Recoverable
Turbidity	3.1		0.10	0.05	NTU	1		180.1	Total/NA
Total Dissolved Solids	150		10	3.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	3.5		1.0	0.50	mg/L	1		SM 2540D	Total/NA
Ammonia (as N)	0.129	J,DX	0.200	0.100	mg/L	1		SM 4500 NH3 G	Total/NA
Carbon, Total Organic	10		0.50	0.26	mg/L	1		SM 5310D	Total/NA
Methylene Blue Active Substances	0.16		0.10	0.050	mg/L	1		SM 5540C	Total/NA

Client Sample ID: Outfall001_20220119_Comp_F
Lab Sample ID: 570-82066-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	22		10	2.2	ug/L	1		200.7 Rev 4.4	Dissolved
Boron	94		50	25	ug/L	1		200.7 Rev 4.4	Dissolved
Manganese	7.0	J,DX	20	6.8	ug/L	1		200.7 Rev 4.4	Dissolved
Copper	4.9		2.0	0.50	ug/L	1		200.8	Dissolved
Antimony	0.72	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Hardness, as CaCO3	64		0.91	0.17	mg/L	1		SM 2340B	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall001_20220119_Comp
Lab Sample ID: 570-82066-1
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.55	ug/L			01/31/22 18:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dichlorobutane (Surr)	*128*		*67 - 133*		*01/31/22 18:13*	*1*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: Outfall001_20220119_Comp
Lab Sample ID: 570-82066-1
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 23:35	1
1,2-Dichlorobenzene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 23:35	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.20	0.069	ug/L		01/24/22 09:57	01/26/22 23:35	1
1,3-Dichlorobenzene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 23:35	1
1,4-Dichlorobenzene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 23:35	1
2,4,6-Trichlorophenol	ND		1.0	0.16	ug/L		01/24/22 09:57	01/26/22 23:35	1
2,4-Dichlorophenol	ND		1.0	0.097	ug/L		01/24/22 09:57	01/26/22 23:35	1
2,4-Dimethylphenol	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 23:35	1
2,4-Dinitrophenol	ND		5.0	4.6	ug/L		01/24/22 09:57	01/26/22 23:35	1
2,4-Dinitrotoluene	ND		0.20	0.11	ug/L		01/24/22 09:57	01/26/22 23:35	1
2,6-Dinitrotoluene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 23:35	1
2-Chloronaphthalene	ND	LR	0.20	0.14	ug/L		01/24/22 09:57	01/26/22 23:35	1
2-Chlorophenol	ND		0.20	0.082	ug/L		01/24/22 09:57	01/26/22 23:35	1
2-Nitrophenol	ND		5.0	4.1	ug/L		01/24/22 09:57	01/26/22 23:35	1
3,3'-Dichlorobenzidine	ND		5.0	1.6	ug/L		01/24/22 09:57	01/26/22 23:35	1
4,6-Dinitro-2-methylphenol	ND	LR	5.0	4.0	ug/L		01/24/22 09:57	01/26/22 23:35	1
4-Bromophenyl phenyl ether	ND		0.20	0.077	ug/L		01/24/22 09:57	01/26/22 23:35	1
4-Chloro-3-methylphenol	ND		1.0	0.12	ug/L		01/24/22 09:57	01/26/22 23:35	1
4-Chlorophenyl phenyl ether	ND		0.20	0.091	ug/L		01/24/22 09:57	01/26/22 23:35	1
4-Nitrophenol	ND		5.0	3.6	ug/L		01/24/22 09:57	01/26/22 23:35	1
Acenaphthene	ND		0.20	0.086	ug/L		01/24/22 09:57	01/26/22 23:35	1
Acenaphthylene	ND		0.20	0.084	ug/L		01/24/22 09:57	01/26/22 23:35	1
Anthracene	ND		0.20	0.073	ug/L		01/24/22 09:57	01/26/22 23:35	1
Benzidine	ND		5.0	2.3	ug/L		01/24/22 09:57	01/26/22 23:35	1
Benzo[a]anthracene	ND		0.20	0.070	ug/L		01/24/22 09:57	01/26/22 23:35	1
Benzo[a]pyrene	ND		0.20	0.20	ug/L		01/24/22 09:57	01/26/22 23:35	1
Benzo[b]fluoranthene	ND		0.20	0.10	ug/L		01/24/22 09:57	01/26/22 23:35	1
Benzo[g,h,i]perylene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 23:35	1
Benzo[k]fluoranthene	ND		0.20	0.077	ug/L		01/24/22 09:57	01/26/22 23:35	1
bis (2-chloroisopropyl) ether	ND		0.20	0.092	ug/L		01/24/22 09:57	01/26/22 23:35	1
Bis(2-chloroethoxy)methane	ND		0.20	0.15	ug/L		01/24/22 09:57	01/26/22 23:35	1
Bis(2-chloroethyl)ether	ND		0.20	0.098	ug/L		01/24/22 09:57	01/26/22 23:35	1
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		01/24/22 09:57	01/26/22 23:35	1
Butyl benzyl phthalate	ND		1.0	0.98	ug/L		01/24/22 09:57	01/26/22 23:35	1
Chrysene	ND		0.20	0.058	ug/L		01/24/22 09:57	01/26/22 23:35	1
Dibenz(a,h)anthracene	ND		0.20	0.14	ug/L		01/24/22 09:57	01/26/22 23:35	1
Diethyl phthalate	ND		2.0	0.13	ug/L		01/24/22 09:57	01/26/22 23:35	1
Dimethyl phthalate	ND		2.0	0.072	ug/L		01/24/22 09:57	01/26/22 23:35	1
Di-n-butyl phthalate	ND		2.0	1.9	ug/L		01/24/22 09:57	01/26/22 23:35	1
Di-n-octyl phthalate	ND	BA	3.0	0.64	ug/L		01/24/22 09:57	01/26/22 23:35	1
Fluoranthene	ND		0.20	0.097	ug/L		01/24/22 09:57	01/26/22 23:35	1
Fluorene	ND		0.20	0.081	ug/L		01/24/22 09:57	01/26/22 23:35	1
Hexachlorobenzene	ND		0.20	0.094	ug/L		01/24/22 09:57	01/26/22 23:35	1
Hexachlorobutadiene	ND		0.20	0.17	ug/L		01/24/22 09:57	01/26/22 23:35	1
Hexachlorocyclopentadiene	ND	BA	0.20	0.098	ug/L		01/24/22 09:57	01/26/22 23:35	1
Hexachloroethane	ND		0.20	0.15	ug/L		01/24/22 09:57	01/26/22 23:35	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.12	ug/L		01/24/22 09:57	01/26/22 23:35	1
Isophorone	ND		0.20	0.089	ug/L		01/24/22 09:57	01/26/22 23:35	1
Naphthalene	ND		0.20	0.098	ug/L		01/24/22 09:57	01/26/22 23:35	1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Client Sample ID: Outfall001_20220119_Comp **Lab Sample ID: 570-82066-1**
Date Collected: 01/19/22 10:30 **Matrix: Water**
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		0.20	0.097	ug/L		01/24/22 09:57	01/26/22 23:35	1
N-Nitrosodimethylamine	ND		0.20	0.14	ug/L		01/24/22 09:57	01/26/22 23:35	1
N-Nitrosodi-n-propylamine	ND		0.20	0.17	ug/L		01/24/22 09:57	01/26/22 23:35	1
N-Nitrosodiphenylamine	ND		0.20	0.096	ug/L		01/24/22 09:57	01/26/22 23:35	1
Pentachlorophenol	ND		1.0	0.11	ug/L		01/24/22 09:57	01/26/22 23:35	1
Phenanthrene	ND		0.20	0.074	ug/L		01/24/22 09:57	01/26/22 23:35	1
Phenol	ND		1.0	0.81	ug/L		01/24/22 09:57	01/26/22 23:35	1
Pyrene	ND		0.20	0.080	ug/L		01/24/22 09:57	01/26/22 23:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*61*		*28 - 127*	*01/24/22 09:57*	*01/26/22 23:35*	*1*
2-Fluorobiphenyl (Surr)	*40*		*31 - 120*	*01/24/22 09:57*	*01/26/22 23:35*	*1*
2-Fluorophenol	*34*		*17 - 120*	*01/24/22 09:57*	*01/26/22 23:35*	*1*
Nitrobenzene-d5	*49*		*27 - 120*	*01/24/22 09:57*	*01/26/22 23:35*	*1*
Phenol-d6 (Surr)	*23*		*10 - 120*	*01/24/22 09:57*	*01/26/22 23:35*	*1*
p-Terphenyl-d14 (Surr)	*58*		*45 - 120*	*01/24/22 09:57*	*01/26/22 23:35*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall001_20220119_Comp
Date Collected: 01/19/22 10:30
Date Received: 01/19/22 18:20

Lab Sample ID: 570-82066-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 11:56	1
alpha-BHC	ND		0.0013	0.00080	ug/L		01/20/22 05:44	01/21/22 11:56	1
beta-BHC	ND		0.0020	0.0017	ug/L		01/20/22 05:44	01/21/22 11:56	1
delta-BHC	ND		0.0013	0.0011	ug/L		01/20/22 05:44	01/21/22 11:56	1
gamma-BHC (Lindane)	ND		0.0013	0.00090	ug/L		01/20/22 05:44	01/21/22 11:56	1
Chlordane (technical)	ND		0.010	0.0065	ug/L		01/20/22 05:44	01/21/22 11:56	1
4,4'-DDD	ND		0.0013	0.00080	ug/L		01/20/22 05:44	01/21/22 11:56	1
4,4'-DDE	ND		0.0013	0.00050	ug/L		01/20/22 05:44	01/21/22 11:56	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		01/20/22 05:44	01/21/22 11:56	1
Dieldrin	ND		0.0013	0.00050	ug/L		01/20/22 05:44	01/21/22 11:56	1
Endosulfan I	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 11:56	1
Endosulfan II	ND		0.0013	0.00050	ug/L		01/20/22 05:44	01/21/22 11:56	1
Endosulfan sulfate	ND		0.0013	0.00060	ug/L		01/20/22 05:44	01/21/22 11:56	1
Endrin	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 11:56	1
Endrin aldehyde	ND		0.010	0.0051	ug/L		01/20/22 05:44	01/21/22 11:56	1
Heptachlor	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 11:56	1
Heptachlor epoxide	ND		0.0013	0.00040	ug/L		01/20/22 05:44	01/21/22 11:56	1
Toxaphene	ND		0.10	0.013	ug/L		01/20/22 05:44	01/21/22 11:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*40*	*PI*	*20 - 139*	*01/20/22 05:44*	*01/21/22 11:56*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: Outfall001_20220119_Comp
Lab Sample ID: 570-82066-1
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:21	1
Aroclor 1221	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:21	1
Aroclor 1232	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:21	1
Aroclor 1242	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:21	1
Aroclor 1248	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:21	1
Aroclor 1254	ND		0.10	0.052	ug/L		01/20/22 05:44	01/21/22 15:21	1
Aroclor 1260	ND		0.10	0.052	ug/L		01/20/22 05:44	01/21/22 15:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*54*		*20 - 154*	*01/20/22 05:44*	*01/21/22 15:21*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Client Sample ID: Outfall001_20220119_Comp
Lab Sample ID: 570-82066-1
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			01/20/22 08:54	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall001_20220119_Comp
Lab Sample ID: 570-82066-1
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**30**		2.5	1.3	mg/L			01/20/22 17:00	5
Nitrate as N	**1.5**		0.11	0.055	mg/L			01/20/22 16:44	1
Fluoride	ND		0.50	0.20	mg/L			01/20/22 16:44	1
Nitrite as N	ND		0.15	0.024	mg/L			01/20/22 16:44	1
Sulfate	**29**		0.50	0.25	mg/L			01/20/22 16:44	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: 314.0 - Perchlorate (IC)

Client Sample ID: Outfall001_20220119_Comp
Lab Sample ID: 570-82066-1
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			01/21/22 06:46	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: NO3NO2 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall001_20220119_Comp
Lab Sample ID: 570-82066-1
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	1.5		0.15	0.055	mg/L			01/31/22 13:54	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: Outfall001_20220119_Comp
Lab Sample ID: 570-82066-1
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/31/22 12:12	02/01/22 14:02	1
Barium	**21**		10	2.2	ug/L		01/31/22 12:12	02/01/22 14:02	1
Beryllium	ND		2.0	0.44	ug/L		01/31/22 12:12	02/01/22 14:02	1
Boron	**95**		50	25	ug/L		01/31/22 12:12	02/01/22 14:02	1
Chromium	ND		5.0	2.5	ug/L		01/31/22 12:12	02/01/22 14:02	1
Cobalt	ND		10	2.8	ug/L		01/31/22 12:12	02/01/22 14:02	1
Iron	**150**		100	50	ug/L		01/31/22 12:12	02/01/22 14:02	1
Manganese	**21**		20	6.8	ug/L		01/31/22 12:12	02/01/22 14:02	1
Nickel	ND		10	5.0	ug/L		01/31/22 12:12	02/01/22 14:02	1
Vanadium	ND		10	2.1	ug/L		01/31/22 12:12	02/01/22 14:02	1
Zinc	ND		20	12	ug/L		01/31/22 12:12	02/01/22 14:02	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: Outfall001_20220119_Comp_F
Lab Sample ID: 570-82066-3
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/26/22 17:34	01/27/22 13:25	1
Barium	**22**		10	2.2	ug/L		01/26/22 17:34	01/27/22 13:25	1
Beryllium	ND		2.0	0.44	ug/L		01/26/22 17:34	01/27/22 13:25	1
Boron	**94**		50	25	ug/L		01/26/22 17:34	01/27/22 13:25	1
Chromium	ND		5.0	2.5	ug/L		01/26/22 17:34	01/27/22 13:25	1
Cobalt	ND		10	2.8	ug/L		01/26/22 17:34	01/27/22 13:25	1
Iron	ND		100	50	ug/L		01/26/22 17:34	01/27/22 13:25	1
Manganese	**7.0**	**J,DX**	20	6.8	ug/L		01/26/22 17:34	01/27/22 13:25	1
Nickel	ND		10	5.0	ug/L		01/26/22 17:34	01/27/22 13:25	1
Vanadium	ND		10	2.1	ug/L		01/26/22 17:34	01/27/22 13:25	1
Zinc	ND		20	12	ug/L		01/26/22 17:34	01/27/22 13:25	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall001_20220119_Comp
Lab Sample ID: 570-82066-1
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		02/01/22 05:52	02/01/22 12:32	1
Cadmium	ND		1.0	0.25	ug/L		02/01/22 05:52	02/01/22 12:32	1
Copper	**3.9**		2.0	0.50	ug/L		02/01/22 05:52	02/01/22 12:32	1
Lead	ND		1.0	0.50	ug/L		02/01/22 05:52	02/01/22 12:32	1
Antimony	**0.69**	**J,DX**	2.0	0.50	ug/L		02/01/22 05:52	02/01/22 12:32	1
Selenium	ND		2.0	0.50	ug/L		02/01/22 05:52	02/01/22 12:32	1
Thallium	ND		1.0	0.20	ug/L		02/01/22 05:52	02/01/22 12:32	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall001_20220119_Comp_F
Lab Sample ID: 570-82066-3
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/26/22 15:00	01/27/22 12:00	1
Cadmium	ND		1.0	0.25	ug/L		01/26/22 15:00	01/27/22 12:00	1
Copper	**4.9**		2.0	0.50	ug/L		01/26/22 15:00	01/27/22 12:00	1
Lead	ND		1.0	0.50	ug/L		01/26/22 15:00	01/27/22 12:00	1
Antimony	**0.72**	**J,DX**	2.0	0.50	ug/L		01/26/22 15:00	01/27/22 12:00	1
Selenium	ND		2.0	0.50	ug/L		01/26/22 15:00	01/27/22 12:00	1
Thallium	ND		1.0	0.20	ug/L		01/26/22 15:00	01/27/22 12:00	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: 245.1 - Mercury (CVAA)

Client Sample ID: Outfall001_20220119_Comp
Lab Sample ID: 570-82066-1
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		02/01/22 10:46	02/01/22 15:27	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall001_20220119_Comp_F
Lab Sample ID: 570-82066-3
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.25	0.12	ug/L		01/28/22 14:30	01/31/22 18:20	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Client Sample ID: Outfall001_20220119_Comp
Lab Sample ID: 570-82066-1
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	62		0.91	0.17	mg/L			02/03/22 17:47	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Client Sample ID: Outfall001_20220119_Comp_F
Lab Sample ID: 570-82066-3
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	64		0.91	0.17	mg/L			02/01/22 17:48	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

General Chemistry

Client Sample ID: Outfall001_20220119_Comp
Lab Sample ID: 570-82066-1
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	**3.1**		0.10	0.05	NTU			01/20/22 10:58	1
Cr (III)	ND		1.0	0.50	ug/L			02/03/22 10:24	1
Total Dissolved Solids	**150**		10	3.0	mg/L			01/21/22 13:33	1
Total Suspended Solids	**3.5**		1.0	0.50	mg/L			01/25/22 15:21	1
Cyanide, Total	ND		5.0	2.5	ug/L		01/31/22 12:01	01/31/22 18:14	1
Ammonia (as N)	**0.129**	**J,DX**	0.200	0.100	mg/L			01/28/22 13:29	1
Carbon, Total Organic	**10**		0.50	0.26	mg/L			01/20/22 13:33	1
Methylene Blue Active Substances	**0.16**		0.10	0.050	mg/L			01/20/22 18:18	1
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			01/20/22 20:08	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	14DCBTN (67-133)						
570-82066-1	Outfall001_20220119_Comp	128						
LCS 570-210396/4	Lab Control Sample	124						
LCSD 570-210396/5	Lab Control Sample Dup	123						
MB 570-210396/8	Method Blank	117						

Surrogate Legend

14DCBTN = 1,4-Dichlorobutane (Surr)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	TBP (28-127)	FBP (31-120)	2FP (17-120)	NBZ (27-120)	PHL6 (10-120)	TPHd14 (45-120)	
570-82066-1	Outfall001_20220119_Comp	61	40	34	49	23	58	
LCS 570-209053/2-A	Lab Control Sample	56	43	36	46	22	52	
LCSD 570-209053/3-A	Lab Control Sample Dup	58	45	36	49	23	55	
MB 570-209053/1-A	Method Blank	55	46	38	60	24	56	

Surrogate Legend

TBP = 2,4,6-Tribromophenol
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL6 = Phenol-d6 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	TCX1 (20-139)						
570-82066-1	Outfall001_20220119_Comp	40 PI						
LCS 570-208417/2-A	Lab Control Sample	64						
LCSD 570-208417/3-A	Lab Control Sample Dup	58						
MB 570-208417/1-A	Method Blank	55						

Surrogate Legend

TCX = Tetrachloro-m-xylene

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	DCB1 (20-154)						
570-82066-1	Outfall001_20220119_Comp	54						
LCS 570-208417/4-A	Lab Control Sample	76						
LCSD 570-208417/5-A	Lab Control Sample Dup	76						
MB 570-208417/1-A	Method Blank	70						

Surrogate Legend

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-210396/8
Matrix: Water
Analysis Batch: 210396

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.55	ug/L			01/31/22 15:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dichlorobutane (Surr)	*117*		*67 - 133*		*01/31/22 15:37*	*1*

Lab Sample ID: LCS 570-210396/4
Matrix: Water
Analysis Batch: 210396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			20.0	21.8		ug/L		109	75 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dichlorobutane (Surr)	*124*		*67 - 133*

Lab Sample ID: LCSD 570-210396/5
Matrix: Water
Analysis Batch: 210396

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			20.0	23.1		ug/L		116	75 - 120	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dichlorobutane (Surr)	*123*		*67 - 133*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-209053/1-A
Matrix: Water
Analysis Batch: 209308

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209053

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
1,2-Dichlorobenzene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.20	0.069	ug/L		01/24/22 09:57	01/26/22 18:18	1
1,3-Dichlorobenzene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
1,4-Dichlorobenzene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
2,4,6-Trichlorophenol	ND		1.0	0.16	ug/L		01/24/22 09:57	01/26/22 18:18	1
2,4-Dichlorophenol	ND		1.0	0.097	ug/L		01/24/22 09:57	01/26/22 18:18	1
2,4-Dimethylphenol	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
2,4-Dinitrophenol	ND		5.0	4.6	ug/L		01/24/22 09:57	01/26/22 18:18	1
2,4-Dinitrotoluene	ND		0.20	0.11	ug/L		01/24/22 09:57	01/26/22 18:18	1
2,6-Dinitrotoluene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
2-Chloronaphthalene	ND		0.20	0.14	ug/L		01/24/22 09:57	01/26/22 18:18	1
2-Chlorophenol	ND		0.20	0.082	ug/L		01/24/22 09:57	01/26/22 18:18	1
2-Nitrophenol	ND		5.0	4.1	ug/L		01/24/22 09:57	01/26/22 18:18	1
3,3'-Dichlorobenzidine	ND		5.0	1.6	ug/L		01/24/22 09:57	01/26/22 18:18	1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: MB 570-209053/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 209308 **Prep Batch: 209053**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		5.0	4.0	ug/L		01/24/22 09:57	01/26/22 18:18	1
4-Bromophenyl phenyl ether	ND		0.20	0.077	ug/L		01/24/22 09:57	01/26/22 18:18	1
4-Chloro-3-methylphenol	ND		1.0	0.12	ug/L		01/24/22 09:57	01/26/22 18:18	1
4-Chlorophenyl phenyl ether	ND		0.20	0.090	ug/L		01/24/22 09:57	01/26/22 18:18	1
4-Nitrophenol	ND		5.0	3.6	ug/L		01/24/22 09:57	01/26/22 18:18	1
Acenaphthene	ND		0.20	0.086	ug/L		01/24/22 09:57	01/26/22 18:18	1
Acenaphthylene	ND		0.20	0.084	ug/L		01/24/22 09:57	01/26/22 18:18	1
Anthracene	ND		0.20	0.072	ug/L		01/24/22 09:57	01/26/22 18:18	1
Benzidine	ND		5.0	2.3	ug/L		01/24/22 09:57	01/26/22 18:18	1
Benzo[a]anthracene	ND		0.20	0.070	ug/L		01/24/22 09:57	01/26/22 18:18	1
Benzo[a]pyrene	ND		0.20	0.20	ug/L		01/24/22 09:57	01/26/22 18:18	1
Benzo[b]fluoranthene	ND		0.20	0.10	ug/L		01/24/22 09:57	01/26/22 18:18	1
Benzo[g,h,i]perylene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
Benzo[k]fluoranthene	ND		0.20	0.077	ug/L		01/24/22 09:57	01/26/22 18:18	1
bis (2-chloroisopropyl) ether	ND		0.20	0.092	ug/L		01/24/22 09:57	01/26/22 18:18	1
Bis(2-chloroethoxy)methane	ND		0.20	0.15	ug/L		01/24/22 09:57	01/26/22 18:18	1
Bis(2-chloroethyl)ether	ND		0.20	0.098	ug/L		01/24/22 09:57	01/26/22 18:18	1
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		01/24/22 09:57	01/26/22 18:18	1
Butyl benzyl phthalate	ND		1.0	0.98	ug/L		01/24/22 09:57	01/26/22 18:18	1
Chrysene	ND		0.20	0.058	ug/L		01/24/22 09:57	01/26/22 18:18	1
Dibenz(a,h)anthracene	ND		0.20	0.14	ug/L		01/24/22 09:57	01/26/22 18:18	1
Diethyl phthalate	ND		2.0	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
Dimethyl phthalate	ND		2.0	0.072	ug/L		01/24/22 09:57	01/26/22 18:18	1
Di-n-butyl phthalate	ND		2.0	1.9	ug/L		01/24/22 09:57	01/26/22 18:18	1
Di-n-octyl phthalate	ND		3.0	0.64	ug/L		01/24/22 09:57	01/26/22 18:18	1
Fluoranthene	ND		0.20	0.096	ug/L		01/24/22 09:57	01/26/22 18:18	1
Fluorene	ND		0.20	0.080	ug/L		01/24/22 09:57	01/26/22 18:18	1
Hexachlorobenzene	ND		0.20	0.094	ug/L		01/24/22 09:57	01/26/22 18:18	1
Hexachlorobutadiene	ND		0.20	0.17	ug/L		01/24/22 09:57	01/26/22 18:18	1
Hexachlorocyclopentadiene	ND		0.20	0.098	ug/L		01/24/22 09:57	01/26/22 18:18	1
Hexachloroethane	ND		0.20	0.15	ug/L		01/24/22 09:57	01/26/22 18:18	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.12	ug/L		01/24/22 09:57	01/26/22 18:18	1
Isophorone	ND		0.20	0.088	ug/L		01/24/22 09:57	01/26/22 18:18	1
Naphthalene	ND		0.20	0.098	ug/L		01/24/22 09:57	01/26/22 18:18	1
Nitrobenzene	ND		0.20	0.097	ug/L		01/24/22 09:57	01/26/22 18:18	1
N-Nitrosodimethylamine	ND		0.20	0.14	ug/L		01/24/22 09:57	01/26/22 18:18	1
N-Nitrosodi-n-propylamine	ND		0.20	0.17	ug/L		01/24/22 09:57	01/26/22 18:18	1
N-Nitrosodiphenylamine	ND		0.20	0.096	ug/L		01/24/22 09:57	01/26/22 18:18	1
Pentachlorophenol	ND		1.0	0.11	ug/L		01/24/22 09:57	01/26/22 18:18	1
Phenanthrene	ND		0.20	0.074	ug/L		01/24/22 09:57	01/26/22 18:18	1
Phenol	ND		1.0	0.80	ug/L		01/24/22 09:57	01/26/22 18:18	1
Pyrene	ND		0.20	0.080	ug/L		01/24/22 09:57	01/26/22 18:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*55*		*28 - 127*	*01/24/22 09:57*	*01/26/22 18:18*	*1*
2-Fluorobiphenyl (Surr)	*46*		*31 - 120*	*01/24/22 09:57*	*01/26/22 18:18*	*1*
2-Fluorophenol	*38*		*17 - 120*	*01/24/22 09:57*	*01/26/22 18:18*	*1*
Nitrobenzene-d5	*60*		*27 - 120*	*01/24/22 09:57*	*01/26/22 18:18*	*1*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: MB 570-209053/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 209308 **Prep Batch: 209053**

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d6 (Surr)	*24*		*10 - 120*	*01/24/22 09:57*	*01/26/22 18:18*	*1*
p-Terphenyl-d14 (Surr)	*56*		*45 - 120*	*01/24/22 09:57*	*01/26/22 18:18*	*1*

Lab Sample ID: LCS 570-209053/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 209773 **Prep Batch: 209053**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	20.0	13.1		ug/L		65	57 - 130
1,2-Dichlorobenzene	20.0	13.8		ug/L		69	41 - 100
1,2-Diphenylhydrazine(as Azobenzene)	20.0	12.5		ug/L		63	60 - 115
1,3-Dichlorobenzene	20.0	13.4		ug/L		67	39 - 100
1,4-Dichlorobenzene	20.0	13.5		ug/L		68	40 - 100
2,4,6-Trichlorophenol	20.0	14.9		ug/L		75	52 - 129
2,4-Dichlorophenol	20.0	14.3		ug/L		72	53 - 122
2,4-Dimethylphenol	20.0	13.9		ug/L		70	42 - 120
2,4-Dinitrophenol	20.0	11.6		ug/L		58	1 - 173
2,4-Dinitrotoluene	20.0	15.3		ug/L		77	48 - 127
2,6-Dinitrotoluene	20.0	15.6		ug/L		78	68 - 137
2-Chloronaphthalene	20.0	12.4	LR	ug/L		62	65 - 120
2-Chlorophenol	20.0	15.6		ug/L		78	36 - 120
2-Nitrophenol	20.0	14.6		ug/L		73	45 - 167
3,3'-Dichlorobenzidine	20.0	15.8		ug/L		79	8 - 213
4,6-Dinitro-2-methylphenol	20.0	8.57	LR	ug/L		43	53 - 130
4-Bromophenyl phenyl ether	20.0	13.3		ug/L		66	65 - 120
4-Chloro-3-methylphenol	20.0	13.9		ug/L		69	41 - 128
4-Chlorophenyl phenyl ether	20.0	14.3		ug/L		71	38 - 145
4-Nitrophenol	20.0	10.7		ug/L		54	13 - 129
Acenaphthene	20.0	13.5		ug/L		67	60 - 132
Acenaphthylene	20.0	15.4		ug/L		77	54 - 126
Anthracene	20.0	15.1		ug/L		75	43 - 120
Benzidine	20.0	6.14		ug/L		31	10 - 124
Benzo[a]anthracene	20.0	16.5		ug/L		82	42 - 133
Benzo[a]pyrene	20.0	18.7		ug/L		93	32 - 148
Benzo[b]fluoranthene	20.0	17.9		ug/L		89	42 - 140
Benzo[g,h,i]perylene	20.0	14.8		ug/L		74	1 - 195
Benzo[k]fluoranthene	20.0	14.0		ug/L		70	25 - 146
bis (2-chloroisopropyl) ether	20.0	15.5		ug/L		77	63 - 139
Bis(2-chloroethoxy)methane	20.0	12.4		ug/L		62	49 - 165
Bis(2-chloroethyl)ether	20.0	13.9		ug/L		70	43 - 126
Bis(2-ethylhexyl) phthalate	20.0	16.9		ug/L		84	29 - 137
Butyl benzyl phthalate	20.0	17.0		ug/L		85	1 - 140
Chrysene	20.0	14.2		ug/L		71	44 - 140
Dibenz(a,h)anthracene	20.0	15.2		ug/L		76	1 - 200
Diethyl phthalate	20.0	14.6		ug/L		73	1 - 120
Dimethyl phthalate	20.0	14.1		ug/L		70	1 - 120
Di-n-butyl phthalate	20.0	15.7		ug/L		79	8 - 120
Di-n-octyl phthalate	20.0	19.1		ug/L		96	19 - 132

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCS 570-209053/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 209773 **Prep Batch: 209053**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoranthene			20.0	16.2		ug/L		81	43 - 121		
Fluorene			20.0	14.6		ug/L		73	70 - 120		
Hexachlorobenzene			20.0	13.7		ug/L		69	8 - 142		
Hexachlorobutadiene			20.0	12.4		ug/L		62	38 - 120		
Hexachlorocyclopentadiene			20.0	10.1		ug/L		51	20 - 137		
Hexachloroethane			20.0	13.1		ug/L		66	55 - 120		
Indeno[1,2,3-cd]pyrene			20.0	18.0		ug/L		90	1 - 151		
Isophorone			20.0	14.0		ug/L		70	47 - 180		
Naphthalene			20.0	12.4		ug/L		62	36 - 120		
Nitrobenzene			20.0	12.8		ug/L		64	54 - 158		
N-Nitrosodimethylamine			20.0	12.6		ug/L		63	30 - 100		
N-Nitrosodi-n-propylamine			20.0	15.4		ug/L		77	14 - 198		
N-Nitrosodiphenylamine			20.0	17.3		ug/L		87	75 - 135		
Pentachlorophenol			20.0	13.7		ug/L		68	38 - 152		
Phenanthrene			20.0	14.0		ug/L		70	65 - 120		
Phenol			20.0	8.73		ug/L		44	17 - 120		
Pyrene			20.0	14.5		ug/L		72	70 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*56*		*28 - 127*
2-Fluorobiphenyl (Surr)	*43*		*31 - 120*
2-Fluorophenol	*36*		*17 - 120*
Nitrobenzene-d5	*46*		*27 - 120*
Phenol-d6 (Surr)	*22*		*10 - 120*
p-Terphenyl-d14 (Surr)	*52*		*45 - 120*

Lab Sample ID: LCSD 570-209053/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 209773 **Prep Batch: 209053**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene			20.0	12.4		ug/L		62	57 - 130	5	30
1,2-Dichlorobenzene			20.0	13.8		ug/L		69	41 - 100	0	20
1,2-Diphenylhydrazine(as Azobenzene)			20.0	12.9		ug/L		64	60 - 115	3	30
1,3-Dichlorobenzene			20.0	13.2		ug/L		66	39 - 100	2	20
1,4-Dichlorobenzene			20.0	13.1		ug/L		65	40 - 100	3	20
2,4,6-Trichlorophenol			20.0	15.3		ug/L		77	52 - 129	2	35
2,4-Dichlorophenol			20.0	14.3		ug/L		71	53 - 122	0	30
2,4-Dimethylphenol			20.0	13.5		ug/L		67	42 - 120	3	35
2,4-Dinitrophenol			20.0	17.3		ug/L		87	1 - 173	40	79
2,4-Dinitrotoluene			20.0	15.1		ug/L		75	48 - 127	1	25
2,6-Dinitrotoluene			20.0	15.7		ug/L		79	68 - 137	1	29
2-Chloronaphthalene			20.0	12.7	LR	ug/L		64	65 - 120	2	15
2-Chlorophenol			20.0	15.1		ug/L		75	36 - 120	4	37
2-Nitrophenol			20.0	14.4		ug/L		72	45 - 167	1	33
3,3'-Dichlorobenzidine			20.0	14.9		ug/L		75	8 - 213	6	65
4,6-Dinitro-2-methylphenol			20.0	12.8		ug/L		64	53 - 130	40	122
4-Bromophenyl phenyl ether			20.0	13.7		ug/L		68	65 - 120	3	26

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-209053/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 209773 **Prep Batch: 209053**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Chloro-3-methylphenol			20.0	13.9		ug/L		69	41 - 128	0	44
4-Chlorophenyl phenyl ether			20.0	14.0		ug/L		70	38 - 145	2	36
4-Nitrophenol			20.0	9.47		ug/L		47	13 - 129	12	79
Acenaphthene			20.0	12.7		ug/L		64	60 - 132	6	29
Acenaphthylene			20.0	15.1		ug/L		76	54 - 126	2	45
Anthracene			20.0	15.1		ug/L		75	43 - 120	0	40
Benzidine			20.0	4.44	J,DX	ug/L		22	10 - 124	32	40
Benzo[a]anthracene			20.0	16.1		ug/L		80	42 - 133	2	32
Benzo[a]pyrene			20.0	16.0		ug/L		80	32 - 148	15	43
Benzo[b]fluoranthene			20.0	15.4		ug/L		77	42 - 140	15	43
Benzo[g,h,i]perylene			20.0	14.7		ug/L		73	1 - 195	1	61
Benzo[k]fluoranthene			20.0	13.8		ug/L		69	25 - 146	2	38
bis (2-chloroisopropyl) ether			20.0	15.8		ug/L		79	63 - 139	2	46
Bis(2-chloroethoxy)methane			20.0	12.8		ug/L		64	49 - 165	3	32
Bis(2-chloroethyl)ether			20.0	14.5		ug/L		72	43 - 126	4	65
Bis(2-ethylhexyl) phthalate			20.0	18.5		ug/L		92	29 - 137	9	50
Butyl benzyl phthalate			20.0	17.3		ug/L		87	1 - 140	2	36
Chrysene			20.0	14.0		ug/L		70	44 - 140	2	53
Dibenz(a,h)anthracene			20.0	15.1		ug/L		76	1 - 200	1	75
Diethyl phthalate			20.0	15.2		ug/L		76	1 - 120	4	60
Dimethyl phthalate			20.0	14.0		ug/L		70	1 - 120	1	110
Di-n-butyl phthalate			20.0	15.9		ug/L		79	8 - 120	1	28
Di-n-octyl phthalate			20.0	11.9	BA	ug/L		59	19 - 132	47	42
Fluoranthene			20.0	15.0		ug/L		75	43 - 121	7	40
Fluorene			20.0	14.0		ug/L		70	70 - 120	4	23
Hexachlorobenzene			20.0	13.7		ug/L		69	8 - 142	0	33
Hexachlorobutadiene			20.0	12.4		ug/L		62	38 - 120	1	38
Hexachlorocyclopentadiene			20.0	12.8	BA	ug/L		64	20 - 137	23	20
Hexachloroethane			20.0	14.2		ug/L		71	55 - 120	8	32
Indeno[1,2,3-cd]pyrene			20.0	13.9		ug/L		69	1 - 151	26	60
Isophorone			20.0	13.7		ug/L		69	47 - 180	2	56
Naphthalene			20.0	12.0		ug/L		60	36 - 120	3	39
Nitrobenzene			20.0	12.5		ug/L		63	54 - 158	2	37
N-Nitrosodimethylamine			20.0	12.5		ug/L		63	30 - 100	1	20
N-Nitrosodi-n-propylamine			20.0	15.8		ug/L		79	14 - 198	3	52
N-Nitrosodiphenylamine			20.0	17.6		ug/L		88	75 - 135	1	20
Pentachlorophenol			20.0	12.7		ug/L		63	38 - 152	8	52
Phenanthrene			20.0	13.8		ug/L		69	65 - 120	1	24
Phenol			20.0	8.40		ug/L		42	17 - 120	4	39
Pyrene			20.0	14.3		ug/L		72	70 - 120	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol	*58*		*28 - 127*
2-Fluorobiphenyl (Surr)	*45*		*31 - 120*
2-Fluorophenol	*36*		*17 - 120*
Nitrobenzene-d5	*49*		*27 - 120*
Phenol-d6 (Surr)	*23*		*10 - 120*
p-Terphenyl-d14 (Surr)	*55*		*45 - 120*

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-208417/1-A
Matrix: Water
Analysis Batch: 208660

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208417

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 10:46	1
alpha-BHC	ND		0.0013	0.00080	ug/L		01/20/22 05:44	01/21/22 10:46	1
beta-BHC	ND		0.0020	0.0017	ug/L		01/20/22 05:44	01/21/22 10:46	1
delta-BHC	ND		0.0013	0.0011	ug/L		01/20/22 05:44	01/21/22 10:46	1
gamma-BHC (Lindane)	ND		0.0013	0.00090	ug/L		01/20/22 05:44	01/21/22 10:46	1
Chlordane (technical)	ND		0.010	0.0065	ug/L		01/20/22 05:44	01/21/22 10:46	1
4,4'-DDD	ND		0.0013	0.00080	ug/L		01/20/22 05:44	01/21/22 10:46	1
4,4'-DDE	ND		0.0013	0.00050	ug/L		01/20/22 05:44	01/21/22 10:46	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		01/20/22 05:44	01/21/22 10:46	1
Dieldrin	ND		0.0013	0.00050	ug/L		01/20/22 05:44	01/21/22 10:46	1
Endosulfan I	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 10:46	1
Endosulfan II	ND		0.0013	0.00050	ug/L		01/20/22 05:44	01/21/22 10:46	1
Endosulfan sulfate	ND		0.0013	0.00060	ug/L		01/20/22 05:44	01/21/22 10:46	1
Endrin	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 10:46	1
Endrin aldehyde	ND		0.010	0.0051	ug/L		01/20/22 05:44	01/21/22 10:46	1
Heptachlor	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 10:46	1
Heptachlor epoxide	ND		0.0013	0.00040	ug/L		01/20/22 05:44	01/21/22 10:46	1
Toxaphene	ND		0.10	0.013	ug/L		01/20/22 05:44	01/21/22 10:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*55*		*20 - 139*	*01/20/22 05:44*	*01/21/22 10:46*	*1*

Lab Sample ID: LCS 570-208417/2-A
Matrix: Water
Analysis Batch: 208660

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208417

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.0333	0.0280		ug/L		84	42 - 140
alpha-BHC	0.0333	0.0278		ug/L		83	37 - 140
beta-BHC	0.0333	0.0276		ug/L		83	17 - 147
delta-BHC	0.0333	0.0297		ug/L		89	19 - 140
gamma-BHC (Lindane)	0.0333	0.0284		ug/L		85	32 - 140
4,4'-DDD	0.0333	0.0315		ug/L		94	31 - 141
4,4'-DDE	0.0333	0.0298		ug/L		89	30 - 145
4,4'-DDT	0.0333	0.0341		ug/L		102	25 - 160
Dieldrin	0.0333	0.0308		ug/L		92	36 - 146
Endosulfan I	0.0333	0.0286		ug/L		86	45 - 153
Endosulfan II	0.0333	0.0309		ug/L		93	1 - 202
Endosulfan sulfate	0.0333	0.0331		ug/L		99	26 - 144
Endrin	0.0333	0.0336		ug/L		101	30 - 147
Endrin aldehyde	0.0333	0.0399		ug/L		120	60 - 140
Heptachlor	0.0333	0.0287		ug/L		86	34 - 140
Heptachlor epoxide	0.0333	0.0289		ug/L		87	37 - 142

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*64*		*20 - 139*

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: LCSD 570-208417/3-A
Matrix: Water
Analysis Batch: 208660

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208417

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin			0.0333	0.0241		ug/L		72	42 - 140	15	35
alpha-BHC			0.0333	0.0248		ug/L		74	37 - 140	11	36
beta-BHC			0.0333	0.0235		ug/L		71	17 - 147	16	44
delta-BHC			0.0333	0.0251		ug/L		75	19 - 140	17	52
gamma-BHC (Lindane)			0.0333	0.0250		ug/L		75	32 - 140	13	39
4,4'-DDD			0.0333	0.0263		ug/L		79	31 - 141	18	39
4,4'-DDE			0.0333	0.0249		ug/L		75	30 - 145	18	35
4,4'-DDT			0.0333	0.0287		ug/L		86	25 - 160	17	42
Dieldrin			0.0333	0.0258		ug/L		77	36 - 146	18	49
Endosulfan I			0.0333	0.0241		ug/L		72	45 - 153	17	28
Endosulfan II			0.0333	0.0266		ug/L		80	1 - 202	15	53
Endosulfan sulfate			0.0333	0.0275		ug/L		82	26 - 144	19	38
Endrin			0.0333	0.0281		ug/L		84	30 - 147	18	48
Endrin aldehyde			0.0333	0.0341		ug/L		102	60 - 140	16	30
Heptachlor			0.0333	0.0250		ug/L		75	34 - 140	14	43
Heptachlor epoxide			0.0333	0.0245		ug/L		74	37 - 142	16	26

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*58*		*20 - 139*

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 570-208417/1-A
Matrix: Water
Analysis Batch: 208664

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208417

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:03	1
Aroclor 1221	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:03	1
Aroclor 1232	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:03	1
Aroclor 1242	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:03	1
Aroclor 1248	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:03	1
Aroclor 1254	ND		0.10	0.052	ug/L		01/20/22 05:44	01/21/22 15:03	1
Aroclor 1260	ND		0.10	0.052	ug/L		01/20/22 05:44	01/21/22 15:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*70*		*20 - 154*	*01/20/22 05:44*	*01/21/22 15:03*	*1*

Lab Sample ID: LCS 570-208417/4-A
Matrix: Water
Analysis Batch: 209011

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208417

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016			0.133	0.128		ug/L		96	50 - 140
Aroclor 1260			0.133	0.133		ug/L		100	8 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*76*		*20 - 154*

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: LCSD 570-208417/5-A
Matrix: Water
Analysis Batch: 209011

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208417

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016			0.133	0.123		ug/L		92	50 - 140	4	36
Aroclor 1260			0.133	0.132		ug/L		99	8 - 140	1	38

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*76*		*20 - 154*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-664905/6
Matrix: Water
Analysis Batch: 664905

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			01/20/22 04:06	1

Lab Sample ID: LCS 440-664905/5
Matrix: Water
Analysis Batch: 664905

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			50.0	49.4		ug/L		99	90 - 110		

Lab Sample ID: MRL 440-664905/4
Matrix: Water
Analysis Batch: 664905

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			1.00	1.09		ug/L		109	50 - 150		

Lab Sample ID: 570-82078-A-1 MS
Matrix: Water
Analysis Batch: 664905

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent	ND		50.0	49.8		ug/L		100	90 - 110		

Lab Sample ID: 570-82078-A-1 MSD
Matrix: Water
Analysis Batch: 664905

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND		50.0	49.8		ug/L		100	90 - 110	0	10

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-664932/6
Matrix: Water
Analysis Batch: 664932

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.11	0.055	mg/L			01/20/22 11:42	1
Nitrite as N	ND		0.15	0.024	mg/L			01/20/22 11:42	1

Lab Sample ID: LCS 440-664932/5
Matrix: Water
Analysis Batch: 664932

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	1.13	1.09		mg/L		97	90 - 110
Nitrite as N	1.52	1.49		mg/L		98	90 - 110

Lab Sample ID: 570-82068-I-1 MS
Matrix: Water
Analysis Batch: 664932

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	1.5		1.13	2.62		mg/L		98	80 - 120
Nitrite as N	ND		1.52	1.53		mg/L		100	80 - 120

Lab Sample ID: 570-82068-I-1 MSD
Matrix: Water
Analysis Batch: 664932

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	1.5		1.13	2.61		mg/L		98	80 - 120	0	20
Nitrite as N	ND		1.52	1.52		mg/L		100	80 - 120	1	20

Lab Sample ID: MB 440-664933/6
Matrix: Water
Analysis Batch: 664933

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			01/20/22 11:42	1
Fluoride	ND		0.50	0.20	mg/L			01/20/22 11:42	1
Sulfate	ND		0.50	0.25	mg/L			01/20/22 11:42	1

Lab Sample ID: LCS 440-664933/5
Matrix: Water
Analysis Batch: 664933

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.76		mg/L		95	90 - 110
Fluoride	5.00	4.78		mg/L		96	90 - 110
Sulfate	5.00	4.94		mg/L		99	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 570-82068-I-1 MS
Matrix: Water
Analysis Batch: 664933

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	32	EY	5.00	37.8	EY BB	mg/L		119	80 - 120		
Fluoride	ND		5.00	4.93		mg/L		99	80 - 120		
Sulfate	30		5.00	35.1	BB	mg/L		106	80 - 120		

Lab Sample ID: 570-82068-I-1 MSD
Matrix: Water
Analysis Batch: 664933

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	32	EY	5.00	37.9	EY BB	mg/L		119	80 - 120	0	20
Fluoride	ND		5.00	4.89		mg/L		98	80 - 120	1	20
Sulfate	30		5.00	35.2	BB	mg/L		107	80 - 120	0	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-665039/6
Matrix: Water
Analysis Batch: 665039

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			01/21/22 05:15	1

Lab Sample ID: LCS 440-665039/5
Matrix: Water
Analysis Batch: 665039

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			25.0	25.1		ug/L		100	85 - 115		

Lab Sample ID: MRL 440-665039/4
Matrix: Water
Analysis Batch: 665039

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			2.00	1.89	J,DX	ug/L		94	75 - 125		

Lab Sample ID: MRL 440-665039/7
Matrix: Water
Analysis Batch: 665039

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			1.00	ND		ug/L		95	75 - 125		

Lab Sample ID: MRL 440-665039/9
Matrix: Water
Analysis Batch: 665039

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			4.00	3.80	J,DX	ug/L		95	75 - 125		

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: 570-82063-J-1 MS
Matrix: Water
Analysis Batch: 665039

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	ND		25.0	24.6		ug/L		98	80 - 120

Lab Sample ID: 570-82063-J-1 MSD
Matrix: Water
Analysis Batch: 665039

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		25.0	24.3		ug/L		97	80 - 120	1	15

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-665972/1-A
Matrix: Water
Analysis Batch: 666079

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 665972

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/31/22 12:12	02/01/22 13:17	1
Barium	ND		10	2.2	ug/L		01/31/22 12:12	02/01/22 13:17	1
Beryllium	ND		2.0	0.44	ug/L		01/31/22 12:12	02/01/22 13:17	1
Boron	ND		50	25	ug/L		01/31/22 12:12	02/01/22 13:17	1
Chromium	ND		5.0	2.5	ug/L		01/31/22 12:12	02/01/22 13:17	1
Cobalt	ND		10	2.8	ug/L		01/31/22 12:12	02/01/22 13:17	1
Iron	ND		100	50	ug/L		01/31/22 12:12	02/01/22 13:17	1
Manganese	ND		20	6.8	ug/L		01/31/22 12:12	02/01/22 13:17	1
Nickel	ND		10	5.0	ug/L		01/31/22 12:12	02/01/22 13:17	1
Vanadium	ND		10	2.1	ug/L		01/31/22 12:12	02/01/22 13:17	1
Zinc	ND		20	12	ug/L		01/31/22 12:12	02/01/22 13:17	1

Lab Sample ID: LCS 440-665972/2-A
Matrix: Water
Analysis Batch: 666079

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 665972

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	504		ug/L		101	85 - 115
Barium	500	497		ug/L		99	85 - 115
Beryllium	500	507		ug/L		101	85 - 115
Boron	500	507		ug/L		101	85 - 115
Chromium	500	512		ug/L		102	85 - 115
Cobalt	500	499		ug/L		100	85 - 115
Iron	500	492		ug/L		98	85 - 115
Manganese	500	500		ug/L		100	85 - 115
Nickel	500	509		ug/L		102	85 - 115
Vanadium	500	497		ug/L		99	85 - 115
Zinc	500	520		ug/L		104	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 570-83035-D-2-B MS
Matrix: Water
Analysis Batch: 666079

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 665972

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	9.1	J,DX	500	549		ug/L		108	70 - 130
Barium	12		500	515		ug/L		101	70 - 130
Beryllium	0.90	J,DX	500	518		ug/L		103	70 - 130
Boron	1200		500	1780		ug/L		110	70 - 130
Chromium	2.6	J,DX	500	524		ug/L		104	70 - 130
Cobalt	ND		500	477		ug/L		95	70 - 130
Iron	130		500	623		ug/L		99	70 - 130
Manganese	9200		500	9620	BB	ug/L		86	70 - 130
Nickel	54		500	545		ug/L		98	70 - 130
Vanadium	ND		500	523		ug/L		105	70 - 130
Zinc	ND		500	471		ug/L		94	70 - 130

Lab Sample ID: 570-83035-D-2-C MSD
Matrix: Water
Analysis Batch: 666079

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 665972

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	9.1	J,DX	500	546		ug/L		107	70 - 130	1	20
Barium	12		500	508		ug/L		99	70 - 130	1	20
Beryllium	0.90	J,DX	500	510		ug/L		102	70 - 130	1	20
Boron	1200		500	1770		ug/L		109	70 - 130	0	20
Chromium	2.6	J,DX	500	517		ug/L		103	70 - 130	1	20
Cobalt	ND		500	470		ug/L		94	70 - 130	1	20
Iron	130		500	616		ug/L		98	70 - 130	1	20
Manganese	9200		500	9610	BB	ug/L		84	70 - 130	0	20
Nickel	54		500	540		ug/L		97	70 - 130	1	20
Vanadium	ND		500	515		ug/L		103	70 - 130	2	20
Zinc	ND		500	467		ug/L		93	70 - 130	1	20

Lab Sample ID: MB 440-665510/1-B
Matrix: Water
Analysis Batch: 665833

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 665547

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/26/22 17:34	01/27/22 13:20	1
Barium	ND		10	2.2	ug/L		01/26/22 17:34	01/27/22 13:20	1
Beryllium	ND		2.0	0.44	ug/L		01/26/22 17:34	01/27/22 13:20	1
Boron	ND		50	25	ug/L		01/26/22 17:34	01/27/22 13:20	1
Chromium	ND		5.0	2.5	ug/L		01/26/22 17:34	01/27/22 13:20	1
Cobalt	ND		10	2.8	ug/L		01/26/22 17:34	01/27/22 13:20	1
Iron	ND		100	50	ug/L		01/26/22 17:34	01/27/22 13:20	1
Manganese	ND		20	6.8	ug/L		01/26/22 17:34	01/27/22 13:20	1
Nickel	ND		10	5.0	ug/L		01/26/22 17:34	01/27/22 13:20	1
Vanadium	ND		10	2.1	ug/L		01/26/22 17:34	01/27/22 13:20	1
Zinc	ND		20	12	ug/L		01/26/22 17:34	01/27/22 13:20	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-665510/2-B
Matrix: Water
Analysis Batch: 665833

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 665547

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	502		ug/L		100	85 - 115
Barium	500	496		ug/L		99	85 - 115
Beryllium	500	497		ug/L		99	85 - 115
Boron	500	493		ug/L		99	85 - 115
Chromium	500	524		ug/L		105	85 - 115
Cobalt	500	498		ug/L		100	85 - 115
Iron	500	477		ug/L		95	85 - 115
Manganese	500	501		ug/L		100	85 - 115
Nickel	500	512		ug/L		102	85 - 115
Vanadium	500	494		ug/L		99	85 - 115
Zinc	500	517		ug/L		103	85 - 115

Lab Sample ID: 570-82066-3 MS
Matrix: Water
Analysis Batch: 665833

Client Sample ID: Outfall001_20220119_Comp_F
Prep Type: Dissolved
Prep Batch: 665547

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		500	495		ug/L		99	70 - 130
Barium	22		500	493		ug/L		94	70 - 130
Beryllium	ND		500	482		ug/L		96	70 - 130
Boron	94		500	574		ug/L		96	70 - 130
Chromium	ND		500	501		ug/L		100	70 - 130
Cobalt	ND		500	480		ug/L		96	70 - 130
Iron	ND		500	482		ug/L		96	70 - 130
Manganese	7.0	J,DX	500	483		ug/L		95	70 - 130
Nickel	ND		500	490		ug/L		98	70 - 130
Vanadium	ND		500	479		ug/L		96	70 - 130
Zinc	ND		500	504		ug/L		101	70 - 130

Lab Sample ID: 570-82066-3 MSD
Matrix: Water
Analysis Batch: 665833

Client Sample ID: Outfall001_20220119_Comp_F
Prep Type: Dissolved
Prep Batch: 665547

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	505		ug/L		101	70 - 130	2	20
Barium	22		500	503		ug/L		96	70 - 130	2	20
Beryllium	ND		500	493		ug/L		99	70 - 130	2	20
Boron	94		500	584		ug/L		98	70 - 130	2	20
Chromium	ND		500	512		ug/L		102	70 - 130	2	20
Cobalt	ND		500	490		ug/L		98	70 - 130	2	20
Iron	ND		500	499		ug/L		100	70 - 130	3	20
Manganese	7.0	J,DX	500	494		ug/L		97	70 - 130	2	20
Nickel	ND		500	502		ug/L		100	70 - 130	2	20
Vanadium	ND		500	490		ug/L		98	70 - 130	2	20
Zinc	ND		500	517		ug/L		103	70 - 130	3	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-666021/1-A
Matrix: Water
Analysis Batch: 666063

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 666021

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		02/01/22 05:52	02/01/22 12:28	1
Cadmium	ND		1.0	0.25	ug/L		02/01/22 05:52	02/01/22 12:28	1
Copper	ND		2.0	0.50	ug/L		02/01/22 05:52	02/01/22 12:28	1
Lead	ND		1.0	0.50	ug/L		02/01/22 05:52	02/01/22 12:28	1
Antimony	ND		2.0	0.50	ug/L		02/01/22 05:52	02/01/22 12:28	1
Selenium	ND		2.0	0.50	ug/L		02/01/22 05:52	02/01/22 12:28	1
Thallium	ND		1.0	0.20	ug/L		02/01/22 05:52	02/01/22 12:28	1

Lab Sample ID: LCS 440-666021/2-A
Matrix: Water
Analysis Batch: 666063

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 666021

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	77.3		ug/L		97	85 - 115
Cadmium	80.0	79.9		ug/L		100	85 - 115
Copper	80.0	78.6		ug/L		98	85 - 115
Lead	80.0	80.5		ug/L		101	85 - 115
Antimony	80.0	82.5		ug/L		103	85 - 115
Selenium	80.0	79.5		ug/L		99	85 - 115
Thallium	80.0	77.6		ug/L		97	85 - 115

Lab Sample ID: 570-82066-1 MS
Matrix: Water
Analysis Batch: 666063

Client Sample ID: Outfall001_20220119_Comp
Prep Type: Total Recoverable
Prep Batch: 666021

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	74.2		ug/L		93	70 - 130
Cadmium	ND		80.0	76.8		ug/L		96	70 - 130
Copper	3.9		80.0	80.6		ug/L		96	70 - 130
Lead	ND		80.0	78.7		ug/L		98	70 - 130
Antimony	0.69	J,DX	80.0	84.4		ug/L		105	70 - 130
Selenium	ND		80.0	76.5		ug/L		96	70 - 130
Thallium	ND		80.0	75.2		ug/L		94	70 - 130

Lab Sample ID: 570-82066-1 MSD
Matrix: Water
Analysis Batch: 666063

Client Sample ID: Outfall001_20220119_Comp
Prep Type: Total Recoverable
Prep Batch: 666021

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	76.1		ug/L		95	70 - 130	2	20
Cadmium	ND		80.0	79.0		ug/L		99	70 - 130	3	20
Copper	3.9		80.0	82.8		ug/L		99	70 - 130	3	20
Lead	ND		80.0	80.7		ug/L		101	70 - 130	3	20
Antimony	0.69	J,DX	80.0	86.5		ug/L		107	70 - 130	2	20
Selenium	ND		80.0	75.9		ug/L		95	70 - 130	1	20
Thallium	ND		80.0	77.5		ug/L		97	70 - 130	3	20

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 440-665510/1-C
Matrix: Water
Analysis Batch: 665638

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 665552

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/26/22 15:00	01/27/22 11:50	1
Cadmium	ND		1.0	0.25	ug/L		01/26/22 15:00	01/27/22 11:50	1
Copper	ND		2.0	0.50	ug/L		01/26/22 15:00	01/27/22 11:50	1
Lead	ND		1.0	0.50	ug/L		01/26/22 15:00	01/27/22 11:50	1
Antimony	ND		2.0	0.50	ug/L		01/26/22 15:00	01/27/22 11:50	1
Selenium	ND		2.0	0.50	ug/L		01/26/22 15:00	01/27/22 11:50	1
Thallium	ND		1.0	0.20	ug/L		01/26/22 15:00	01/27/22 11:50	1

Lab Sample ID: LCS 440-665510/2-C
Matrix: Water
Analysis Batch: 665638

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 665552

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	72.2		ug/L		90	85 - 115
Cadmium	80.0	74.8		ug/L		93	85 - 115
Copper	80.0	72.1		ug/L		90	85 - 115
Lead	80.0	76.3		ug/L		95	85 - 115
Antimony	80.0	77.9		ug/L		97	85 - 115
Selenium	80.0	74.8		ug/L		94	85 - 115
Thallium	80.0	74.8		ug/L		93	85 - 115

Lab Sample ID: 570-82063-C-3-G MS
Matrix: Water
Analysis Batch: 665638

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 665552

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	74.9		ug/L		94	70 - 130
Cadmium	ND		80.0	78.4		ug/L		98	70 - 130
Copper	3.0		80.0	78.5		ug/L		94	70 - 130
Lead	ND		80.0	80.0		ug/L		100	70 - 130
Antimony	0.52	J,DX	80.0	85.3		ug/L		106	70 - 130
Selenium	0.51	J,DX	80.0	80.9		ug/L		100	70 - 130
Thallium	ND		80.0	78.3		ug/L		98	70 - 130

Lab Sample ID: 570-82063-C-3-H MSD
Matrix: Water
Analysis Batch: 665638

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 665552

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	75.3		ug/L		94	70 - 130	0	20
Cadmium	ND		80.0	79.2		ug/L		99	70 - 130	1	20
Copper	3.0		80.0	79.0		ug/L		95	70 - 130	1	20
Lead	ND		80.0	80.5		ug/L		101	70 - 130	1	20
Antimony	0.52	J,DX	80.0	87.2		ug/L		108	70 - 130	2	20
Selenium	0.51	J,DX	80.0	82.9		ug/L		103	70 - 130	2	20
Thallium	ND		80.0	79.4		ug/L		99	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-210564/1-A
Matrix: Water
Analysis Batch: 210669

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 210564

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		02/01/22 10:46	02/01/22 15:10	1

Lab Sample ID: LCS 570-210564/2-A
Matrix: Water
Analysis Batch: 210669

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 210564

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	10.5		ug/L		105	85 - 115

Lab Sample ID: LCSD 570-210564/3-A
Matrix: Water
Analysis Batch: 210669

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 210564

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	10.0	10.4		ug/L		104	85 - 115	1	10

Lab Sample ID: 440-294471-A-1-D MS
Matrix: Water
Analysis Batch: 210669

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 210564

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		10.0	10.2		ug/L		102	70 - 130

Lab Sample ID: 440-294471-A-1-E MSD
Matrix: Water
Analysis Batch: 210669

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 210564

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	10.2		ug/L		102	70 - 130	0	10

Lab Sample ID: MB 570-210140/1-B
Matrix: Water
Analysis Batch: 210433

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 210150

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/28/22 14:30	01/31/22 18:06	1

Lab Sample ID: LCS 570-210140/2-B
Matrix: Water
Analysis Batch: 210433

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 210150

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	9.71		ug/L		97	85 - 115

Lab Sample ID: LCSD 570-210140/3-B
Matrix: Water
Analysis Batch: 210433

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 210150

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	10.0	9.79		ug/L		98	85 - 115	1	10

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: 570-82063-A-3-D MS
Matrix: Water
Analysis Batch: 210433

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 210150

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		10.0	9.86		ug/L		99	70 - 130

Lab Sample ID: 570-82063-C-3-J MSD
Matrix: Water
Analysis Batch: 210433

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 210150

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	9.64		ug/L		96	70 - 130	2	10

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 440-664948/6
Matrix: Water
Analysis Batch: 664948

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	ND		0.10	0.05	NTU			01/20/22 10:58	1

Lab Sample ID: MRL 440-664948/5
Matrix: Water
Analysis Batch: 664948

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	0.100	0.10		NTU		90	50 - 150

Lab Sample ID: 570-81864-G-1 DU
Matrix: Water
Analysis Batch: 664948

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Turbidity	4.7		4.9		NTU		3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-665096/1
Matrix: Water
Analysis Batch: 665096

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	3.0	mg/L			01/21/22 13:32	1

Lab Sample ID: LCS 440-665096/2
Matrix: Water
Analysis Batch: 665096

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	962		mg/L		96	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 440-294471-C-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665096

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	400			394		mg/L				1	5

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-665407/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665407

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			01/25/22 15:21	1

Lab Sample ID: LCS 440-665407/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665407

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			1000	943		mg/L		94	85 - 115		

Lab Sample ID: 440-294354-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665407

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	430			420		mg/L				2	5

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 440-665932/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665994 — **Prep Batch: 665932**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L		01/31/22 12:01	01/31/22 18:14	1

Lab Sample ID: LCS 440-665932/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665994 — **Prep Batch: 665932**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			100	93.8		ug/L		94	80 - 120		

Lab Sample ID: 570-82063-H-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665994 — **Prep Batch: 665932**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total	ND		100	93.7		ug/L		94	75 - 125		

Method: SM 4500 CN E - Cyanide, Total (Low Level) (Continued)

Lab Sample ID: 570-82063-H-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665994 — **Prep Batch: 665932**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		100	98.2		ug/L		98	75 - 125	5	20

Method: SM 4500 NH3 G - Ammonia

Lab Sample ID: MB 440-665813/10 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665813

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.200	0.100	mg/L			01/28/22 12:03	1

Lab Sample ID: LCS 440-665813/11 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665813

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	5.00	5.250		mg/L		105	90 - 110

Lab Sample ID: MRL 440-665813/9 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665813

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.200	0.1860	J,DX	mg/L		93	50 - 150

Lab Sample ID: 570-82097-Q-5 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665813

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.126	J,DX	5.00	4.160	LN	mg/L		80	90 - 110

Lab Sample ID: 570-82097-Q-5 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665813

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.126	J,DX	5.00	4.150	LN	mg/L		80	90 - 110	0	15

Method: SM 5310D - Organic Carbon, Total (TOC)

Lab Sample ID: MB 570-208829/33 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208829

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon, Total Organic	ND		0.50	0.26	mg/L			01/20/22 11:41	1

Method: SM 5310D - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: LCS 570-208829/34
Matrix: Water
Analysis Batch: 208829

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Carbon, Total Organic			5.00	5.42		mg/L		108	85 - 115		

Lab Sample ID: LCSD 570-208829/35
Matrix: Water
Analysis Batch: 208829

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon, Total Organic			5.00	5.43		mg/L		109	85 - 115	0	20

Lab Sample ID: 570-82066-1 MS
Matrix: Water
Analysis Batch: 208829

Client Sample ID: Outfall001_20220119_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Carbon, Total Organic	10		5.00	15.4		mg/L		102	31 - 145		

Lab Sample ID: 570-82066-1 MSD
Matrix: Water
Analysis Batch: 208829

Client Sample ID: Outfall001_20220119_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon, Total Organic	10		5.00	15.6		mg/L		105	31 - 145	1	20

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 440-665021/11
Matrix: Water
Analysis Batch: 665021

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Blue Active Substances	ND		0.10	0.050	mg/L			01/20/22 18:18	1

Lab Sample ID: LCS 440-665021/13
Matrix: Water
Analysis Batch: 665021

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Methylene Blue Active Substances			0.250	0.256		mg/L		102	90 - 110		

Lab Sample ID: MRL 440-665021/10
Matrix: Water
Analysis Batch: 665021

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Methylene Blue Active Substances			0.100	0.113		mg/L		113	50 - 150		

Method: SM 5540C - Methylene Blue Active Substances (MBAS) (Continued)

Lab Sample ID: 570-82068-K-1 MS
Matrix: Water
Analysis Batch: 665021

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Methylene Blue Active Substances	0.13		0.250	0.336		mg/L		81	75 - 125		

Lab Sample ID: 570-82068-K-1 MSD
Matrix: Water
Analysis Batch: 665021

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylene Blue Active Substances	0.13		0.250	0.297	LN	mg/L		65	75 - 125	12	20

Method: SM5210B - BOD, 5 Day

Lab Sample ID: USB 440-665351/2
Matrix: Water
Analysis Batch: 665351

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			01/20/22 09:40	1

Lab Sample ID: LCS 440-665351/4
Matrix: Water
Analysis Batch: 665351

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Biochemical Oxygen Demand			199	197		mg/L		99	85 - 115		

Lab Sample ID: 570-82199-A-1 DU
Matrix: Water
Analysis Batch: 665351

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Biochemical Oxygen Demand	2000			1930		mg/L				3	20

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

GC/MS VOA

Analysis Batch: 210396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	8260B SIM	
MB 570-210396/8	Method Blank	Total/NA	Water	8260B SIM	
LCS 570-210396/4	Lab Control Sample	Total/NA	Water	8260B SIM	
LCSD 570-210396/5	Lab Control Sample Dup	Total/NA	Water	8260B SIM	

GC/MS Semi VOA

Prep Batch: 209053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	625	
MB 570-209053/1-A	Method Blank	Total/NA	Water	625	
LCS 570-209053/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-209053/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 209308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	625.1 SIM	209053
MB 570-209053/1-A	Method Blank	Total/NA	Water	625.1 SIM	209053

Analysis Batch: 209773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-209053/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	209053
LCSD 570-209053/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	209053

GC Semi VOA

Prep Batch: 208417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	608	
MB 570-208417/1-A	Method Blank	Total/NA	Water	608	
LCS 570-208417/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 570-208417/4-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-208417/3-A	Lab Control Sample Dup	Total/NA	Water	608	
LCSD 570-208417/5-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 208660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	608.3	208417
MB 570-208417/1-A	Method Blank	Total/NA	Water	608.3	208417
LCS 570-208417/2-A	Lab Control Sample	Total/NA	Water	608.3	208417
LCSD 570-208417/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	208417

Analysis Batch: 208664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	608.3	208417
MB 570-208417/1-A	Method Blank	Total/NA	Water	608.3	208417

Analysis Batch: 209011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-208417/4-A	Lab Control Sample	Total/NA	Water	608.3	208417
LCSD 570-208417/5-A	Lab Control Sample Dup	Total/NA	Water	608.3	208417

HPLC/IC

Analysis Batch: 664905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	218.6	
MB 440-664905/6	Method Blank	Total/NA	Water	218.6	
LCS 440-664905/5	Lab Control Sample	Total/NA	Water	218.6	
MRL 440-664905/4	Lab Control Sample	Total/NA	Water	218.6	
570-82078-A-1 MS	Matrix Spike	Total/NA	Water	218.6	
570-82078-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	218.6	

Analysis Batch: 664932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	300.0	
MB 440-664932/6	Method Blank	Total/NA	Water	300.0	
LCS 440-664932/5	Lab Control Sample	Total/NA	Water	300.0	
570-82068-I-1 MS	Matrix Spike	Total/NA	Water	300.0	
570-82068-I-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 664933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	300.0	
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	300.0	
MB 440-664933/6	Method Blank	Total/NA	Water	300.0	
LCS 440-664933/5	Lab Control Sample	Total/NA	Water	300.0	
570-82068-I-1 MS	Matrix Spike	Total/NA	Water	300.0	
570-82068-I-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 665039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	314.0	
MB 440-665039/6	Method Blank	Total/NA	Water	314.0	
LCS 440-665039/5	Lab Control Sample	Total/NA	Water	314.0	
MRL 440-665039/4	Lab Control Sample	Total/NA	Water	314.0	
MRL 440-665039/7	Lab Control Sample	Total/NA	Water	314.0	
MRL 440-665039/9	Lab Control Sample	Total/NA	Water	314.0	
570-82063-J-1 MS	Matrix Spike	Total/NA	Water	314.0	
570-82063-J-1 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	

Analysis Batch: 665958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	NO3NO2 Calc	

Metals

Filtration Batch: 210140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-3	Outfall001_20220119_Comp_F	Dissolved	Water	Filtration	
MB 570-210140/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-210140/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-210140/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-82063-A-3-D MS	Matrix Spike	Dissolved	Water	Filtration	
570-82063-C-3-J MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

Metals

Prep Batch: 210150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-3	Outfall001_20220119_Comp_F	Dissolved	Water	245.1	210140
MB 570-210140/1-B	Method Blank	Dissolved	Water	245.1	210140
LCS 570-210140/2-B	Lab Control Sample	Dissolved	Water	245.1	210140
LCSD 570-210140/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	210140
570-82063-A-3-D MS	Matrix Spike	Dissolved	Water	245.1	210140
570-82063-C-3-J MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	210140

Analysis Batch: 210433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-3	Outfall001_20220119_Comp_F	Dissolved	Water	245.1	210150
MB 570-210140/1-B	Method Blank	Dissolved	Water	245.1	210150
LCS 570-210140/2-B	Lab Control Sample	Dissolved	Water	245.1	210150
LCSD 570-210140/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	210150
570-82063-A-3-D MS	Matrix Spike	Dissolved	Water	245.1	210150
570-82063-C-3-J MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	210150

Prep Batch: 210564

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	245.1	
MB 570-210564/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-210564/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-210564/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
440-294471-A-1-D MS	Matrix Spike	Total/NA	Water	245.1	
440-294471-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 210669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	245.1	210564
MB 570-210564/1-A	Method Blank	Total/NA	Water	245.1	210564
LCS 570-210564/2-A	Lab Control Sample	Total/NA	Water	245.1	210564
LCSD 570-210564/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	210564
440-294471-A-1-D MS	Matrix Spike	Total/NA	Water	245.1	210564
440-294471-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	210564

Analysis Batch: 665281

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total Recoverable	Water	SM 2340B	

Analysis Batch: 665282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-3	Outfall001_20220119_Comp_F	Dissolved	Water	SM 2340B	

Filtration Batch: 665510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-3	Outfall001_20220119_Comp_F	Dissolved	Water	FILTRATION	
MB 440-665510/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-665510/1-C	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-665510/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-665510/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
570-82063-C-3-G MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-82063-C-3-H MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Metals (Continued)

Filtration Batch: 665510 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-3 MS	Outfall001_20220119_Comp_F	Dissolved	Water	FILTRATION	
570-82066-3 MSD	Outfall001_20220119_Comp_F	Dissolved	Water	FILTRATION	

Prep Batch: 665547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-3	Outfall001_20220119_Comp_F	Dissolved	Water	200.2	665510
MB 440-665510/1-B	Method Blank	Dissolved	Water	200.2	665510
LCS 440-665510/2-B	Lab Control Sample	Dissolved	Water	200.2	665510
570-82066-3 MS	Outfall001_20220119_Comp_F	Dissolved	Water	200.2	665510
570-82066-3 MSD	Outfall001_20220119_Comp_F	Dissolved	Water	200.2	665510

Prep Batch: 665552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-3	Outfall001_20220119_Comp_F	Dissolved	Water	200.2	665510
MB 440-665510/1-C	Method Blank	Dissolved	Water	200.2	665510
LCS 440-665510/2-C	Lab Control Sample	Dissolved	Water	200.2	665510
570-82063-C-3-G MS	Matrix Spike	Dissolved	Water	200.2	665510
570-82063-C-3-H MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	665510

Analysis Batch: 665638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-3	Outfall001_20220119_Comp_F	Dissolved	Water	200.8	665552
MB 440-665510/1-C	Method Blank	Dissolved	Water	200.8	665552
LCS 440-665510/2-C	Lab Control Sample	Dissolved	Water	200.8	665552
570-82063-C-3-G MS	Matrix Spike	Dissolved	Water	200.8	665552
570-82063-C-3-H MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	665552

Analysis Batch: 665833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-3	Outfall001_20220119_Comp_F	Dissolved	Water	200.7 Rev 4.4	665547
MB 440-665510/1-B	Method Blank	Dissolved	Water	200.7 Rev 4.4	665547
LCS 440-665510/2-B	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	665547
570-82066-3 MS	Outfall001_20220119_Comp_F	Dissolved	Water	200.7 Rev 4.4	665547
570-82066-3 MSD	Outfall001_20220119_Comp_F	Dissolved	Water	200.7 Rev 4.4	665547

Prep Batch: 665972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total Recoverable	Water	200.2	
MB 440-665972/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-665972/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-83035-D-2-B MS	Matrix Spike	Total Recoverable	Water	200.2	
570-83035-D-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Prep Batch: 666021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total Recoverable	Water	200.2	
MB 440-666021/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-666021/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-82066-1 MS	Outfall001_20220119_Comp	Total Recoverable	Water	200.2	
570-82066-1 MSD	Outfall001_20220119_Comp	Total Recoverable	Water	200.2	

Metals

Analysis Batch: 666063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total Recoverable	Water	200.8	666021
MB 440-666021/1-A	Method Blank	Total Recoverable	Water	200.8	666021
LCS 440-666021/2-A	Lab Control Sample	Total Recoverable	Water	200.8	666021
570-82066-1 MS	Outfall001_20220119_Comp	Total Recoverable	Water	200.8	666021
570-82066-1 MSD	Outfall001_20220119_Comp	Total Recoverable	Water	200.8	666021

Analysis Batch: 666079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total Recoverable	Water	200.7 Rev 4.4	665972
MB 440-665972/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	665972
LCS 440-665972/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	665972
570-83035-D-2-B MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	665972
570-83035-D-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	665972

General Chemistry

Analysis Batch: 208829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	SM 5310D	
MB 570-208829/33	Method Blank	Total/NA	Water	SM 5310D	
LCS 570-208829/34	Lab Control Sample	Total/NA	Water	SM 5310D	
LCSD 570-208829/35	Lab Control Sample Dup	Total/NA	Water	SM 5310D	
570-82066-1 MS	Outfall001_20220119_Comp	Total/NA	Water	SM 5310D	
570-82066-1 MSD	Outfall001_20220119_Comp	Total/NA	Water	SM 5310D	

Analysis Batch: 664948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	180.1	
MB 440-664948/6	Method Blank	Total/NA	Water	180.1	
MRL 440-664948/5	Lab Control Sample	Total/NA	Water	180.1	
570-81864-G-1 DU	Duplicate	Total/NA	Water	180.1	

Analysis Batch: 665021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	SM 5540C	
MB 440-665021/11	Method Blank	Total/NA	Water	SM 5540C	
LCS 440-665021/13	Lab Control Sample	Total/NA	Water	SM 5540C	
MRL 440-665021/10	Lab Control Sample	Total/NA	Water	SM 5540C	
570-82068-K-1 MS	Matrix Spike	Total/NA	Water	SM 5540C	
570-82068-K-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5540C	

Analysis Batch: 665096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	SM 2540C	
MB 440-665096/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-665096/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-294471-C-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 665351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	SM5210B	

General Chemistry (Continued)

Analysis Batch: 665351 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
USB 440-665351/2	Method Blank	Total/NA	Water	SM5210B	
LCS 440-665351/4	Lab Control Sample	Total/NA	Water	SM5210B	
570-82199-A-1 DU	Duplicate	Total/NA	Water	SM5210B	

Analysis Batch: 665407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	SM 2540D	
MB 440-665407/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-665407/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-294354-B-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Analysis Batch: 665813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	SM 4500 NH3 G	
MB 440-665813/10	Method Blank	Total/NA	Water	SM 4500 NH3 G	
LCS 440-665813/11	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
MRL 440-665813/9	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
570-82097-Q-5 MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 G	
570-82097-Q-5 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 G	

Prep Batch: 665932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	Distill/CN	
MB 440-665932/1-A	Method Blank	Total/NA	Water	Distill/CN	
LCS 440-665932/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
570-82063-H-1-B MS	Matrix Spike	Total/NA	Water	Distill/CN	
570-82063-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	Distill/CN	

Analysis Batch: 665994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	SM 4500 CN E	665932
MB 440-665932/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	665932
LCS 440-665932/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	665932
570-82063-H-1-B MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	665932
570-82063-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	665932

Analysis Batch: 666262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	218.6 CR3	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Client Sample ID: Outfall001_20220119_Comp
Lab Sample ID: 570-82066-1
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	25 mL	25 mL	210396	01/31/22 18:13	AH8S	ECL 2
	Instrument ID: GCMSFFF									
Total/NA	Prep	625			996.9 mL	2 mL	209053	01/24/22 09:57	H1SH	ECL 1
Total/NA	Analysis	625.1 SIM		1			209308	01/26/22 23:35	ULLI	ECL 1
	Instrument ID: GCMSJJJ									
Total/NA	Prep	608			1500 mL	1 mL	208417	01/20/22 05:44	H1SH	ECL 1
Total/NA	Analysis	608.3		1			208660	01/21/22 11:56	UHHN	ECL 1
	Instrument ID: GC44									
Total/NA	Prep	608			1500 mL	1 mL	208417	01/20/22 05:44	H1SH	ECL 1
Total/NA	Analysis	608.3		1			208664	01/21/22 15:21	UHHN	ECL 1
	Instrument ID: GC58									
Total/NA	Analysis	218.6		1			664905	01/20/22 08:54	YO8L	IRV 2
	Instrument ID: IC-33									
Total/NA	Analysis	300.0		1	5 mL	1.0 mL	664932	01/20/22 16:44	NIH3	IRV 2
	Instrument ID: IC-27									
Total/NA	Analysis	300.0		1	5 mL	1.0 mL	664933	01/20/22 16:44	NIH3	IRV 2
	Instrument ID: IC-27									
Total/NA	Analysis	300.0		5	5 mL	1.0 mL	664933	01/20/22 17:00	NIH3	IRV 2
	Instrument ID: IC-27									
Total/NA	Analysis	314.0		1			665039	01/21/22 06:46	YO8L	IRV 2
	Instrument ID: IC-24									
Total/NA	Analysis	NO3NO2 Calc		1			665958	01/31/22 13:54	PN8W	IRV 2
	Instrument ID: NOEQUIP									
Total Recoverable	Prep	200.2			25 mL	25 mL	665972	01/31/22 12:12		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			666079	02/01/22 14:02	P1R	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	666021	02/01/22 05:52		IRV 2
Total Recoverable	Analysis	200.8		1			666063	02/01/22 12:32	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total/NA	Prep	245.1			50 mL	100 mL	210564	02/01/22 10:46	VWJ7	ECL 4
Total/NA	Analysis	245.1		1			210669	02/01/22 15:27	VWJ7	ECL 1
	Instrument ID: HG7									
Total Recoverable	Analysis	SM 2340B		1			665281	02/03/22 17:47	P1R	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	180.1		1			664948	01/20/22 10:58	W1BQ	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	218.6 CR3		1			666262	02/03/22 10:24	PN8W	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	665096	01/21/22 13:33	VY3D	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	665407	01/25/22 15:21	HBR9	IRV 2
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Client Sample ID: Outfall001_20220119_Comp
Lab Sample ID: 570-82066-1
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Distill/CN			50 mL	50 mL	665932	01/31/22 12:01	GG0B	IRV 2
Total/NA	Analysis	SM 4500 CN E		1			665994	01/31/22 18:14	GG0B	IRV 2
	Instrument ID: Genesys30-5									
Total/NA	Analysis	SM 4500 NH3 G		1	0.8 mL	8.0 mL	665813	01/28/22 13:29	GG0B	IRV 2
	Instrument ID: LACHAT01									
Total/NA	Analysis	SM 5310D		1	40 mL	40 mL	208829	01/20/22 13:33	CY2M	ECL 4
	Instrument ID: TOC12									
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	665021	01/20/22 18:18	GG0B	IRV 2
	Instrument ID: Genesys30-5									
Total/NA	Analysis	SM5210B		1			665351	01/20/22 20:08	VY3D	IRV 2
	Instrument ID: BOD 10									

Client Sample ID: Outfall001_20220119_Comp_F
Lab Sample ID: 570-82066-3
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			250 mL	250 mL	665510	01/26/22 14:34	C0YH	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	665547	01/26/22 17:34	C0YH	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			665833	01/27/22 13:25	P1R	IRV 2
	Instrument ID: ICP10									
Dissolved	Filtration	FILTRATION			250 mL	250 mL	665510	01/26/22 14:34	C0YH	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	665552	01/26/22 15:00	C0YH	IRV 2
Dissolved	Analysis	200.8		1			665638	01/27/22 12:00	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	210140	01/26/22 15:10	UIAS	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	210150	01/28/22 14:30	VWJ7	ECL 4
Dissolved	Analysis	245.1		1			210433	01/31/22 18:20	VWJ7	ECL 1
	Instrument ID: HG7									
Dissolved	Analysis	SM 2340B		1			665282	02/01/22 17:48	P1R	IRV 2
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-31-23
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
218.6 CR3		Water	Cr (III)
314.0		Water	Perchlorate

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method	Method Description	Protocol	Laboratory
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	ECL 2
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	40CFR136A	ECL 1
608.3	Organochlorine Pesticides in Water	40CFR136A	ECL 1
608.3	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	ECL 1
218.6	Chromium, Hexavalent (Ion Chromatography)	EPA	IRV 2
300.0	Anions, Ion Chromatography	MCAWW	IRV 2
314.0	Perchlorate (IC)	EPA	IRV 2
NO3NO2 Calc	Nitrogen, Nitrate-Nitrite	EPA	IRV 2
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	ECL 1
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	IRV 2
180.1	Turbidity, Nephelometric	MCAWW	IRV 2
218.6 CR3	Chromium, Trivalent (Calculation)	EPA	IRV 2
SM 2540C	Solids, Total Dissolved (TDS)	SM	IRV 2
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 2
SM 4500 CN E	Cyanide, Total (Low Level)	SM	IRV 2
SM 4500 NH3 G	Ammonia	SM	IRV 2
SM 5310D	Organic Carbon, Total (TOC)	SM	ECL 4
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	IRV 2
SM5210B	BOD, 5 Day	SM	IRV 2
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	ECL 4
5030C	Purge and Trap	SW846	ECL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	ECL 1
625	Liquid-Liquid Extraction	40CFR136A	ECL 1
Distill/CN	Distillation, Cyanide	None	IRV 2
Filtration	Sample Filtration	None	ECL 4
FILTRATION	Sample Filtration	None	IRV 2

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Job ID: 570-82066-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-82066-1	Outfall001_20220119_Comp	Water	01/19/22 10:30	01/19/22 18:20
570-82066-3	Outfall001_20220119_Comp_F	Water	01/19/22 10:30	01/19/22 18:20

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-82066 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	**Project Manager:** Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	**Field Manager:** Mark Dominick 978.234.5033, 818.599.0702 (cell)
Sampler: Adrian Mobeka	

									ANALYSIS REQUIRED																
									R/A	R	R	R	R/A	R	R	R	A	A	R					
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM52108_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- F-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals: Mercury (E245.1)					Comments
Outfall 001	Outfall001_20220119_Comp	1/19/2022 10:30 am	WM	500 mL Poly	1	HNO_3	80	No	X										X					
			WM	1 L Glass Amber	2	None	110	No		X														
			WM	1 L Poly	1	None	115	No			X													
			WM	500 mL Poly	2	None	120	No				X												
			WM	500 mL Poly	2	None	125	No					X											48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X										48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X								
			WM	1 L Glass Amber	2	None	250	No									X							
			WM	1 L Glass Amber	2	None	175	No										X						
			WM	1 L Poly	1	None	185	No							X									
	Outfall001_20220119_Comp_Extra	1/19/2022 10:30 am	WM	1 L Glass Amber	2	None	110	No		H														Hold
			WM	500 mL Poly	2	None	120	No				H												Hold
			WM	500 mL Poly	2	None	125	No					H											Hold
			WM	1 L Glass Amber	2	None	250	No										H						Hold
			WM	1 L Glass Amber	2	None	175	No										H						Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022/1400	H&A	[signature]	ECI 1/19/22 1400
[signature]	01/19/22	18:20 ECI	[signature]	1/19/22 1820

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day ___X___
48 Hour _____ 5 Day _____ Normal. _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV: _____ All Level IV: ___X___

COC Revised on 1/20/2022 at 10:00am by Michelle Dallalah (H&A).

1613.1, 2237, 1613.1 SCG

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:	R/A	R	R	R	A	A	A	A	R	QRSW	
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp	ANALYSIS REQUIRED										
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218		Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals: Mercury (E245.1)		Comments
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)											
Sampler: Adrian Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)											

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD												
Outfall 001	Outfall001_20220119_Comp_F	1/19/2022 10:30 am	WM	1 L Poly	1	None	190	No	X											Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	2	None	320	No										X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall001_20220119_Comp	1/19/2022 10:30 am *	WM	500 mL Poly	1	NaOH	220	No		X										
			WM	2.5 Gal Cube	1	None	225	No		\	X									Unfiltered and unpreserved analysis, Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No												
			WM	1 Gal Cube	6	None	235	No					X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No						X						
			WM	1 L Glass Amber	1	HCl	245	No							X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No								X				
			WM	500 mL Poly	1	None	260	No									X			
			WM	1L Glass Amber	2	None	275	No												
	Outfall001_20220119_Comp_Extra	1/19/2022 10:30 am	WM	40 mL VOA	3	HCl	240	No						H						Hold
			WM	1 L Glass Amber	MD 2 1	None	255	No								H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022 / 1400	H:A	[signature]	ECI 1/19/22 1400
[signature]	01/19/22 1820	ECI	[signature]	1/19/22 1820

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: ___X___

* Hand-delivered to ABC Labs in Ventura by H:A

2 2|3.7, 1 6|3 1

COC Revised on 1/20/2022 at 10:00am by Michelle Dallalah (H&A).

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-82066 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	**Project Manager:** Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	**Field Manager:** Mark Dominick 978.234.5033, 818.599.0702 (cell)
Sampler: Adrian Mobeka	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R/A: Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R: TCDD (and all congeners) (E1613B)	R: BOD5 (20 degrees C) (E405.1 (SM52108_BODCalc))	R: Surfactants (MBAS) (SM5540C/E425.1)	R/A: Cl- F-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	R: Turbidity TDS (SM2540C/E180.1)	R: TSS (160.2 (SM2540D))	A: Ammonia-N (E350.2)	A: Priority Pollutants-Pesticides+PCBs (E608)	R: Priority Pollutants-SVOCs (E625)	R: Total Recoverable Metals: Mercury (E245.1)	Comments
Outfall 001	Outfall001_20220119_Comp	1/19/2022	WM	500 mL Poly	1	HNO_3	80	No	X												
			WM	1 L Glass Amber	2	None	110	No		X											
			WM	1 L Poly	1	None	115	No			X										
			WM	500 mL Poly	2	None	120	No				X									
			WM	500 mL Poly	2	None	125	No					X								48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X							48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X					
			WM	1 L Glass Amber	2	None	250	No									X				
			WM	1 L Glass Amber	2	None	175	No										X			
			WM	1 L Poly	1	None	185	No							X						
	Outfall001_20220119_Comp_Extra	1/19/2022	WM	1 L Glass Amber	2	None	110	No		H											Hold
			WM	500 mL Poly	2	None	120	No				H									Hold
			WM	500 mL Poly	2	None	125	No					H								Hold
			WM	1 L Glass Amber	2	None	250	No										H			Hold
			WM	1 L Glass Amber	2	None	175	No										H			Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022/1400	H.A	[signature]	EC 1/19/22 1400
[signature]	01/19/22	18:20 EC	[signature]	1/19/22 1820

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day ___X___
48 Hour _____ 5 Day _____ Normal. _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV _____ All Level IV ___X___

1613.1, 2237, 1613.1 SCG

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:	ANALYSIS REQUIRED
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp	R/A R R R A A A A R QRSW
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218		
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)	
Sampler: Adrian Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals: Mercury (E245.1)		Comments
Outfall 001	Outfall001_20220119_Comp_F	1/19/2022	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	2	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall001_20220119_Comp	1/19/2022 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			WM	1L Glass Amber	2	None	275	No											
	Outfall001_20220119_Comp_Extra	1/19/2022	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	MS/MSD 2	None	255	No							H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022 / 1400	H:A	[signature]	ECI 1/19/22 1400
[signature]	01/19/22 1820	ECI	[signature]	1/19/22 1820

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

* Hand-delivered to ABC Labs in Ventura by H:A

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Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152165 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82066-3
Address: 13715 Rider Trail North ,	Due Date Requested: 2/16/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	SSOW#:			
Site				

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O AsNaO2
D Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S H2SO4
H Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note.
			Preservation Code:												
Outfall001_20220119_Comp (570-82066-1)	1/19/22	10:30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time: 11/20/21 1304	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-152240 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-82066-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 2/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20220119_Comp (570-82066-1)	1/19/22	10:30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware
Outfall001_20220119_Compl_Extra (570-82066-2)	1/19/22	10:30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		1/20/22 1520				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152284 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82066-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 2/9/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site	SSOW#:			

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck-Hydrazine)/ Weck-Hydrazine	SUB (Weck-Hydrazine)/ Weck-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20220119_Comp (570-82066-1)	1/19/22	10:30 Pacific		Water			X		1	Level IV needed
Outfall001_20220119_Compl_Extra (570-82066-2)	1/19/22	10:30 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time:	Company	Received by	Date/Time.	Company
1		1/20/22 1637				
2	Relinquished by	Date/Time	Company	Received by	Date/Time.	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Eurofins Calscience
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-152108 1
Client Contact: Shipping/Receiving	Phone	E Mail: Virendra Patel@eurofinset com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-82066-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/31/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site	SSOW#:			

Preservation Codes

A HCL	M Hexane
B NaOH	N None
C Zn Acetate	O AsNaO2
D Nitric Acid	P - Na2O4S
E NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G Amchlor	S H2SO4
H Ascorbic Acid	T - TSP Dodecahydrate
I Ice	U Acetone
J DI Water	V - MCAA
K EDTA	W - pH 4-5
L EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200 7/200.2 200.7 Outfall 001/002/011 Totals List	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	SM5210B_BODCalc/ BOD, 5 Day	5540C/ Methylene Blue Active Substances (MBAS)	300_ORGFM_28D/ Chloride,Sulfate, Fluoride	300_ORGFMS/ (MOD) Nitrate + Nitrite as N	NO2NO3_Calc	314.0/ Perchlorate	180 1/ Turbidity	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall001_20220119_Comp (570-82066-1)	1/19/22	10 30 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X	X	X	11	run low level matrix spike when baseline is elevated, confirm hit w/spike 2X-5X hit
Outfall001_20220119_F (570-82066-3)	1/19/22	10 30 Pacific		Water																3	Filter w/in 24 hours, Filter within 24 hours

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing Southwest LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		01/20/22 0827	ECTW		1/20/22 0827	ECT
2	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
3	Relinquished by	Date/Time:	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 1.5/1.5 11/1.1 IR 89

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Eurofins Calscience
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-152108 2
Client Contact: Shipping/Receiving	Phone	E Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-82066-1
Address: 2841 Dow Avenue	Due Date Requested: 1/31/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Preservation Codes

A HCL	M Hexane
B NaOH	N None
C Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S - H2SO4
H Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V - MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	4500_CN_E_LL/Distill_CN	218.6_ORGFM/ Chromium, Hexavalent	218.6_CR3	200.7/FILTRATION 200.7 Outfall 001/002/011 Diss List	200.7/200.2 200.7 Outfall 001/002/011 Diss List	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	200.8/200.2 (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Filtration_AC Diss hardness						Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall001_20220119_Comp (570-82066-1)	1/19/22	10 30 Pacific		Water			X	X	X											11	, run low level matrix spike when baseline is elevated, confirm hit w/spike 2X-5X hit
Outfall001_20220119_F (570-82066-3)	1/19/22	10 30 Pacific		Water						X	X	X	X	X						3	Filter w/in 24 hours Filter within 24 hours

Note. Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	01/20/22 0827	BEJW	[signature]	1/20/22 0827	ECT
2	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
3	Relinquished by	Date/Time:	Company	Received by	Date/Time	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.
		15/15 1/1.1

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Eurofins Calscience
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-152108 2
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-82063-1
Address: 2841 Dow Avenue	Due Date Requested: 1/31/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	4500_CN_E_LL/Distill_CN	218.6_ORGFM/ Chromium, Hexavalent	218.6_CR3	200.7/FILTRATION 200 7 Outfall 001/002/011 Diss List	200.7/200.2 200.7 Outfall 001/002/011 Diss List	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	200.8/200.2 (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Filtration_AC Diss hardness						Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall002_20220119_Comp (570-82063-1)	1/19/22	08 30 Pacific		Water			X	X	X												11	, run low level matrix spike when baseline is elevated, confirm hit w/spike 2X-5X hit
Outfall002_20220119_F (570-82063-3)	1/19/22	08 30 Pacific		Water						X	X	X	X	X							3	Filter w/in 24 hours, Filter within 24 hours

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Relinquished by	Date/Time:	Company	Received by	Date/Time	Company
	Relinquished by:	01/20/22 0927	EEIW		1/20/22 0827	ECT
	Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
	Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.	15/15 11/11

1e 89

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Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82066-1

Login Number: 82066
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	No sample date and/or time on COC, logged in per container labels.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82066-1

Login Number: 82066
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience
List Creation: 01/20/22 11:47 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-82066-2
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/8/2022 10:25:23 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-82066-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-82066-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Job ID: 570-82066-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-82066-2

Comments
No additional comments.

Receipt
The samples were received on 1/19/2022 6:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.1º C, 3.1º C and 3.7º C.

Receipt Exceptions

The following samples were received at the laboratory without a sample collection time documented on the chain of custody: Outfall001_20220119_Comp (570-82066-1), Outfall001_20220119_Comp_Extra (570-82066-2) and Outfall001_20220119_Comp_F (570-82066-3).

Logged in per collection time in labels (10:30am for all samples).

The clients office was contacted with the above sample receipt anomalies. The laboratory was provided written direction on how to proceed, please refer to the COC section of the report for further details.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method Chronic-Selenestrum: This method was subcontracted to Aquatic Bioassay & Consulting. The subcontract laboratory certification is different from that of the facility issuing the final report.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method	Method Description	Protocol	Laboratory
EPA	Bioassay	EPA	Aquatic

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

Aquatic = Aquatic Bioassay & Consulting, 29 North Olive Street, Ventura, CA 93001

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-82066-1	Outfall001_20220119_Comp	Water	01/19/22 10:30	01/19/22 18:20

aquatic bioassay & consulting laboratories, inc

February 4, 2022

Mr. Virendra Patel
Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841-1432

Dear Mr. Patel:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013.* Results were as follows:

CLIENT:	Eurofins Calscience
SAMPLE I.D.:	Outfall 001
DATE RECEIVED:	19 Jan - 2022
ABC LAB. NO.:	CSE0122.088

CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY

IWC = 100.00 %

TST RESULT

GROWTH = PASS % EFFECT = 9.73 %

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 01 Feb-22 09:35 (p 1 of 1)
Test Code/ID: CSE0122.088 / 04-7286-5089

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	18-3227-3159	**Test Type:**	Cell Growth	**Analyst:**	Beth Maturino		
Start Date:	20 Jan-22 09:25	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	24 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	4d 3h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	7d
Sample ID:	12-3742-9186	**Code:**	CSE0122.088	**Project:**	Boeing-SSFL NPDES		
Sample Date:	19 Jan-22	**Material:**	Sample Water	**Source:**	Bioassay Report		
Receipt Date:	19 Jan-22 15:55	**CAS (PC):**		**Station:**	Outfall 001		
Sample Age:	33h (5.5 °C)	**Client:**	Eurofins Calscience				

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result	S
05-2360-8746	Cell Density	TST-Welch's t Test	2.2E-05	100% passed cell density	1

Test Acceptability

				TAC Limits			
Analysis ID	**Endpoint**	**Attribute**	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
05-2360-8746	Cell Density	Control CV	0.03656	<<	0.2	Yes	Passes Criteria
05-2360-8746	Cell Density	Control Resp	1.81E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	8	1.811E+6	1.755E+6	1.866E+6	1.663E+6	1.864E+6	2.340E+4	6.620E+4	3.66%	0.00%
100		8	1.635E+6	1.549E+6	1.720E+6	1.495E+6	1.810E+6	3.627E+4	1.026E+5	6.28%	9.73%

Cell Density Detail — MD5: C83904BD7822E34DB68FFB3BDDF5C555

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.864E+6	1.779E+6	1.803E+6	1.830E+6	1.850E+6	1.663E+6	1.858E+6	1.839E+6
100		1.689E+6	1.647E+6	1.522E+6	1.702E+6	1.579E+6	1.810E+6	1.495E+6	1.633E+6

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	05-2360-8746	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	31 Jan-22 9:28	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:	31 Jan-22 9:26	**MD5 Hash:**	DE6E10601C750CDCC165287B39F81012	**Editor ID:**	004-190-922-1
Batch ID:	18-3227-3159	**Test Type:**	Cell Growth	**Analyst:**	Beth Maturino
Start Date:	20 Jan-22 09:25	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	24 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	4d 3h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 7d
Sample ID:	12-3742-9186	**Code:**	CSE0122.088	**Project:**	Boeing-SSFL NPDES
Sample Date:	19 Jan-22	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	19 Jan-22 15:55	**CAS (PC):**		**Station:**	Outfall 001
Sample Age:	33h (5.5 °C)	**Client:**	Eurofins Calscience		

Data Transform	Alt Hyp	TST_b	Comparison Result
Untransformed	C*b < T	0.75	100% passed cell density endpoint

TST-Welch's t Test

Control	vs	Conc-%	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:25%)
Negative Control		100*	6.863	0.6998	10	CDF	2.2E-05	Non-Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.03656	<<	0.2	Yes	Passes Criteria
Control Resp	1.81E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	1.241E+11	1.241E+11	1	16.65	0.0011	Significant Effect
Error	1.044E+11	7.454E+09	14			
Total	2.284E+11		15			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Levene Equality of Variance Test	1.344	8.862	0.2658	Equal Variances
	Mod Levene Equality of Variance Test	1.488	8.862	0.2427	Equal Variances
	Variance Ratio F Test	2.402	8.885	0.2704	Equal Variances
Distribution	Anderson-Darling A2 Test	0.5626	3.878	0.1492	Normal Distribution
	D'Agostino Skewness Test	0.3374	2.576	0.7358	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1505	0.2471	0.4484	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9373	0.8408	0.3169	Normal Distribution

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	8	1.811E+6	1.755E+6	1.866E+6	1.834E+6	1.663E+6	1.864E+6	2.340E+4	3.66%	0.00%
100		8	1.635E+6	1.549E+6	1.720E+6	1.640E+6	1.495E+6	1.810E+6	3.627E+4	6.28%	9.73%

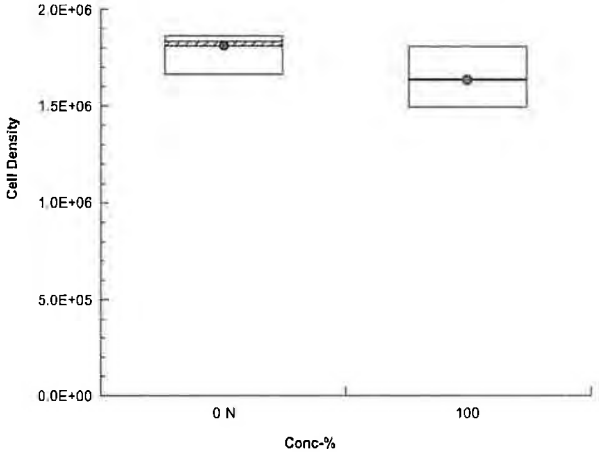
Cell Density Detail

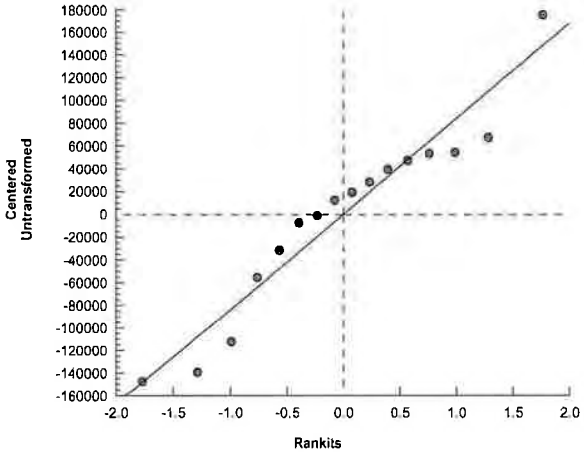
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.864E+6	1.779E+6	1.803E+6	1.830E+6	1.850E+6	1.663E+6	1.858E+6	1.839E+6
100		1.689E+6	1.647E+6	1.522E+6	1.702E+6	1.579E+6	1.810E+6	1.495E+6	1.633E+6

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	05-2360-8746	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	31 Jan-22 9:28	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:	31 Jan-22 9:26	**MD5 Hash:**	DE6E10601C750CDCC165287B39F81012	**Editor ID:**	004-190-922-1

Graphics





Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	18-3227-3159	**Test Type:**	Cell Growth	**Analyst:**	Beth Maturino	
Start Date:	20 Jan-22 09:25	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water	
Ending Date:	24 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable	
Test Length:	4d 3h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:** 7d

Sample ID:	12-3742-9186	**Code:**	CSE0122.088	**Project:**	Boeing-SSFL NPDES	
Sample Date:	19 Jan-22	**Material:**	Sample Water	**Source:**	Bioassay Report	
Receipt Date:	19 Jan-22 15:55	**CAS (PC):**		**Station:**	Outfall 001	
Sample Age:	33h (5.5 °C)	**Client:**	Eurofins Calscience			

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	63	---	---	63	63	---	0	---	0
100		1	38	---	---	38	38	---	0	---	0
Overall		2	50.5	-108.3	209.3	38	63	12.5	17.68	35.01%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	495.6	484.5	506.7	483	507	1.792	8.961	1.81%	0
100		5	378	371.4	384.6	373	387	1.058	5.292	1.40%	0
Overall		10	436.8	392.2	481.4	373	507	19.72	62.37	14.28%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	110	---	---	110	110	---	0	---	0
100		1	87	---	---	87	87	---	0	---	0
Overall		2	98.5	-47.62	244.6	87	110	11.5	16.26	16.51%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.94	7.829	8.051	7.8	8	0.01789	0.08944	1.13%	0
100		5	8.18	8.044	8.316	8	8.3	0.02191	0.1095	1.34%	0
Overall		10	8.06	7.947	8.173	7.8	8.3	0.04989	0.1578	1.96%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.96	25.85	26.07	25.8	26	0.01789	0.08943	0.34%	0
100		5	25.96	25.85	26.07	25.8	26	0.01789	0.08943	0.34%	0
Overall		10	25.96	25.9	26.02	25.8	26	0.02667	0.08433	0.32%	0 (0%)

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		63					
100				38					

Conductivity-µmhos

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		483					
100				373					
0	N	2		507					
100				377					
0	N	3		496					
100				376					
0	N	4		492					
100				377					
0	N	5		500					
100				387					

Hardness (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		110					
100				87					

pH-Units

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.8					
100				8					
0	N	2		8					
100				8.2					
0	N	3		7.9					
100				8.2					
0	N	4		8					
100				8.2					
0	N	5		8					
100				8.3					

Temperature-°C

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		26					
100				26					
0	N	2		26					
100				26					
0	N	3		26					
100				26					
0	N	4		26					
100				26					
0	N	5		25.8					
100				25.8					

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Temp. deg. C = 5.5°C

2/8/2022

Chlorine (mg/l) = 0.1

Client Name/Address:	Project:	ANALYSIS REQUIRED
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp	
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	Project Manager: Katherine Miller 520.289.8608, 520.904.6944 (cell)	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)	
Sampler: Adrian Mobeka		

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R/A: Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R: Cyanide (SM4500-CN-E / E335.2)	R: Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 226 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	R: Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	A: 1,4-Dioxane (E624 (SW8260M_SIM))	A: Total Organic Carbon (415.2 (SM 5310B))	A: Monomethyl hydrazine (SW8315M/DV-WC-0077)	A: Cr (VI), Total (E218.6)	R: Total Dissolved Metals: Mercury (E245.1)	QRSW	Comments
Outfall 001	Outfall001_20220119_Comp_F	1/19/2022	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	2	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall001_20220119_Comp	1/19/2022	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No											
			WM	1 L Glass Amber	1	None	230	No		\	X								Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			WM	1L Glass Amber	2	None	275	No											
	Outfall001_20220119_Comp_Extra	1/19/2022	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	and 2 1	None	255	No							H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022/1555	H:A	[signature]	1/19/22 1555
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Relinquished By	Date/Time:	Company:	Received By	Date/Time:

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

* Hold - delivered to ABC Labs in Ventura by H:A

aquatic bioassay & consulting laboratories, inc

CHRONIC SELENASTRUM GROWTH BIOASSAY

DATE: 6 January - 2021

STANDARD TOXICANT: Cadmium Chloride

NOEC = 20.00 ug/l

IC25 = 66.20 ug/l
IC50 = 136.00 ug/l

Yours very truly,

Scott Johnson
Laboratory Director

29 north olive st. ventura, ca 93001 (805) 643 5621 aquabio.org

CETIS Summary Report

Report Date: 25 Jan-22 15:49 (p 1 of 1)
Test Code/ID: SEL010622 / 19-6068-6059

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	04-0871-6453	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	06 Jan-22 11:04	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	10 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	4d 1h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	7d
Sample ID:	05-8955-1529	**Code:**	SEL010622	**Project:**	REF TOX		
Sample Date:	06 Jan-22 11:04	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant		
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX		
Sample Age:	---	**Client:**	Internal Lab				

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	S
17-9444-3655	Cell Density	Dunnett Multiple Comparison Test		20	40	28.28	11.4%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	µg/L	95% LCL	95% UCL	S
11-8061-4337	Cell Density	Linear Interpolation (ICPIN)		IC10	32.99	26.76	53.2	1
				IC15	39.48	30.44	64.2	
				IC20	52.55	29.97	73.88	
				IC25	66.2	42.73	89.41	
				IC40	107.9	89.09	123.8	
				IC50	136	120.6	153.4	

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
11-8061-4337	Cell Density	Control CV	0.04156	<<	0.2	Yes	Passes Criteria
17-9444-3655	Cell Density	Control CV	0.04156	<<	0.2	Yes	Passes Criteria
11-8061-4337	Cell Density	Control Resp	1.76E+6	1000000	>>	Yes	Passes Criteria
17-9444-3655	Cell Density	Control Resp	1.76E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.762E+6	1.645E+6	1.879E+6	1.667E+6	1.845E+6	3.661E+4	7.322E+4	4.16%	0.00%
20		4	1.885E+6	1.579E+6	2.191E+6	1.656E+6	2.068E+6	9.618E+4	1.924E+5	10.20%	-6.99%
40		4	1.543E+6	1.325E+6	1.760E+6	1.419E+6	1.737E+6	6.832E+4	1.366E+5	8.86%	12.44%
80		4	1.276E+6	1.115E+6	1.436E+6	1.177E+6	1.391E+6	5.052E+4	1.010E+5	7.92%	27.61%
140		4	8.855E+5	7.462E+5	1.025E+6	7.730E+5	9.700E+5	4.378E+4	8.756E+4	9.89%	49.74%
180		4	6.262E+5	5.237E+5	7.288E+5	5.490E+5	6.930E+5	3.223E+4	6.445E+4	10.29%	64.46%

Cell Density Detail — MD5: 5D32D8382C52FB4CF0B1C96FCCD75F44

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.761E+6	1.667E+6	1.845E+6	1.775E+6
20		2.018E+6	2.068E+6	1.656E+6	1.799E+6
40		1.737E+6	1.419E+6	1.523E+6	1.492E+6
80		1.328E+6	1.206E+6	1.391E+6	1.177E+6
140		7.730E+5	9.370E+5	9.700E+5	8.620E+5
180		6.930E+5	6.630E+5	6.000E+5	5.490E+5

Analyst: _____ QA: PASS 2/8/2022

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	17-9444-3655	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:58	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1
Edit Date:	23 Jan-22 16:55	**MD5 Hash:**	4FF39683B6F639A44296592E1864B33C	**Editor ID:**	000-189-126-0
Batch ID:	04-0871-6453	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	06 Jan-22 11:04	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	10 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	4d 1h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 7d
Sample ID:	05-8955-1529	**Code:**	SEL010622	**Project:**	REF TOX
Sample Date:	06 Jan-22 11:04	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	20	40	28.28	---	200300	11.37%

Dunnett Multiple Comparison Test

Control	vs	Conc-µg/L	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		20	-1.481	2.407	2E+05	6	CDF	0.9956	Non-Significant Effect
		40*	2.635	2.407	2E+05	6	CDF	0.0322	Significant Effect
		80*	5.847	2.407	2E+05	6	CDF	6.1E-05	Significant Effect
		140*	10.53	2.407	2E+05	6	CDF	2.7E-05	Significant Effect
		180*	13.65	2.407	2E+05	6	CDF	2.7E-05	Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control CV	0.04156	<<	0.2	Yes	Passes Criteria
Control Resp	1.76E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	4.944E+12	9.888E+11	5	71.42	<1.0E-05	Significant Effect
Error	2.492E+11	1.384E+10	18			
Total	5.193E+12		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	4.689	15.09	0.4549	Equal Variances
	Levene Equality of Variance Test	2.608	4.248	0.0607	Equal Variances
	Mod Levene Equality of Variance Test	1.896	4.248	0.1452	Equal Variances
Distribution	Anderson-Darling A2 Test	0.2084	3.878	0.9044	Normal Distribution
	D'Agostino Kurtosis Test	0.08814	2.576	0.9298	Normal Distribution
	D'Agostino Skewness Test	0.03132	2.576	0.9750	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	0.008749	9.21	0.9956	Normal Distribution
	Kolmogorov-Smirnov D Test	0.08117	0.2056	1.0000	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9814	0.884	0.9200	Normal Distribution

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.762E+6	1.645E+6	1.879E+6	1.768E+6	1.667E+6	1.845E+6	3.661E+4	4.16%	0.00%
20		4	1.885E+6	1.579E+6	2.191E+6	1.908E+6	1.656E+6	2.068E+6	9.618E+4	10.20%	-6.99%
40		4	1.543E+6	1.325E+6	1.760E+6	1.508E+6	1.419E+6	1.737E+6	6.832E+4	8.86%	12.44%
80		4	1.276E+6	1.115E+6	1.436E+6	1.267E+6	1.177E+6	1.391E+6	5.052E+4	7.92%	27.61%
140		4	8.855E+5	7.462E+5	1.025E+6	8.995E+5	7.730E+5	9.700E+5	4.378E+4	9.89%	49.74%
180		4	6.262E+5	5.237E+5	7.288E+5	6.315E+5	5.490E+5	6.930E+5	3.223E+4	10.29%	64.46%

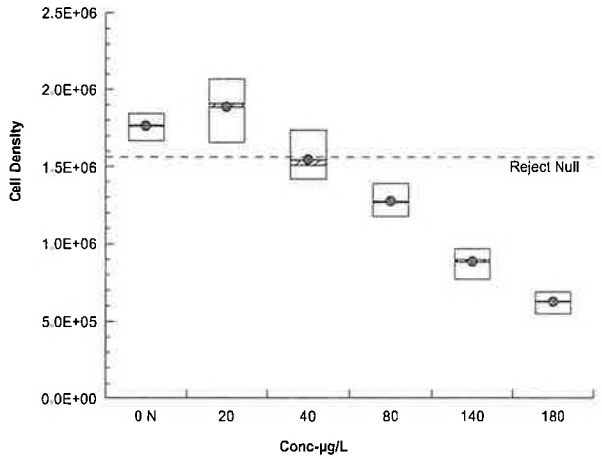
Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

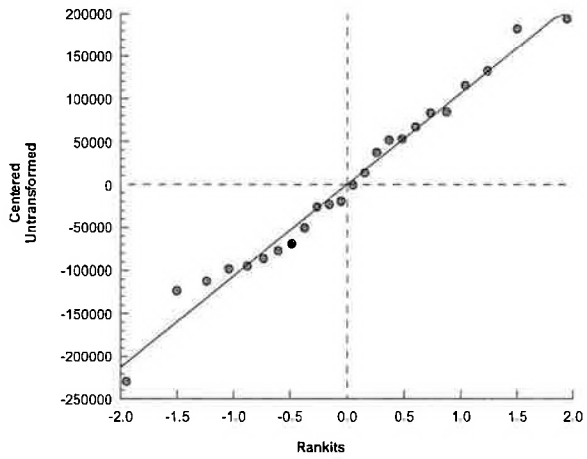
Analysis ID:	17-9444-3655	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:58	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1
Edit Date:	23 Jan-22 16:55	**MD5 Hash:**	4FF39683B6F639A44296592E1864B33C	**Editor ID:**	000-189-126-0

Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.761E+6	1.667E+6	1.845E+6	1.775E+6
20		2.018E+6	2.068E+6	1.656E+6	1.799E+6
40		1.737E+6	1.419E+6	1.523E+6	1.492E+6
80		1.328E+6	1.206E+6	1.391E+6	1.177E+6
140		7.730E+5	9.370E+5	9.700E+5	8.620E+5
180		6.930E+5	6.630E+5	6.000E+5	5.490E+5

Graphics





Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	11-8061-4337	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:58	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	23 Jan-22 16:55	**MD5 Hash:**	4FF39683B6F639A44296592E1864B33C	**Editor ID:**	000-189-126-0
Batch ID:	04-0871-6453	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	06 Jan-22 11:04	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	10 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	4d 1h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 7d
Sample ID:	05-8955-1529	**Code:**	SEL010622	**Project:**	REF TOX
Sample Date:	06 Jan-22 11:04	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.04156	<<	0.2	Yes	Passes Criteria
Control Resp	1.76E+6	1000000	>>	Yes	Passes Criteria

Point Estimates

Level	µg/L	95% LCL	95% UCL
IC10	32.99	26.76	53.2
IC15	39.48	30.44	64.2
IC20	52.55	29.97	73.88
IC25	66.2	42.73	89.41
IC40	107.9	89.09	123.8
IC50	136	120.6	153.4

Cell Density Summary

			Calculated Variate						Isotonic Variate	
Conc-µg/L	**Code**	**Count**	**Mean**	**Median**	**Min**	**Max**	**CV%**	**%Effect**	**Mean**	**%Effect**
0	N	4	1.762E+6	1.768E+6	1.667E+6	1.845E+6	4.16%	0.00%	1.824E+6	0.00%
20		4	1.885E+6	1.908E+6	1.656E+6	2.068E+6	10.20%	-6.99%	1.824E+6	0.00%
40		4	1.543E+6	1.508E+6	1.419E+6	1.737E+6	8.86%	12.44%	1.543E+6	15.40%
80		4	1.276E+6	1.267E+6	1.177E+6	1.391E+6	7.92%	27.61%	1.276E+6	30.06%
140		4	8.855E+5	8.995E+5	7.730E+5	9.700E+5	9.89%	49.74%	8.855E+5	51.44%
180		4	6.262E+5	6.315E+5	5.490E+5	6.930E+5	10.29%	64.46%	6.262E+5	65.66%

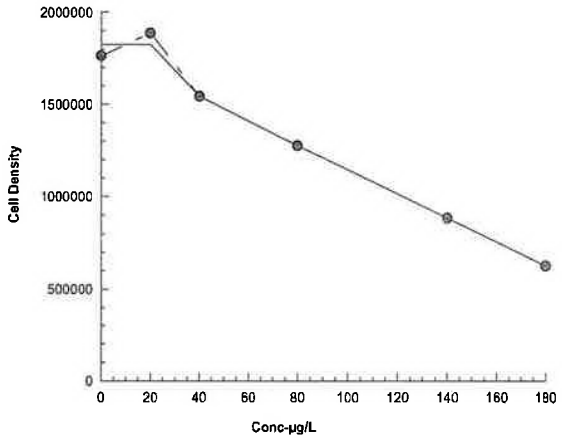
Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.761E+6	1.667E+6	1.845E+6	1.775E+6
20		2.018E+6	2.068E+6	1.656E+6	1.799E+6
40		1.737E+6	1.419E+6	1.523E+6	1.492E+6
80		1.328E+6	1.206E+6	1.391E+6	1.177E+6
140		7.730E+5	9.370E+5	9.700E+5	8.620E+5
180		6.930E+5	6.630E+5	6.000E+5	5.490E+5

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	11-8061-4337	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:58	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	23 Jan-22 16:55	**MD5 Hash:**	4FF39683B6F639A44296592E1864B33C	**Editor ID:**	000-189-126-0

Graphics



Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	04-0871-6453	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	06 Jan-22 11:04	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	10 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	4d 1h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	7d

Sample ID:	05-8955-1529	**Code:**	SEL010622	**Project:**	REF TOX
Sample Date:	06 Jan-22 11:04	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	57	---	---	57	57	---	0	---	0
20		1	57	---	---	57	57	---	0	---	0
40		1	57	---	---	57	57	---	0	---	0
80		1	60	---	---	60	60	---	0	---	0
140		1	49	---	---	49	49	---	0	---	0
180		1	51	---	---	51	51	---	0	---	0
Overall		6	55.17	50.74	59.59	49	60	1.721	4.215	7.64%	0 (0%)

Conductivity-µmhos

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	469.2	458.2	480.2	460	484	1.774	8.871	1.89%	0
20		5	481	466.3	495.7	474	502	2.362	11.81	2.46%	0
40		5	465.4	462.5	468.3	462	468	0.4604	2.302	0.49%	0
80		5	445.8	439.3	452.3	440	453	1.053	5.263	1.18%	0
140		5	431.4	427	435.8	426	435	0.7014	3.507	0.81%	0
180		5	397.8	388.9	406.7	391	409	1.438	7.19	1.81%	0
Overall		30	448.4	437.6	459.3	391	502	5.303	29.04	6.48%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	109	---	---	109	109	---	0	---	0
20		1	122	---	---	122	122	---	0	---	0
40		1	137	---	---	137	137	---	0	---	0
80		1	141	---	---	141	141	---	0	---	0
140		1	126	---	---	126	126	---	0	---	0
180		1	125	---	---	125	125	---	0	---	0
Overall		6	126.7	114.7	138.6	109	141	4.652	11.4	9.00%	0 (0%)

pH-Units

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.9	7.812	7.988	7.8	8	0.01414	0.0707	0.89%	0
20		5	7.82	7.658	7.982	7.7	8	0.02608	0.1304	1.67%	0
40		5	7.8	7.648	7.952	7.7	8	0.0245	0.1225	1.57%	0
80		5	7.78	7.618	7.942	7.7	8	0.02608	0.1304	1.68%	0
140		5	7.76	7.593	7.927	7.7	8	0.02683	0.1342	1.73%	0
180		5	7.76	7.593	7.927	7.7	8	0.02683	0.1342	1.73%	0
Overall		30	7.803	7.758	7.849	7.7	8	0.02222	0.1217	1.56%	0 (0%)

Temperature-°C

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
20		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
40		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
80		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
140		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
180		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
Overall		30	25.8	25.65	25.95	25	26	0.07428	0.4068	1.58%	0 (0%)

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		57					
20				57					
40				57					
80				60					
140				49					
180				51					

Conductivity-µmhos

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		460					
20				477					
40				467					
80				449					
140				426					
180				391					
0	N	2		467					
20				477					
40				462					
80				440					
140				430					
180				392					
0	N	3		468					
20				475					
40				465					
80				442					
140				433					
180				399					
0	N	4		467					
20				474					
40				465					
80				445					
140				435					
180				398					
0	N	5		484					
20				502					
40				468					
80				453					
140				433					
180				409					

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		109					
20				122					
40				137					
80				141					
140				126					
180				125					

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

pH-Units

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.8					
20				7.7					
40				7.7					
80				7.7					
140				7.7					
180				7.7					
0	N	2		7.9					
20				7.7					
40				7.7					
80				7.7					
140				7.7					
180				7.7					
0	N	3		7.9					
20				7.8					
40				7.8					
80				7.7					
140				7.7					
180				7.7					
0	N	4		7.9					
20				7.9					
40				7.8					
80				7.8					
140				7.7					
180				7.7					
0	N	5		8					
20				8					
40				8					
80				8					
140				8					
180				8					

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Temperature-°C

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		26					
20				26					
40				26					
80				26					
140				26					
180				26					
0	N	2		26					
20				26					
40				26					
80				26					
140				26					
180				26					
0	N	3		26					
20				26					
40				26					
80				26					
140				26					
180				26					
0	N	4		26					
20				26					
40				26					
80				26					
140				26					
180				26					
0	N	5		25					
20				25					
40				25					
80				25					
140				25					
180				25					

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-82066 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	**Project Manager:** Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	**Field Manager:** Mark Dominick 978.234.5033, 818.599.0702 (cell)
Sampler: Adrian Mobeka	

									R/A	R	R	R	R/A	R	R	R	A	A	R					
									ANALYSIS REQUIRED															
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM52108_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- F-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals: Mercury (E245.1)					Comments
Outfall 001	Outfall001_20220119_Comp	1/19/2022 10:30 am	WM	500 mL Poly	1	HNO_3	80	No	X										X					
			WM	1 L Glass Amber	2	None	110	No		X														
			WM	1 L Poly	1	None	115	No			X													
			WM	500 mL Poly	2	None	120	No				X												
			WM	500 mL Poly	2	None	125	No					X											48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X										48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X								
			WM	1 L Glass Amber	2	None	250	No									X							
			WM	1 L Glass Amber	2	None	175	No										X						
			WM	1 L Poly	1	None	185	No							X									
	Outfall001_20220119_Comp_Extra	1/19/2022 10:30 am	WM	1 L Glass Amber	2	None	110	No		H														Hold
			WM	500 mL Poly	2	None	120	No				H												Hold
			WM	500 mL Poly	2	None	125	No					H											Hold
			WM	1 L Glass Amber	2	None	250	No										H						Hold
			WM	1 L Glass Amber	2	None	175	No											H					Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022/1400	H&A	[signature]	ECI 1/19/22 1400
[signature]	01/19/22	18:20 ECI	[signature]	1/19/22 1820

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day ___X___
48 Hour _____ 5 Day _____ Normal. _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV _____ All Level IV ___X___

COC Revised on 1/20/2022 at 10:00am by Michelle Dallalah (H&A).

1613.1, 2237, 1613.1 SCG

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:	ANALYSIS REQUIRED
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp	R/A R R R A A A A R QRSW
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218		
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)	
Sampler: Adrian Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals: Mercury (E245.1)		Comments
Outfall 001	Outfall001_20220119_Comp_F	1/19/2022 10:30 am	WM	1 L Poly	1	None	190	No	X									Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	2	None	320	No								X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall001_20220119_Comp	1/19/2022 10:30 am *	WM	500 mL Poly	1	NaOH	220	No		X								
			WM	2.5 Gal Cube	1	None	225	No		\	X							Unfiltered and unpreserved analysis, Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No										
			WM	1 Gal Cube	6	None	235	No				X						Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X					
			WM	1 L Glass Amber	1	HCl	245	No						X				
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X			
			WM	500 mL Poly	1	None	260	No								X		
			WM	1L Glass Amber	2	None	275	No										
	Outfall001_20220119_Comp_Extra	1/19/2022 10:30 am	WM	40 mL VOA	3	HCl	240	No					H					Hold
			WM	1 L Glass Amber	MD 2 1	None	255	No							H			Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022 / 1400	H:A	[signature]	ECI 1/19/22 1400
[signature]	01/19/22 1820	ECI	[signature]	1/19/22 1820

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: ___X___

* Hand-delivered to ABC Labs in Ventura by H:A

COC Revised on 1/20/2022 at 10:00am by Michelle Dallalah (H&A).

2 2|3.7, 1 6|3 1

2/8/2022 2019-2020 Rainy Season Version 5

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-82066 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	**Project Manager:** Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Adrian Mobeka	**Field Manager:** Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM52108_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- F-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals: Mercury (E245.1)				Comments
									R/A	R	R	R	R/A	R	R	R	A	A	R				
									ANALYSIS REQUIRED														
Outfall 001	Outfall001_20220119_Comp	1/19/2022	WM	500 mL Poly	1	HNO_3	80	No	X										X				
			WM	1 L Glass Amber	2	None	110	No		X													
			WM	1 L Poly	1	None	115	No			X												
			WM	500 mL Poly	2	None	120	No				X											
			WM	500 mL Poly	2	None	125	No					X										48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X									48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X							
			WM	1 L Glass Amber	2	None	250	No									X						
			WM	1 L Glass Amber	2	None	175	No										X					
			WM	1 L Poly	1	None	185	No							X								
	Outfall001_20220119_Comp_Extra	1/19/2022	WM	1 L Glass Amber	2	None	110	No		H													Hold
			WM	500 mL Poly	2	None	120	No				H											Hold
			WM	500 mL Poly	2	None	125	No					H										Hold
			WM	1 L Glass Amber	2	None	250	No										H					Hold
			WM	1 L Glass Amber	2	None	175	No											H				Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022/1400	H&A	[signature]	ECI 1/19/22 1400
[signature]	01/19/22	18:20 ECI	[signature]	1/19/22 1820

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day ___X___
48 Hour _____ 5 Day _____ Normal. _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV _____ All Level IV ___X___

1631, 2237, 1631 SCG

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:	R/A	R	R	R	A	A	A	A	R	QRSW	
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp	ANALYSIS REQUIRED										
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218		Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals: Mercury (E245.1)		Comments
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)											
Sampler: Adrian Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)											

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD												
Outfall 001	Outfall001_20220119_Comp_F	1/19/2022	WM	1 L Poly	1	None	190	No	X											Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	2	None	320	No										X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall001_20220119_Comp	1/19/2022 *	WM	500 mL Poly	1	NaOH	220	No		X										
			WM	2.5 Gal Cube	1	None	225	No		\	X									Unfiltered and unpreserved analysis, Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No												
			WM	1 Gal Cube	6	None	235	No				X								Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X							
			WM	1 L Glass Amber	1	HCl	245	No						X						
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X					
			WM	500 mL Poly	1	None	260	No								X				
			WM	1L Glass Amber	2	None	275	No												
	Outfall001_20220119_Comp_Extra	1/19/2022	WM	40 mL VOA	3	HCl	240	No					H							Hold
			WM	1 L Glass Amber	MS/MSD 1	None	255	No							H					Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022 / 1400	H:A	[signature]	ECI 1/19/22 1400
[signature]	01/19/22 1820	ECI	[signature]	1/19/22 1820

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

* Hand-delivered to ABC Labs in Ventura by H:A

2 2|3.7, 1 6|3 1

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152165 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82066-3
Address: 13715 Rider Trail North ,	Due Date Requested: 2/16/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	SSOW#:			
Site				

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O AsNaO2
D Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S H2SO4
H Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note.
			Preservation Code:												
Outfall001_20220119_Comp (570-82066-1)	1/19/22	10:30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	1/20/22 1304				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-152240 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-82066-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 2/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20220119_Comp (570-82066-1)	1/19/22	10:30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware
Outfall001_20220119_Compl_Extra (570-82066-2)	1/19/22	10:30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Level 1 radioactive, Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

Relinquished by:	Date/Time: 1/20/22 1520	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/8/2022

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-152284 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82066-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 2/9/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck-Hydrazine)/ Weck-Hydrazine	SUB (Weck-Hydrazine)/ Weck-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20220119_Comp (570-82066-1)	1/19/22	10:30 Pacific		Water			X		1	Level IV needed
Outfall001_20220119_Compl_Extra (570-82066-2)	1/19/22	10:30 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time.	Company
1		1/20/22 1637				
2	Relinquished by	Date/Time	Company	Received by	Date/Time.	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

2/8/2022

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152240.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-82066-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 2/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
Preservation Code:										
Outfall001_20220119_Comp (570-82066-1)	1/19/22	10:30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall001_20220119_Compl_Extra (570-82066-2)	1/19/22	10:30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	1/20/22 1520		[signature]	01/21/2022 10:35	EET Sac
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ▲ Yes △ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3°C 0.9

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82066-2

Login Number: 82066
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	No sample date and/or time on COC, logged in per container labels.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-82066-3
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/15/2022 3:58:55 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-82066-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Qualifiers

Rad

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-82066-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-82066-3

Comments
No additional comments.

Receipt
The samples were received on 1/19/2022 6:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.1º C, 3.1º C and 3.7º C.

Receipt Exceptions

The following samples were received at the laboratory without a sample collection time documented on the chain of custody: Outfall001_20220119_Comp (570-82066-1), Outfall001_20220119_Comp_Extra (570-82066-2) and Outfall001_20220119_Comp_F (570-82066-3).

Logged in per collection time in labels (10:30am for all samples).

The clients office was contacted with the above sample receipt anomalies. The laboratory was provided written direction on how to proceed, please refer to the COC section of the report for further details.

RAD
Method 900.0: Gross alpha beta batch 547784
The gross alpha laboratory control sample (LCS) recovery is outside the upper QC limit indicating a potential positive bias for that analyte. This analyte was not observed above the RL in the associated samples; therefore the sample data is not adversely affected by this excursion. The data have been reported with this narrative.

(LCS 160-547784/2-A)

Method 900.0: Gross alpha beta batch 547784
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall001_20220119_Comp (570-82066-1), (LCS 160-547784/2-A), (LCSB 160-547784/3-A), (MB 160-547784/1-A), (570-82066-A-1-D DU), (570-82066-A-1-B MS) and (570-82066-A-1-C MSBT)

Method 901.1: Gamma Prep Batch 160-547763
Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216

Job ID: 570-82066-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001_20220119_Comp (570-82066-1), (570-82068-AE-1-A) and (570-82068-AE-1-B DU)

Method 903.0: Radium 226 batch 547785
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001_20220119_Comp (570-82066-1), (LCS 160-547785/1-A), (LCSD 160-547785/2-A) and (MB 160-547785/9-A)

Method 904.0: Radium 228 batch 547792
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001_20220119_Comp (570-82066-1), (LCS 160-547792/1-A), (LCSD 160-547792/2-A) and (MB 160-547792/9-A)

Method 905: Strontium 90 Batch 160-548204:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001_20220119_Comp (570-82066-1), (LCS 160-548204/1-A), (LCSD 160-548204/2-A) and (MB 160-548204/12-A)

Method 906.0: Tritium in liquid batch 160-548411
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
Outfall001_20220119_Comp (570-82066-1), (LCS 160-548411/2-A), (MB 160-548411/1-A), (570-82063-AD-1-A), (570-82063-AD-1-B MS), (570-82926-T-2-A) and (570-82926-T-2-B DU)

Job ID: 570-82066-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Methods A-01-R, U-02-RC: Isotopic Uranium Batch 160-548205:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001_20220119_Comp (570-82066-1), (LCS 160-548205/2-A), (MB 160-548205/1-A), (570-82063-AE-1-E) and (570-82063-AE-1-F DU)

Method ExtChrom: Uranium Prep Batch 160-548205

The following samples were prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall001_20220119_Comp (570-82066-1).

Method LSC_Dist_Susp: Tritium Prep Batch 548411:

The following sample had an unclear matrix: Outfall001_20220119_Comp (570-82066-1). The same was slightly tan in color and transparent.

Method PrecSep_0: Radium-228 Prep Batch 160-547792

The following samples were prepared at a reduced aliquot due to Matrix: Outfall001_20220119_Comp (570-82066-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-547785

The following samples were prepared at a reduced aliquot due to Matrix: Outfall001_20220119_Comp (570-82066-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-548204

The following samples were prepared at a reduced aliquot due to Matrix: Outfall001_20220119_Comp (570-82066-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Client Sample ID: Outfall001_20220119_Comp
Lab Sample ID: 570-82066-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall001_20220119_Comp
Date Collected: 01/19/22 10:30
Date Received: 01/19/22 18:20

Lab Sample ID: 570-82066-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.304	U *	1.53	1.53	3.00	2.75	pCi/L	01/24/22 10:54	01/27/22 07:49	1
Gross Beta	**3.69**		0.872	0.947	4.00	1.08	pCi/L	01/24/22 10:54	01/27/22 07:49	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall001_20220119_Comp
Date Collected: 01/19/22 10:30
Date Received: 01/19/22 18:20

Lab Sample ID: 570-82066-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	1.40	U	9.30	9.30	20.0	11.0	pCi/L	01/24/22 07:18	01/31/22 11:19	1
Potassium-40	93.8	U	121	122		151	pCi/L	01/24/22 07:18	01/31/22 11:19	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall001_20220119_Comp
Date Collected: 01/19/22 10:30
Date Received: 01/19/22 18:20

Lab Sample ID: 570-82066-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0107	U	0.136	0.136	1.00	0.265	pCi/L	01/24/22 10:55	02/15/22 08:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.6*		*40 - 110*	*01/24/22 10:55*	*02/15/22 08:12*	*1*

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall001_20220119_Comp **Lab Sample ID: 570-82066-1**
Date Collected: 01/19/22 10:30 **Matrix: Water**
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.295	U	0.323	0.324	1.00	0.529	pCi/L	01/24/22 11:14	02/11/22 12:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.6*		*40 - 110*	*01/24/22 11:14*	*02/11/22 12:04*	*1*
Y Carrier	*83.0*		*40 - 110*	*01/24/22 11:14*	*02/11/22 12:04*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall001_20220119_Comp
Date Collected: 01/19/22 10:30
Date Received: 01/19/22 18:20

Lab Sample ID: 570-82066-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.219	U	0.278	0.278	3.00	0.461	pCi/L	01/26/22 12:42	02/07/22 17:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*81.1*		*40 - 110*	*01/26/22 12:42*	*02/07/22 17:49*	*1*
Y Carrier	*73.6*		*40 - 110*	*01/26/22 12:42*	*02/07/22 17:49*	*1*

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall001_20220119_Comp **Lab Sample ID: 570-82066-1**
Date Collected: 01/19/22 10:30 **Matrix: Water**
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-108	U	183	184	500	348	pCi/L	01/27/22 11:07	02/07/22 16:37	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall001_20220119_Comp
Date Collected: 01/19/22 10:30
Date Received: 01/19/22 18:20

Lab Sample ID: 570-82066-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.340		0.207	0.208	1.00	0.165	pCi/L	01/26/22 13:01	02/01/22 20:54	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*84.4*		*30 - 110*	*01/26/22 13:01*	*02/01/22 20:54*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
570-82066-1	Outfall001_20220119_Comp	84.6
LCS 160-547785/1-A	Lab Control Sample	91.9
LCSD 160-547785/2-A	Lab Control Sample Dup	94.7
MB 160-547785/9-A	Method Blank	96.5

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-82066-1	Outfall001_20220119_Comp	84.6	83.0
LCS 160-547792/1-A	Lab Control Sample	91.9	80.7
LCSD 160-547792/2-A	Lab Control Sample Dup	94.7	81.1
MB 160-547792/9-A	Method Blank	96.5	85.6

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Sr	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-82066-1	Outfall001_20220119_Comp	81.1	73.6
LCS 160-548204/1-A	Lab Control Sample	83.4	74.0
LCSD 160-548204/2-A	Lab Control Sample Dup	80.3	78.1
MB 160-548204/12-A	Method Blank	80.5	83.0

Tracer/Carrier Legend

Sr = Sr Carrier
Y = Y Carrier

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		U-232
Lab Sample ID	Client Sample ID	(30-110)
570-82066-1	Outfall001_20220119_Comp	84.4
570-82063-AE-1-F DU	Duplicate	100
LCS 160-548205/2-A	Lab Control Sample	77.7
MB 160-548205/1-A	Method Blank	77.5

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-547784/1-A
Matrix: Water
Analysis Batch: 548200

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 547784

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.1946	U	0.661	0.662	3.00	1.20	pCi/L	01/24/22 10:54	01/26/22 12:58	1
Gross Beta	0.5967	U	0.540	0.543	4.00	0.862	pCi/L	01/24/22 10:54	01/26/22 12:58	1

Lab Sample ID: LCS 160-547784/2-A
Matrix: Water
Analysis Batch: 548980

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547784

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	66.30	*	9.33	3.00	2.31	pCi/L	131	75 - 125

Lab Sample ID: LCSB 160-547784/3-A
Matrix: Water
Analysis Batch: 548200

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547784

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.6	76.99		8.23	4.00	0.877	pCi/L	102	75 - 125

Lab Sample ID: 570-82066-1 MS
Matrix: Water
Analysis Batch: 548373

Client Sample ID: Outfall001_20220119_Comp
Prep Type: Total/NA
Prep Batch: 547784

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	0.304	U *	50.6	48.03		7.09	3.00	2.14	pCi/L	94	60 - 140

Lab Sample ID: 570-82066-1 MSBT
Matrix: Water
Analysis Batch: 548373

Client Sample ID: Outfall001_20220119_Comp
Prep Type: Total/NA
Prep Batch: 547784

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	3.69		75.5	75.74		8.11	4.00	1.18	pCi/L	95	60 - 140

Lab Sample ID: 570-82066-1 DU
Matrix: Water
Analysis Batch: 548373

Client Sample ID: Outfall001_20220119_Comp
Prep Type: Total/NA
Prep Batch: 547784

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	0.304	U *	0.2032	U *	1.24	3.00	2.28	pCi/L	0.04	1
Gross Beta	3.69		3.074		0.826	4.00	0.919	pCi/L	0.35	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-547763/1-A
Matrix: Water
Analysis Batch: 548903

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 547763

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-2.826	U	12.0	12.0	20.0	15.0	pCi/L	01/24/22 07:18	01/28/22 19:17	1
Potassium-40	60.57	U	89.4	89.7		142	pCi/L	01/24/22 07:18	01/28/22 19:17	1

Lab Sample ID: LCS 160-547763/2-A
Matrix: Water
Analysis Batch: 548448

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547763

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium-241	135000	142500		17000		455	pCi/L	105	75 - 125
Cesium-137	42000	43220		5150	20.0	96.4	pCi/L	103	75 - 125
Cobalt-60	20700	21620		2580		44.4	pCi/L	104	75 - 125

Lab Sample ID: 570-82068-AE-1-B DU
Matrix: Water
Analysis Batch: 548454

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 547763

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Cesium-137	-2.33	U	2.568	U	9.11	20.0	11.0	pCi/L	0.24	1
Potassium-40	19.6	U	52.26	U	93.4		98.4	pCi/L	0.15	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-547785/9-A
Matrix: Water
Analysis Batch: 550642

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 547785

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.1043	U	0.110	0.111	1.00	0.261	pCi/L	01/24/22 10:55	02/15/22 08:12	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.5*		*40 - 110*	*01/24/22 10:55*	*02/15/22 08:12*	*1*

Lab Sample ID: LCS 160-547785/1-A
Matrix: Water
Analysis Batch: 550642

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547785

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.1	14.66		1.60	1.00	0.250	pCi/L	97	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.9*		*40 - 110*

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-547785/2-A
Matrix: Water
Analysis Batch: 550642

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 547785

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	13.82		1.51	1.00	0.213	pCi/L	91	75 - 125	0.27	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*94.7*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-547792/9-A
Matrix: Water
Analysis Batch: 550058

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 547792

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.1594	U	0.269	0.269	1.00	0.510	pCi/L	01/24/22 11:14	02/11/22 12:04	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.5*		*40 - 110*	*01/24/22 11:14*	*02/11/22 12:04*	*1*
Y Carrier	*85.6*		*40 - 110*	*01/24/22 11:14*	*02/11/22 12:04*	*1*

Lab Sample ID: LCS 160-547792/1-A
Matrix: Water
Analysis Batch: 550030

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547792

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			11.8	14.28		1.63	1.00	0.443	pCi/L	121	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.9*		*40 - 110*
Y Carrier	*80.7*		*40 - 110*

Lab Sample ID: LCSD 160-547792/2-A
Matrix: Water
Analysis Batch: 550030

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 547792

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			11.8	14.82		1.67	1.00	0.472	pCi/L	125	75 - 125	0.16	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*94.7*		*40 - 110*
Y Carrier	*81.1*		*40 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-548204/12-A
Matrix: Water
Analysis Batch: 549596

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 548204

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.1820	U	0.202	0.202	3.00	0.331	pCi/L	01/26/22 12:42	02/07/22 17:49	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*80.5*		*40 - 110*	*01/26/22 12:42*	*02/07/22 17:49*	*1*
Y Carrier	*83.0*		*40 - 110*	*01/26/22 12:42*	*02/07/22 17:49*	*1*

Lab Sample ID: LCS 160-548204/1-A
Matrix: Water
Analysis Batch: 549596

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 548204

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Strontium-90			7.55	7.201		0.814	3.00	0.351	pCi/L	95	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*83.4*		*40 - 110*
Y Carrier	*74.0*		*40 - 110*

Lab Sample ID: LCSD 160-548204/2-A
Matrix: Water
Analysis Batch: 549596

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 548204

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Strontium-90			7.55	7.467		0.833	3.00	0.352	pCi/L	99	75 - 125	0.16	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*80.3*		*40 - 110*
Y Carrier	*78.1*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-548411/1-A
Matrix: Water
Analysis Batch: 549743

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 548411

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-77.93	U	182	182	500	338	pCi/L	01/27/22 11:07	02/07/22 14:22	1

Lab Sample ID: LCS 160-548411/2-A
Matrix: Water
Analysis Batch: 549743

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 548411

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			2230	2063		385	500	346	pCi/L	92	75 - 125		

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 570-82063-AD-1-B MS
Matrix: Water
Analysis Batch: 549743

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 548411

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium	22.5	U	2220	2153		397	500	352	pCi/L	96	60 - 140		

Lab Sample ID: 570-82926-T-2-B DU
Matrix: Water
Analysis Batch: 549743

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 548411

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	-212	U		-36.04	U	192	500	351	pCi/L			0.49	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-548205/1-A
Matrix: Water
Analysis Batch: 549064

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 548205

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.01715	U	0.06677	0.06677	1.00	0.132	pCi/L	01/26/22 13:01	02/01/22 20:54	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*77.5*		*30 - 110*	*01/26/22 13:01*	*02/01/22 20:54*	*1*

Lab Sample ID: LCS 160-548205/2-A
Matrix: Water
Analysis Batch: 549065

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 548205

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Uranium-234			12.7	12.72		1.42	1.00	0.121	pCi/L	100	75 - 125		
Uranium-238			13.0	13.44		1.48	1.00	0.128	pCi/L	103	75 - 125		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*77.7*		*30 - 110*

Lab Sample ID: 570-82063-AE-1-F DU
Matrix: Water
Analysis Batch: 549072

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 548205

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Total Uranium	2.58			2.827		0.465	1.00	0.161	pCi/L			0.27	1

Tracer	*DU %Yield*	*DU Qualifier*	*Limits*
Uranium-232	*100*		*30 - 110*

Rad

Prep Batch: 547763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-547763/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-547763/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-82068-AE-1-B DU	Duplicate	Total/NA	Water	Fill_Geo-0	

Prep Batch: 547784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	Evaporation	
MB 160-547784/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-547784/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-547784/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-82066-1 MS	Outfall001_20220119_Comp	Total/NA	Water	Evaporation	
570-82066-1 MSBT	Outfall001_20220119_Comp	Total/NA	Water	Evaporation	
570-82066-1 DU	Outfall001_20220119_Comp	Total/NA	Water	Evaporation	

Prep Batch: 547785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	PrecSep-21	
MB 160-547785/9-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-547785/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-547785/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 547792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	PrecSep_0	
MB 160-547792/9-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-547792/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-547792/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 548204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	PrecSep-7	
MB 160-548204/12-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-548204/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-548204/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Prep Batch: 548205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	ExtChrom	
MB 160-548205/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-548205/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
570-82063-AE-1-F DU	Duplicate	Total/NA	Water	ExtChrom	

Prep Batch: 548411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-548411/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-548411/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
570-82063-AD-1-B MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	
570-82926-T-2-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Client Sample ID: Outfall001_20220119_Comp
Lab Sample ID: 570-82066-1
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			200.03 mL	1.0 g	547784	01/24/22 10:54	ASG	TAL SL
Total/NA	Analysis	900.0		1	1.0 mL	1.0 mL	548373	01/27/22 07:49	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	547763	01/24/22 07:18	LTC	TAL SL
Total/NA	Analysis	901.1		1			548933	01/31/22 11:19	CAH	TAL SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			750.18 mL	1.0 g	547785	01/24/22 10:55	LPS	TAL SL
Total/NA	Analysis	903.0		1			550642	02/15/22 08:12	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			750.18 mL	1.0 g	547792	01/24/22 11:14	LPS	TAL SL
Total/NA	Analysis	904.0		1			550058	02/11/22 12:04	FLC	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep-7			749.43 mL	1.0 g	548204	01/26/22 12:42	HRT	TAL SL
Total/NA	Analysis	905		1			549596	02/07/22 17:49	FLC	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	LSC_Dist_Susp			100.27 mL	1.0 g	548411	01/27/22 11:07	BAL	TAL SL
Total/NA	Analysis	906.0		1			549743	02/07/22 16:37	JLP	TAL SL
	Instrument ID: LSC3180									
Total/NA	Prep	ExtChrom			300.07 mL	1.0 mL	548205	01/26/22 13:01	MLO	TAL SL
Total/NA	Analysis	A-01-R		1			549075	02/01/22 20:54	CLP	TAL SL
	Instrument ID: ALPHAVISION									

Laboratory References:
TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-82066-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	TAL SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	TAL SL

Protocol References:

DOE = U.S. Department of Energy
EPA = US Environmental Protection Agency
None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Job ID: 570-82066-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-82066-1	Outfall001_20220119_Comp	Water	01/19/22 10:30	01/19/22 18:20

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-82066 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	**Project Manager:** Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	**Field Manager:** Mark Dominick 978.234.5033, 818.599.0702 (cell)
Sampler: Adrian Mobeka	

									R/A	R	R	R	R/A	R	R	R	A	A	R					
									ANALYSIS REQUIRED															
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM52108_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- F-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals: Mercury (E245.1)					Comments
Outfall 001	Outfall001_20220119_Comp	1/19/2022 10:30 am	WM	500 mL Poly	1	HNO_3	80	No	X										X					
			WM	1 L Glass Amber	2	None	110	No		X														
			WM	1 L Poly	1	None	115	No			X													
			WM	500 mL Poly	2	None	120	No				X												
			WM	500 mL Poly	2	None	125	No					X											48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X										48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X								
			WM	1 L Glass Amber	2	None	250	No									X							
			WM	1 L Glass Amber	2	None	175	No										X						
			WM	1 L Poly	1	None	185	No							X									
	Outfall001_20220119_Comp_Extra	1/19/2022 10:30 am	WM	1 L Glass Amber	2	None	110	No		H														Hold
			WM	500 mL Poly	2	None	120	No				H												Hold
			WM	500 mL Poly	2	None	125	No					H											Hold
			WM	1 L Glass Amber	2	None	250	No										H						Hold
			WM	1 L Glass Amber	2	None	175	No											H					Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022/1400	H&A	[signature]	ECI 1/19/22 1400
[signature]	01/19/22	18:20 ECI	[signature]	1/19/22 1820

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day ___X___
48 Hour _____ 5 Day _____ Normal. _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV _____ All Level IV ___X___

COC Revised on 1/20/2022 at 10:00am by Michelle Dallalah (H&A).

1613.1, 2237, 1613.1 SCG

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:	R/A	R	R	R	A	A	A	A	R	QRSW	
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp	ANALYSIS REQUIRED										
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218		Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals: Mercury (E245.1)		Comments
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)											
Sampler: Adrian Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)											

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD												
Outfall 001	Outfall001_20220119_Comp_F	1/19/2022 10:30 am	WM	1 L Poly	1	None	190	No	X											Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	2	None	320	No										X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall001_20220119_Comp	1/19/2022 10:30 am *	WM	500 mL Poly	1	NaOH	220	No		X										
			WM	2.5 Gal Cube	1	None	225	No		\	X									Unfiltered and unpreserved analysis, Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No												
			WM	1 Gal Cube	6	None	235	No				X								Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X							
			WM	1 L Glass Amber	1	HCl	245	No						X						
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X					
			WM	500 mL Poly	1	None	260	No								X				
			WM	1L Glass Amber	2	None	275	No												
	Outfall001_20220119_Comp_Extra	1/19/2022 10:30 am	WM	40 mL VOA	3	HCl	240	No					H							Hold
			WM	1 L Glass Amber	MD 2 1	None	255	No							H					Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022 / 1400	H:A	[signature]	ECI 1/19/22 1400
[signature]	01/19/22 1820	ECI	[signature]	1/19/22 1820

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: ___X___

* Hand-delivered to ABC Labs in Ventura by H:A

COC Revised on 1/20/2022 at 10:00am by Michelle Dallalah (H&A).

2 2|3.7, 1 6|3 1

2/15/2022

2019-2020 Rainy Season
Version 5

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-82066 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	**Project Manager:** Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	**Field Manager:** Mark Dominick 978.234.5033, 818.599.0702 (cell)
Sampler: Adrian Mobeka	

									ANALYSIS REQUIRED																
									R/A	R	R	R	R/A	R	R	R	A	A	R					
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM52108_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- F-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals: Mercury (E245.1)					Comments
Outfall 001	Outfall001_20220119_Comp	1/19/2022	WM	500 mL Poly	1	HNO_3	80	No	X										X					
			WM	1 L Glass Amber	2	None	110	No		X														
			WM	1 L Poly	1	None	115	No			X													
			WM	500 mL Poly	2	None	120	No				X												
			WM	500 mL Poly	2	None	125	No					X											48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X										48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X								
			WM	1 L Glass Amber	2	None	250	No									X							
			WM	1 L Glass Amber	2	None	175	No										X						
			WM	1 L Poly	1	None	185	No							X									
	Outfall001_20220119_Comp_Extra	1/19/2022	WM	1 L Glass Amber	2	None	110	No		H														Hold
			WM	500 mL Poly	2	None	120	No				H												Hold
			WM	500 mL Poly	2	None	125	No					H											Hold
			WM	1 L Glass Amber	2	None	250	No										H						Hold
			WM	1 L Glass Amber	2	None	175	No											H					Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	Company:
[signature]	1-19-2022/1400	H.A	[signature]	1/19/22 1400	EQ
[signature]	01/19/22	18:20 EQ	[signature]	1/19/22	1820

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV: _____ All Level IV: __X__

1631, 2237, 1.6/3.1 SCG

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:	R/A	R	R	R	A	A	A	A	R	QRSW	
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp	ANALYSIS REQUIRED										
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218		Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals: Mercury (E245.1)		Comments
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)											
Sampler: Adrian Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)											

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD												
Outfall 001	Outfall001_20220119_Comp_F	1/19/2022	WM	1 L Poly	1	None	190	No	X											Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	2	None	320	No										X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall001_20220119_Comp	1/19/2022 *	WM	500 mL Poly	1	NaOH	220	No		X										
			WM	2.5 Gal Cube	1	None	225	No		\	X									Unfiltered and unpreserved analysis, Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No												
			WM	1 Gal Cube	6	None	235	No				X								Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X							
			WM	1 L Glass Amber	1	HCl	245	No						X						
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X					
			WM	500 mL Poly	1	None	260	No								X				
			WM	1L Glass Amber	2	None	275	No												
	Outfall001_20220119_Comp_Extra	1/19/2022	WM	40 mL VOA	3	HCl	240	No					H							Hold
			WM	1 L Glass Amber	MD 2 1	None	255	No							H					Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022 / 1400	H:A	[signature]	ECI 1/19/22 1400
[signature]	01/19/22 1820	ECI	[signature]	1/19/22 1820

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: ___X___

* Hand-delivered to ABC Labs in Ventura by H:A

2 2|3.7, 1 6|3 1

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152165 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82066-3
Address: 13715 Rider Trail North ,	Due Date Requested: 2/16/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	SSOW#:			
Site				

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O AsNaO2
D Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S H2SO4
H Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note.
			Preservation Code:												
Outfall001_20220119_Comp (570-82066-1)	1/19/22	10:30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time: 11/20/21 1304	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/15/2022

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-152240 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-82066-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 2/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20220119_Comp (570-82066-1)	1/19/22	10:30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware
Outfall001_20220119_Compl_Extra (570-82066-2)	1/19/22	10:30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		1/20/22 1520				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/15/2022

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152284 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82066-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 2/9/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck-Hydrazine)/ Weck-Hydrazine	SUB (Weck-Hydrazine)/ Weck-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20220119_Comp (570-82066-1)	1/19/22	10:30 Pacific		Water			X		1	Level IV needed
Outfall001_20220119_Compl_Extra (570-82066-2)	1/19/22	10:30 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time:	Company	Received by	Date/Time.	Company
	Relinquished by:	Date/Time: 1/20/22 1637	Company	Received by:	Date/Time.	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

2/15/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82066-3

Login Number: 82066
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	No sample date and/or time on COC, logged in per container labels.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82066-3

Login Number: 82066
List Number: 3
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 01/21/22 02:18 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-82066-4
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/22/2022 6:33:17 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-82066-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: Haley & Aldrich, Inc. Job ID: 570-82066-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Job ID: 570-82066-4

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-82066-4

Comments
No additional comments.

Receipt
The samples were received on 1/19/2022 6:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.1º C, 3.1º C and 3.7º C.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument DFS 1 exceeded this criteria: Outfall001_20220119_Comp (570-82066-1), (CCV 320-565138/31), (LCS 320-560219/2-A), (LCSD 320-560219/3-A) and (MB 320-560219/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Client Sample ID: Outfall001_20220119_Comp
Lab Sample ID: 570-82066-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDF	0.00000095	J,DX q MB	0.000047	0.00000054	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.0000011	J,DX q MB	0.000047	0.00000053	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000022	J,DX q MB	0.000047	0.00000047	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000014	J,DX q MB	0.000047	0.00000063	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000015	J,DX MB	0.000047	0.00000052	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.00000099	J,DX q MB	0.000047	0.00000034	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000010	J,DX q MB	0.000047	0.00000038	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000029	J,DX MB	0.000047	0.00000037	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.00000069	J,DX q MB	0.000047	0.00000036	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000086	J,DX MB	0.000047	0.00000028	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000033	J,DX MB	0.000047	0.00000042	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000014	J,DX MB	0.000047	0.00000040	ug/L	1		1613B	Total/NA
OCDD	0.000045	J,DX MB	0.000094	0.00000088	ug/L	1		1613B	Total/NA
OCDF	0.0000056	J,DX MB	0.000094	0.00000047	ug/L	1		1613B	Total/NA
Total TCDF	0.0000017	J,DX q MB	0.0000094	0.00000052	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000023	J,DX MB	0.000047	0.00000066	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000020	J,DX q MB	0.000047	0.00000053	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000051	J,DX q MB	0.000047	0.00000047	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000067	J,DX q MB	0.000047	0.00000034	ug/L	1		1613B	Total/NA
Total HpCDD	0.000015	J,DX MB	0.000047	0.00000028	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000056	J,DX MB	0.000047	0.00000040	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall001_20220119_Comp
Date Collected: 01/19/22 10:30
Date Received: 01/19/22 18:20

Lab Sample ID: 570-82066-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000094	0.00000068	ug/L		01/24/22 14:10	02/13/22 13:33	1
1,2,3,7,8-PeCDD	ND		0.000047	0.00000066	ug/L		01/24/22 14:10	02/13/22 13:33	1
1,2,3,7,8-PeCDF	**0.00000095**	**J,DX q MB**	0.000047	0.00000054	ug/L		01/24/22 14:10	02/13/22 13:33	1
2,3,4,7,8-PeCDF	**0.0000011**	**J,DX q MB**	0.000047	0.00000053	ug/L		01/24/22 14:10	02/13/22 13:33	1
1,2,3,4,7,8-HxCDD	**0.0000022**	**J,DX q MB**	0.000047	0.00000047	ug/L		01/24/22 14:10	02/13/22 13:33	1
1,2,3,6,7,8-HxCDD	**0.0000014**	**J,DX q MB**	0.000047	0.00000063	ug/L		01/24/22 14:10	02/13/22 13:33	1
1,2,3,7,8,9-HxCDD	**0.0000015**	**J,DX MB**	0.000047	0.00000052	ug/L		01/24/22 14:10	02/13/22 13:33	1
1,2,3,4,7,8-HxCDF	**0.00000099**	**J,DX q MB**	0.000047	0.00000034	ug/L		01/24/22 14:10	02/13/22 13:33	1
1,2,3,6,7,8-HxCDF	**0.0000010**	**J,DX q MB**	0.000047	0.00000038	ug/L		01/24/22 14:10	02/13/22 13:33	1
1,2,3,7,8,9-HxCDF	**0.0000029**	**J,DX MB**	0.000047	0.00000037	ug/L		01/24/22 14:10	02/13/22 13:33	1
2,3,4,6,7,8-HxCDF	**0.00000069**	**J,DX q MB**	0.000047	0.00000036	ug/L		01/24/22 14:10	02/13/22 13:33	1
1,2,3,4,6,7,8-HpCDD	**0.0000086**	**J,DX MB**	0.000047	0.00000028	ug/L		01/24/22 14:10	02/13/22 13:33	1
1,2,3,4,6,7,8-HpCDF	**0.0000033**	**J,DX MB**	0.000047	0.00000042	ug/L		01/24/22 14:10	02/13/22 13:33	1
1,2,3,4,7,8,9-HpCDF	**0.0000014**	**J,DX MB**	0.000047	0.00000040	ug/L		01/24/22 14:10	02/13/22 13:33	1
OCDD	**0.000045**	**J,DX MB**	0.000094	0.00000088	ug/L		01/24/22 14:10	02/13/22 13:33	1
OCDF	**0.0000056**	**J,DX MB**	0.000094	0.00000047	ug/L		01/24/22 14:10	02/13/22 13:33	1
Total TCDD	ND		0.0000094	0.00000068	ug/L		01/24/22 14:10	02/13/22 13:33	1
Total TCDF	**0.0000017**	**J,DX q MB**	0.0000094	0.00000052	ug/L		01/24/22 14:10	02/13/22 13:33	1
Total PeCDD	**0.0000023**	**J,DX MB**	0.000047	0.00000066	ug/L		01/24/22 14:10	02/13/22 13:33	1
Total PeCDF	**0.0000020**	**J,DX q MB**	0.000047	0.00000053	ug/L		01/24/22 14:10	02/13/22 13:33	1
Total HxCDD	**0.0000051**	**J,DX q MB**	0.000047	0.00000047	ug/L		01/24/22 14:10	02/13/22 13:33	1
Total HxCDF	**0.0000067**	**J,DX q MB**	0.000047	0.00000034	ug/L		01/24/22 14:10	02/13/22 13:33	1
Total HpCDD	**0.000015**	**J,DX MB**	0.000047	0.00000028	ug/L		01/24/22 14:10	02/13/22 13:33	1
Total HpCDF	**0.0000056**	**J,DX MB**	0.000047	0.00000040	ug/L		01/24/22 14:10	02/13/22 13:33	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*83*		*25 - 164*	*01/24/22 14:10*	*02/13/22 13:33*	*1*
13C-2,3,7,8-TCDF	*90*		*24 - 169*	*01/24/22 14:10*	*02/13/22 13:33*	*1*
13C-1,2,3,7,8-PeCDD	*94*		*25 - 181*	*01/24/22 14:10*	*02/13/22 13:33*	*1*
13C-1,2,3,7,8-PeCDF	*93*		*24 - 185*	*01/24/22 14:10*	*02/13/22 13:33*	*1*
13C-2,3,4,7,8-PeCDF	*108*		*21 - 178*	*01/24/22 14:10*	*02/13/22 13:33*	*1*
13C-1,2,3,4,7,8-HxCDD	*111*		*32 - 141*	*01/24/22 14:10*	*02/13/22 13:33*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall001_20220119_Comp **Lab Sample ID: 570-82066-1**
Date Collected: 01/19/22 10:30 **Matrix: Water**
Date Received: 01/19/22 18:20

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDD	78		28 - 130	01/24/22 14:10	02/13/22 13:33	1
13C-1,2,3,4,7,8-HxCDF	108		26 - 152	01/24/22 14:10	02/13/22 13:33	1
13C-1,2,3,6,7,8-HxCDF	83		26 - 123	01/24/22 14:10	02/13/22 13:33	1
13C-1,2,3,7,8,9-HxCDF	89		29 - 147	01/24/22 14:10	02/13/22 13:33	1
13C-2,3,4,6,7,8-HxCDF	85		28 - 136	01/24/22 14:10	02/13/22 13:33	1
13C-1,2,3,4,6,7,8-HpCDD	96		23 - 140	01/24/22 14:10	02/13/22 13:33	1
13C-1,2,3,4,6,7,8-HpCDF	95		28 - 143	01/24/22 14:10	02/13/22 13:33	1
13C-1,2,3,4,7,8,9-HpCDF	113		26 - 138	01/24/22 14:10	02/13/22 13:33	1
13C-OCDD	100		17 - 157	01/24/22 14:10	02/13/22 13:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	98		35 - 197	01/24/22 14:10	02/13/22 13:33	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: Outfall001_20220119_Comp
Lab Sample ID: 570-82066-1
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.0000094	0.00000036	ug/L		01/24/22 14:10	02/17/22 11:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*100*		*24 - 169*	*01/24/22 14:10*	*02/17/22 11:29*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*97*		*35 - 197*	*01/24/22 14:10*	*02/17/22 11:29*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-82066-1	Outfall001_20220119_Comp	98
570-82066-1 - RA	Outfall001_20220119_Comp	97
MB 320-560219/1-A	Method Blank	105
MB 320-560219/1-A - RA	Method Blank	102

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-560219/2-A	Lab Control Sample	97
LCSD 320-560219/3-A	Lab Control Sample Dup	99

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc. Job ID: 570-82066-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-82066-1	Outfall001_20220119_Comp	83	90	94	93	108	111	78	108
570-82066-1 - RA	Outfall001_20220119_Comp		100						
MB 320-560219/1-A	Method Blank	66	70	73	73	84	85	61	86
MB 320-560219/1-A - RA	Method Blank		81						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-82066-1	Outfall001_20220119_Comp	83	89	85	96	95	113	100
570-82066-1 - RA	Outfall001_20220119_Comp							
MB 320-560219/1-A	Method Blank	67	73	69	76	73	88	77
MB 320-560219/1-A - RA	Method Blank							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-560219/2-A	Lab Control Sample	66	69	74	71	84	96	73	100
LCSD 320-560219/3-A	Lab Control Sample Dup	74	77	88	83	101	104	74	103

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-560219/2-A	Lab Control Sample	81	74	81	79	83	89	70
LCSD 320-560219/3-A	Lab Control Sample Dup	81	86	83	91	89	106	90

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-560219/1-A
Matrix: Water
Analysis Batch: 565138

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 560219

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000013	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,7,8-PeCDD	ND		0.000050	0.0000012	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,7,8-PeCDF	0.00000442	J,DX	0.000050	0.0000010	ug/L		01/24/22 14:10	02/13/22 10:22	1
2,3,4,7,8-PeCDF	0.00000287	J,DX	0.000050	0.0000010	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,4,7,8-HxCDD	0.00000330	J,DX	0.000050	0.00000081	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,6,7,8-HxCDD	0.00000323	J,DX	0.000050	0.0000011	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,7,8,9-HxCDD	0.00000258	J,DX q	0.000050	0.00000089	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,4,7,8-HxCDF	0.00000671	J,DX	0.000050	0.00000085	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,6,7,8-HxCDF	0.00000500	J,DX	0.000050	0.00000093	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,7,8,9-HxCDF	0.00000523	J,DX	0.000050	0.00000087	ug/L		01/24/22 14:10	02/13/22 10:22	1
2,3,4,6,7,8-HxCDF	0.00000230	J,DX	0.000050	0.00000088	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,4,6,7,8-HpCDD	0.00000638	J,DX	0.000050	0.00000047	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,4,6,7,8-HpCDF	0.0000184	J,DX	0.000050	0.00000076	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,4,7,8,9-HpCDF	0.00000763	J,DX	0.000050	0.00000071	ug/L		01/24/22 14:10	02/13/22 10:22	1
OCDD	0.0000232	J,DX	0.00010	0.0000013	ug/L		01/24/22 14:10	02/13/22 10:22	1
OCDF	0.0000399	J,DX	0.00010	0.00000079	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total TCDD	ND		0.000010	0.0000013	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total TCDF	0.00000620	J,DX q	0.000010	0.00000093	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total PeCDD	0.00000506	J,DX	0.000050	0.0000012	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total PeCDF	0.00000729	J,DX	0.000050	0.0000010	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total HxCDD	0.00000911	J,DX q	0.000050	0.00000081	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total HxCDF	0.0000229	J,DX q	0.000050	0.00000085	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total HpCDD	0.0000114	J,DX	0.000050	0.00000047	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total HpCDF	0.0000311	J,DX	0.000050	0.00000071	ug/L		01/24/22 14:10	02/13/22 10:22	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*66*		*25 - 164*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-2,3,7,8-TCDF	*70*		*24 - 169*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-1,2,3,7,8-PeCDD	*73*		*25 - 181*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-1,2,3,7,8-PeCDF	*73*		*24 - 185*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-2,3,4,7,8-PeCDF	*84*		*21 - 178*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-1,2,3,4,7,8-HxCDD	*85*		*32 - 141*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-1,2,3,6,7,8-HxCDD	*61*		*28 - 130*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-1,2,3,4,7,8-HxCDF	*86*		*26 - 152*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-1,2,3,6,7,8-HxCDF	*67*		*26 - 123*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-1,2,3,7,8,9-HxCDF	*73*		*29 - 147*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-2,3,4,6,7,8-HxCDF	*69*		*28 - 136*	*01/24/22 14:10*	*02/13/22 10:22*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-560219/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 565138 **Prep Batch: 560219**

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	76		23 - 140	01/24/22 14:10	02/13/22 10:22	1
13C-1,2,3,4,6,7,8-HpCDF	73		28 - 143	01/24/22 14:10	02/13/22 10:22	1
13C-1,2,3,4,7,8,9-HpCDF	88		26 - 138	01/24/22 14:10	02/13/22 10:22	1
13C-OCDD	77		17 - 157	01/24/22 14:10	02/13/22 10:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	105		35 - 197	01/24/22 14:10	02/13/22 10:22	1

Lab Sample ID: LCS 320-560219/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 565138 **Prep Batch: 560219**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD			0.000200	0.000239		ug/L		120	67 - 158		
2,3,7,8-TCDF			0.000200	0.000240	MB	ug/L		120	75 - 158		
1,2,3,7,8-PeCDD			0.00100	0.00118		ug/L		118	70 - 142		
1,2,3,7,8-PeCDF			0.00100	0.00116	MB	ug/L		116	80 - 134		
2,3,4,7,8-PeCDF			0.00100	0.000979	MB	ug/L		98	68 - 160		
1,2,3,4,7,8-HxCDD			0.00100	0.000940	MB	ug/L		94	70 - 164		
1,2,3,6,7,8-HxCDD			0.00100	0.00112	MB	ug/L		112	76 - 134		
1,2,3,7,8,9-HxCDD			0.00100	0.00107	MB	ug/L		107	64 - 162		
1,2,3,4,7,8-HxCDF			0.00100	0.00101	MB	ug/L		101	72 - 134		
1,2,3,6,7,8-HxCDF			0.00100	0.00112	MB	ug/L		112	84 - 130		
1,2,3,7,8,9-HxCDF			0.00100	0.00110	MB	ug/L		110	78 - 130		
2,3,4,6,7,8-HxCDF			0.00100	0.00112	MB	ug/L		112	70 - 156		
1,2,3,4,6,7,8-HpCDD			0.00100	0.00108	MB	ug/L		108	70 - 140		
1,2,3,4,6,7,8-HpCDF			0.00100	0.00113	MB	ug/L		113	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000899	MB	ug/L		90	78 - 138		
OCDD			0.00200	0.00207	MB	ug/L		103	78 - 144		
OCDF			0.00200	0.00210	MB	ug/L		105	63 - 170		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	66		20 - 175
13C-2,3,7,8-TCDF	69		22 - 152
13C-1,2,3,7,8-PeCDD	74		21 - 227
13C-1,2,3,7,8-PeCDF	71		21 - 192
13C-2,3,4,7,8-PeCDF	84		13 - 328
13C-1,2,3,4,7,8-HxCDD	96		21 - 193
13C-1,2,3,6,7,8-HxCDD	73		25 - 163
13C-1,2,3,4,7,8-HxCDF	100		19 - 202
13C-1,2,3,6,7,8-HxCDF	81		21 - 159
13C-1,2,3,7,8,9-HxCDF	74		17 - 205
13C-2,3,4,6,7,8-HxCDF	81		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	79		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	83		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	89		20 - 186
13C-OCDD	70		13 - 199

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-560219/2-A
Matrix: Water
Analysis Batch: 565138

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 560219

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	97		31 - 191

Lab Sample ID: LCSD 320-560219/3-A
Matrix: Water
Analysis Batch: 565138

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 560219

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000228		ug/L		114	67 - 158	5	50
2,3,7,8-TCDF			0.000200	0.000241	MB	ug/L		120	75 - 158	0	50
1,2,3,7,8-PeCDD			0.00100	0.00114		ug/L		114	70 - 142	3	50
1,2,3,7,8-PeCDF			0.00100	0.00113	MB	ug/L		113	80 - 134	2	50
2,3,4,7,8-PeCDF			0.00100	0.000990	MB	ug/L		99	68 - 160	1	50
1,2,3,4,7,8-HxCDD			0.00100	0.000941	MB	ug/L		94	70 - 164	0	50
1,2,3,6,7,8-HxCDD			0.00100	0.00115	MB	ug/L		115	76 - 134	3	50
1,2,3,7,8,9-HxCDD			0.00100	0.00110	MB	ug/L		110	64 - 162	3	50
1,2,3,4,7,8-HxCDF			0.00100	0.00101	MB	ug/L		101	72 - 134	0	50
1,2,3,6,7,8-HxCDF			0.00100	0.00112	MB	ug/L		112	84 - 130	0	50
1,2,3,7,8,9-HxCDF			0.00100	0.00111	MB	ug/L		111	78 - 130	2	50
2,3,4,6,7,8-HxCDF			0.00100	0.00111	MB	ug/L		111	70 - 156	0	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.00106	MB	ug/L		106	70 - 140	2	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.00109	MB	ug/L		109	82 - 122	4	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000918	MB	ug/L		92	78 - 138	2	50
OCDD			0.00200	0.00209	MB	ug/L		105	78 - 144	1	50
OCDF			0.00200	0.00217	MB	ug/L		109	63 - 170	3	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	74		20 - 175
13C-2,3,7,8-TCDF	77		22 - 152
13C-1,2,3,7,8-PeCDD	88		21 - 227
13C-1,2,3,7,8-PeCDF	83		21 - 192
13C-2,3,4,7,8-PeCDF	101		13 - 328
13C-1,2,3,4,7,8-HxCDD	104		21 - 193
13C-1,2,3,6,7,8-HxCDD	74		25 - 163
13C-1,2,3,4,7,8-HxCDF	103		19 - 202
13C-1,2,3,6,7,8-HxCDF	81		21 - 159
13C-1,2,3,7,8,9-HxCDF	86		17 - 205
13C-2,3,4,6,7,8-HxCDF	83		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	91		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	89		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	106		20 - 186
13C-OCDD	90		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	99		31 - 191

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-560219/1-A
Matrix: Water
Analysis Batch: 566566

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 560219

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	0.00000338	J,DX	0.000010	0.00000039	ug/L		01/24/22 14:10	02/17/22 08:17	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF - RA	*81*		*24 - 169*	*01/24/22 14:10*	*02/17/22 08:17*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD - RA	*102*		*35 - 197*	*01/24/22 14:10*	*02/17/22 08:17*	*1*

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Specialty Organics

Prep Batch: 560219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1 - RA	Outfall001_20220119_Comp	Total/NA	Water	1613B	
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	1613B	
MB 320-560219/1-A - RA	Method Blank	Total/NA	Water	1613B	
MB 320-560219/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-560219/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-560219/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 565138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1	Outfall001_20220119_Comp	Total/NA	Water	1613B	560219
MB 320-560219/1-A	Method Blank	Total/NA	Water	1613B	560219
LCS 320-560219/2-A	Lab Control Sample	Total/NA	Water	1613B	560219
LCSD 320-560219/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	560219

Analysis Batch: 566566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82066-1 - RA	Outfall001_20220119_Comp	Total/NA	Water	1613B	560219
MB 320-560219/1-A - RA	Method Blank	Total/NA	Water	1613B	560219

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Client Sample ID: Outfall001_20220119_Comp
Lab Sample ID: 570-82066-1
Date Collected: 01/19/22 10:30
Matrix: Water
Date Received: 01/19/22 18:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B	RA		1062.4 mL	20.0 uL	560219	01/24/22 14:10	CGB	TAL SAC
Total/NA	Analysis	1613B	RA	1			566566	02/17/22 11:29	DB	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	1613B			1062.4 mL	20.0 uL	560219	01/24/22 14:10	CGB	TAL SAC
Total/NA	Analysis	1613B		1			565138	02/13/22 13:33	GRB	TAL SAC
	Instrument ID: DFS 1									

Laboratory References:
TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-23
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-30-23
Hawaii	State	<cert No.>	01-29-23
Illinois	NELAP	200060	03-18-22
Kansas	NELAP	E-10375	02-28-22
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22 *
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-23
Oregon	NELAP	4040	01-29-23
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-22
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Job ID: 570-82066-4

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-82066-1	Outfall001_20220119_Comp	Water	01/19/22 10:30	01/19/22 18:20

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-82066 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	**Project Manager:** Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	**Field Manager:** Mark Dominick 978.234.5033, 818.599.0702 (cell)
Sampler: Adrian Mobeka	

									R/A	R	R	R	R/A	R	R	R	A	A	R					
									ANALYSIS REQUIRED															
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM52108_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- F-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals: Mercury (E245.1)					Comments
Outfall 001	Outfall001_20220119_Comp	1/19/2022 10:30 am	WM	500 mL Poly	1	HNO_3	80	No	X										X					
			WM	1 L Glass Amber	2	None	110	No		X														
			WM	1 L Poly	1	None	115	No			X													
			WM	500 mL Poly	2	None	120	No				X												
			WM	500 mL Poly	2	None	125	No					X											48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X										48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X								
			WM	1 L Glass Amber	2	None	250	No									X							
			WM	1 L Glass Amber	2	None	175	No										X						
			WM	1 L Poly	1	None	185	No							X									
	Outfall001_20220119_Comp_Extra	1/19/2022 10:30 am	WM	1 L Glass Amber	2	None	110	No		H														Hold
			WM	500 mL Poly	2	None	120	No				H												Hold
			WM	500 mL Poly	2	None	125	No					H											Hold
			WM	1 L Glass Amber	2	None	250	No										H						Hold
			WM	1 L Glass Amber	2	None	175	No											H					Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022/1400	H&A	[signature]	ECI 1/19/22 1400
[signature]	01/19/22	18:20 ECI	[signature]	1/19/22 1820

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day ___X___
48 Hour _____ 5 Day _____ Normal. _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV _____ All Level IV ___X___

COC Revised on 1/20/2022 at 10:00am by Michelle Dallalah (H&A).

1613.1, 2237, 1613.1 SCG

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:	ANALYSIS REQUIRED
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp	R/A R R R A A A A R QRSW
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218		
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)	
Sampler: Adrian Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals: Mercury (E245.1)		Comments
Outfall 001	Outfall001_20220119_Comp_F	1/19/2022 10:30 am	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	2	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall001_20220119_Comp	1/19/2022 10:30 am *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			WM	1L Glass Amber	2	None	275	No											
	Outfall001_20220119_Comp_Extra	1/19/2022 10:30 am	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	MS 2	None	255	No							H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022 / 1400	H:A	[signature]	ECI 1/19/22 1400
[signature]	01/19/22 1820	ECI	[signature]	1/19/22 1820

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: ___X___

* Hand-delivered to ABC Labs in Ventura by H:A

COC Revised on 1/20/2022 at 10:00am by Michelle Dallalah (H&A).

2 2|3.7, 1 6|3 1

62066

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-82066 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	**Project Manager:** Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	**Field Manager:** Mark Dominick 978.234.5033, 818.599.0702 (cell)
Sampler: Adrian Mobeka	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R/A	R	R	R	R/A	R	R	R	A	A	R					Comments
									ANALYSIS REQUIRED															
									Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM52108_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- F-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals: Mercury (E245.1)					
Outfall 001	Outfall001_20220119_Comp	1/19/2022	WM	500 mL Poly	1	HNO_3	80	No	X										X					
			WM	1 L Glass Amber	2	None	110	No		X														
			WM	1 L Poly	1	None	115	No			X													
			WM	500 mL Poly	2	None	120	No				X												
			WM	500 mL Poly	2	None	125	No					X											48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X										48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X								
			WM	1 L Glass Amber	2	None	250	No									X							
			WM	1 L Glass Amber	2	None	175	No										X						
			WM	1 L Poly	1	None	185	No							X									
	Outfall001_20220119_Comp_Extra	1/19/2022	WM	1 L Glass Amber	2	None	110	No		H														Hold
			WM	500 mL Poly	2	None	120	No				H												Hold
			WM	500 mL Poly	2	None	125	No					H											Hold
			WM	1 L Glass Amber	2	None	250	No										H						Hold
			WM	1 L Glass Amber	2	None	175	No											H					Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022/1400	H&A	[signature]	EQ 1/19/22 1400
[signature]	01/19/22	18:20 EQ	[signature]	1/19/22 1820

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV: _____ All Level IV: __X__

1631, 2237, 1.6/3.1 SCG

2/22/2022

2019-2020 Rainy Season
Version 5

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:	R/A	R	R	R	A	A	A	A	R	QRSW	ANALYSIS REQUIRED	
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp	Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals: Mercury (E245.1)		Comments
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218													
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)												
Sampler: Adrian Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)												

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD												
Outfall 001	Outfall001_20220119_Comp_F	1/19/2022	WM	1 L Poly	1	None	190	No	X											Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	2	None	320	No										X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall001_20220119_Comp	1/19/2022 *	WM	500 mL Poly	1	NaOH	220	No		X										
			WM	2.5 Gal Cube	1	None	225	No		\	X									Unfiltered and unpreserved analysis, Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No												
			WM	1 Gal Cube	6	None	235	No					X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No						X						
			WM	1 L Glass Amber	1	HCl	245	No							X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No								X				
			WM	500 mL Poly	1	None	260	No									X			
			WM	1L Glass Amber	2	None	275	No												
	Outfall001_20220119_Comp_Extra	1/19/2022	WM	40 mL VOA	3	HCl	240	No						H						Hold
			WM	1 L Glass Amber	MS/MSD 2	None	255	No								H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022 / 1400	H:A	[signature]	ECI 1/19/22 1400
[signature]	01/19/22 1820	ECI	[signature]	1/19/22 1820

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

* Hand-delivered to ABC Labs in Ventura by H:A

2 2|3.7, 1 6|3 1

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152165 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82066-3
Address: 13715 Rider Trail North ,	Due Date Requested: 2/16/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	SSOW#:			
Site				

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O AsNaO2
D Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S H2SO4
H Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note.
			Preservation Code:												
Outfall001_20220119_Comp (570-82066-1)	1/19/22	10:30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/20/22 1304	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/22/2022

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-152240 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-82066-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 2/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20220119_Comp (570-82066-1)	1/19/22	10:30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware
Outfall001_20220119_Compl_Extra (570-82066-2)	1/19/22	10:30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Level 1 radioactive, Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		1/20/22 1520				
2	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
3	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/22/2022

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-152284 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82066-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 2/9/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck-Hydrazine)/ Weck-Hydrazine	SUB (Weck-Hydrazine)/ Weck-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20220119_Comp (570-82066-1)	1/19/22	10:30 Pacific		Water			X		1	Level IV needed
Outfall001_20220119_Compl_Extra (570-82066-2)	1/19/22	10:30 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time.	Company
1		1/20/22 1637				
2	Relinquished by	Date/Time	Company	Received by	Date/Time.	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82066-4

Login Number: 82066
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	No sample date and/or time on COC, logged in per container labels.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82066-4

Login Number: 82066
List Number: 4
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 01/21/22 02:27 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.0c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-82066-5
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/26/2022 1:06:39 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-82066-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-82066-5

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-82066-5

Comments
No additional comments.

Receipt
The samples were received on 1/19/2022 6:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.1º C, 3.1º C and 3.7º C.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method Weck-Hydrazine: This method was subcontracted to Weck Laboratories, Inc.. The subcontract laboratory certification is different from that of the facility issuing the final report.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method	Method Description	Protocol	Laboratory
Subcontract	Weck-Hydrazine	None	Weck Lab

Protocol References:

None = None

Laboratory References:

Weck Lab = Weck Laboratories, Inc., 14859 E. Clark Avenue, City of Industry, CA 91745

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82066-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-82066-1	Outfall001_20220119_Comp	Water	01/19/22 10:30	01/19/22 18:20

WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Work Orders:	2A21041	**Report Date:**	2/25/2022
		Received Date:	1/21/2022
Project:	570-82066-2	**Turnaround Time:**	Normal
		Phones:	(949) 261-1022
		Fax:	(949) 260-3297
Attn:	Virendra Patel	**P.O. #:**	570-82066-2
Client:	Eurofins Calscience - Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	**Billing Code:**	

Dear Virendra Patel,

Enclosed are the results of analyses for samples received 1/21/22 with the Chain-of-Custody document. The samples were received in good condition, at 2.9 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Sample Results

Sample: Outfall001_20220119_(Comp (570-82066-1) — Sampled: 01/19/22 10:30 by Client

2A21041-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 8315M			**Instr:** LCMS03				
Batch ID: W2B0680 **Preparation:** Microextraction			**Prepared:** 02/09/22 12:13				**Analyst:** kan
Monomethylhydrazine (MMH)	ND	0.31	2.0	ug/l	1	02/09/22	

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

Quality Control Results

Hydrazine by LCMS

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Blank (W2B0680-BLK1)					**Prepared & Analyzed: 02/09/22**						
Monomethylhydrazine (MMH)	ND	0.31	2.0	ug/l							
LCS (W2B0680-BS1)					**Prepared & Analyzed: 02/09/22**						
Monomethylhydrazine (MMH)	22.3	0.31	2.0	ug/l	20.0		112	50-150			
Matrix Spike (W2B0680-MS1)		**Source: 2A21039-01**			**Prepared & Analyzed: 02/09/22**						
Monomethylhydrazine (MMH)	24.5	0.31	2.0	ug/l	20.0	*ND*	123	50-150			
Matrix Spike Dup (W2B0680-MSD1)		**Source: 2A21039-01**			**Prepared & Analyzed: 02/09/22**						
Monomethylhydrazine (MMH)	22.5	0.31	2.0	ug/l	20.0	*ND*	113	50-150	9	30	

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

Notes and Definitions

Item	Definition
%REC	Percent Recovery
Dil	Dilution
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

Analyses Accreditation Summary

Analyte	CAS #	Not By NELAP	ANAB ISO 17025
EPA 8315M in Water			
Monomethylhydrazine (MMH)	60-34-4	✓	

Reviewed by:

Rahul R. Nair
Project Manager

ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • LACSD #10143 • NJ-DEP #CA015 • NV-DEP #NAC 445A • SCAQMD #93LA1006

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California	
Address: 14859 E. Clark Avenue, ,	Due Date Requested: 2/9/2022	Analysis Requested	
City: City of Industry	TAT Requested (days):		
State, Zip: CA, 91745			
Phone:	PO #:		
Email:	WO #:		
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446		
Site:	SSOW#:		

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck-Hydrazine)/ Weck-Hydrazine	SUB (Weck-Hydrazine)/ Weck-Hydrazine (Hold)
			Preservation Code:					
Outfall001_20220119_Comp (570-82066-1)	1/19/22	10:30 Pacific		Water			X	
Outfall001_20220119_Compl_Extra (570-82066-2)	1/19/22	10:30 Pacific		Water				X

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shi
laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or
accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance t

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are r
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 1/20/22 1637	Company	Received by: Date/Time:

ORATORIES, INC.

Sample Receipt Checklist

Weck WKO: 2A21041
Logged by: Jerico B.
Checked by: JB

Date/Time Received: 01/21/22 @ 10:25
# of Samples: 02
Delivered by: Fedex

sk	Yes	No	N/A	Comments
OC present at receipt?	☒	☐		
OC properly completed?	☒	☐		
OC matches sample labels?	☒	☐		
	☐	☐		
oject Manager notified?	☐	☐	☒	
mple Temperature	2.9°C			
mples received on ice?	☒	☐		
e Type (Blue/Wet)	WET			
samples intact?	☒	☐		
mples in proper containers?	☒	☐		
fficient sample volume?	☒	☐		
mples intact?	☒	☐		
eceived within holding time?	☒	☐		
	☐	☐		
oject Manager notified?	☐	☐	☒	
mple labels checked for correct preservation?	☒	☐	☐	
OC Headspace: none, <6mm/<Pea size? 4.2, 524.3, 624.1, 8260, 1666 P/T, LUFT	☐	☐	☒	
H verified upon receipt? etals <2; H2SO4 pres tests <2; 522<4; TOC <2; 608.3 5-9	☐	☐	☒	
ee Chlorine Tested <0.1	☐	☐	☒	
&G pH <2 verified?	☐	☐	☐	pH paper Lot#
H adjusted for O&G	☐	☐	☐	pH Reading Acid Lot# Amt added:
oject Manager notified?	☐	☐	☒	

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-82066 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	**Project Manager:** Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	**Field Manager:** Mark Dominick 978.234.5033, 818.599.0702 (cell)
Sampler: Adrian Mobeka	

									R/A	R	R	R	R/A	R	R	R	A	A	R					
									ANALYSIS REQUIRED															
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM52108_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- F-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals: Mercury (E245.1)					Comments
Outfall 001	Outfall001_20220119_Comp	1/19/2022 10:30 am	WM	500 mL Poly	1	HNO_3	80	No	X										X					
			WM	1 L Glass Amber	2	None	110	No		X														
			WM	1 L Poly	1	None	115	No			X													
			WM	500 mL Poly	2	None	120	No				X												
			WM	500 mL Poly	2	None	125	No					X											48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X										48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X								
			WM	1 L Glass Amber	2	None	250	No									X							
			WM	1 L Glass Amber	2	None	175	No										X						
			WM	1 L Poly	1	None	185	No							X									
	Outfall001_20220119_Comp_Extra	1/19/2022 10:30 am	WM	1 L Glass Amber	2	None	110	No		H														Hold
			WM	500 mL Poly	2	None	120	No				H												Hold
			WM	500 mL Poly	2	None	125	No					H											Hold
			WM	1 L Glass Amber	2	None	250	No										H						Hold
			WM	1 L Glass Amber	2	None	175	No										H						Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022/1400	H&A	[signature]	ECI 1/19/22 1400
[signature]	01/19/22	18:20 ECI	[signature]	1/19/22 1820

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day ___X___
48 Hour _____ 5 Day _____ Normal. _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV _____ All Level IV ___X___

COC Revised on 1/20/2022 at 10:00am by Michelle Dallalah (H&A).

1613.1, 2237, 1613.1 SCG

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	**Project Manager:** Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Adrian Mobeka	**Field Manager:** Mark Dominick 978.234.5033, 818.599.0702 (cell)

									R/A	R	R	R	A	A	A	A	R	QRSW		
									ANALYSIS REQUIRED											
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals: Mercury (E245.1)		Comments
Outfall 001	Outfall001_20220119_Comp_F	1/19/2022 10:30 am	WM	1 L Poly	1	None	190	No	X											Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	2	None	320	No									X			Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall001_20220119_Comp	1/19/2022 10:30 am *	WM	500 mL Poly	1	NaOH	220	No		X										
			WM	2.5 Gal Cube	1	None	225	No		\	X									Unfiltered and unpreserved analysis, Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No												
			WM	1 Gal Cube	6	None	235	No				X								Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X							
			WM	1 L Glass Amber	1	HCl	245	No						X						
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X					
			WM	500 mL Poly	1	None	260	No								X				
			WM	1L Glass Amber	2	None	275	No												
	Outfall001_20220119_Comp_Extra	1/19/2022 10:30 am	WM	40 mL VOA	3	HCl	240	No					H							Hold
			WM	1 L Glass Amber	MD 2 1	None	255	No							H					Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022 / 1400	H:A	[signature]	ECI 1/19/22 1400
[signature]	01/19/22 1820	ECI	[signature]	1/19/22 1820

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: ___X___

* Hand-delivered to ABC Labs in Ventura by H:A

COC Revised on 1/20/2022 at 10:00am by Michelle Dallalah (H&A).

2 2|3.7, 1 6|3 1

62066

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-82066 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	**Project Manager:** Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Adrian Mobeka	**Field Manager:** Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R/A: Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R: TCDD (and all congeners) (E1613B)	R: BOD5 (20 degrees C) (E405.1 (SM52108_BODCalc))	R: Surfactants (MBAS) (SM5540C/E425.1)	R/A: Cl- F-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	R: Turbidity TDS (SM2540C/E180.1)	R: TSS (160.2 (SM2540D))	R: Ammonia-N (E350.2)	A: Priority Pollutants-Pesticides+PCBs (E608)	A: Priority Pollutants-SVOCs (E625)	R: Total Recoverable Metals: Mercury (E245.1)	Comments
Outfall 001	Outfall001_20220119_Comp	1/19/2022	WM	500 mL Poly	1	HNO_3	80	No	X												X	
			WM	1 L Glass Amber	2	None	110	No		X												
			WM	1 L Poly	1	None	115	No			X											
			WM	500 mL Poly	2	None	120	No				X										
			WM	500 mL Poly	2	None	125	No					X									48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X								48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X						
			WM	1 L Glass Amber	2	None	250	No										X				
			WM	1 L Glass Amber	2	None	175	No											X			
			WM	1 L Poly	1	None	185	No							X							
	Outfall001_20220119_Comp_Extra	1/19/2022	WM	1 L Glass Amber	2	None	110	No		H												Hold
			WM	500 mL Poly	2	None	120	No				H										Hold
			WM	500 mL Poly	2	None	125	No					H									Hold
			WM	1 L Glass Amber	2	None	250	No										H				Hold
			WM	1 L Glass Amber	2	None	175	No											H			Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022/1400	H.A	[signature]	EQ 1/19/22 1400
[signature]	01/19/22	18:20 EQ	[signature]	1/19/22 1820

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day ___X___
48 Hour _____ 5 Day _____ Normal. _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV _____ All Level IV ___X___

1613.1, 2237, 1613.1 SCG

2/26/2022
2019-2020 Rainy Season
Version 5

CHAIN OF CUSTODY FORM

									R/A	R	R	R	A	A	A	A	R	QRSW	
Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218 TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc. Sampler: Adrian Mobeka				Project: Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)					ANALYSIS REQUIRED										
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals: Mercury (E245.1)		Comments
Outfall 001	Outfall001_20220119_Comp_F	1/19/2022	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	2	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall001_20220119_Comp	1/19/2022 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			WM	1L Glass Amber	2	None	275	No											
	Outfall001_20220119_Comp_Extra	1/19/2022	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	MD 2 1	None	255	No							H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022 / 1400	H:A	[signature]	ECI 1/19/22 1400
[signature]	01/19/22 1820	ECI	[signature]	1/19/22 1820

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: ___X___

* Hand-delivered to ABC Labs in Ventura by H:A

2 2|3.7, 1 6|3 1

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152165 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82066-3
Address: 13715 Rider Trail North ,	Due Date Requested: 2/16/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	SSOW#:			
Site				

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O AsNaO2
D Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S H2SO4
H Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note.
			Preservation Code:												
Outfall001_20220119_Comp (570-82066-1)	1/19/22	10:30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time: 11/20/21 1304	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/26/2022

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-152240 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-82066-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 2/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20220119_Comp (570-82066-1)	1/19/22	10:30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware
Outfall001_20220119_Compl_Extra (570-82066-2)	1/19/22	10:30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		1/20/22 1520				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/26/2022

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152284 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82066-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 2/9/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck-Hydrazine)/ Weck-Hydrazine	SUB (Weck-Hydrazine)/ Weck-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20220119_Comp (570-82066-1)	1/19/22	10:30 Pacific		Water			X		1	Level IV needed
Outfall001_20220119_Compl_Extra (570-82066-2)	1/19/22	10:30 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time:	Company	Received by	Date/Time.	Company
	Relinquished by:	Date/Time: 1/20/22 1637	Company	Received by:	Date/Time.	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

2/26/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82066-5

Login Number: 82066
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	No sample date and/or time on COC, logged in per container labels.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80530-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/20/2022 7:20:24 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80530-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-80530-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Job ID: 570-80530-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80530-1

Comments
No additional comments.

Receipt
The samples were received on 1/3/2022 4:48 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.0º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 2540F: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: Outfall002_20220103_Grab (570-80530-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 1664A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-206211. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.
1664

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80530-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Client Sample ID: Outfall002_20220103_Grab
Lab Sample ID: 570-80530-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.19	J,DX	0.50	0.17	ug/L	1		624.1	Total/NA
Specific Conductance	760		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: TB-20220103
Lab Sample ID: 570-80530-3

No Detections.

This Detection Summary does not include radiochemical test results.

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall002_20220103_Grab **Lab Sample ID: 570-80530-1**
Date Collected: 01/03/22 10:30 **Matrix: Water**
Date Received: 01/03/22 16:48

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/10/22 23:43	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/10/22 23:43	1
Trichloroethene	**0.19**	**J,DX**	0.50	0.17	ug/L			01/10/22 23:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*60 - 140*		*01/10/22 23:43*	*1*
Dibromofluoromethane (Surr)	*113*		*60 - 140*		*01/10/22 23:43*	*1*
Toluene-d8 (Surr)	*95*		*60 - 140*		*01/10/22 23:43*	*1*

Client Sample ID: TB-20220103 **Lab Sample ID: 570-80530-3**
Date Collected: 01/03/22 10:30 **Matrix: Water**
Date Received: 01/03/22 16:48

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/11/22 00:10	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/11/22 00:10	1
Trichloroethene	ND		0.50	0.17	ug/L			01/11/22 00:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*60 - 140*		*01/11/22 00:10*	*1*
Dibromofluoromethane (Surr)	*108*		*60 - 140*		*01/11/22 00:10*	*1*
Toluene-d8 (Surr)	*98*		*60 - 140*		*01/11/22 00:10*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80530-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

General Chemistry

Client Sample ID: Outfall002_20220103_Grab
Lab Sample ID: 570-80530-1
Date Collected: 01/03/22 10:30
Matrix: Water
Date Received: 01/03/22 16:48

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.53	mg/L		01/07/22 12:31	01/07/22 12:31	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	**760**		1.0	1.0	umhos/cm			01/04/22 11:56	1
Settleable Solids	ND	BU	0.10	0.10	mL/L/Hr			01/18/22 14:31	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80530-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
		BFB	DBFM	TOL					
Lab Sample ID	Client Sample ID	(60-140)	(60-140)	(60-140)					
570-79597-G-1 MS	Matrix Spike	97	106	92					
570-79597-G-1 MSD	Matrix Spike Duplicate	95	104	99					
570-80530-1	Outfall002_20220103_Grab	102	113	95					
570-80530-3	TB-20220103	97	108	98					
LCS 440-664145/1002	Lab Control Sample	99	102	99					
MB 440-664145/4	Method Blank	94	108	98					

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-664145/4
Matrix: Water
Analysis Batch: 664145

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/10/22 16:51	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/10/22 16:51	1
Trichloroethene	ND		0.50	0.17	ug/L			01/10/22 16:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*60 - 140*		*01/10/22 16:51*	*1*
Dibromofluoromethane (Surr)	*108*		*60 - 140*		*01/10/22 16:51*	*1*
Toluene-d8 (Surr)	*98*		*60 - 140*		*01/10/22 16:51*	*1*

Lab Sample ID: LCS 440-664145/1002
Matrix: Water
Analysis Batch: 664145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	25.0	28.5		ug/L		114	19 - 212
1,2-Dichloroethane	25.0	23.8		ug/L		95	72 - 137
Trichloroethene	25.0	26.9		ug/L		108	75 - 138

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*60 - 140*
Dibromofluoromethane (Surr)	*102*		*60 - 140*
Toluene-d8 (Surr)	*99*		*60 - 140*

Lab Sample ID: 570-79597-G-1 MS
Matrix: Water
Analysis Batch: 664145

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	3.1		25.0	31.1		ug/L		112	10 - 234
1,2-Dichloroethane	ND		25.0	25.5		ug/L		102	49 - 155
Trichloroethene	4.8		25.0	32.3		ug/L		110	70 - 157

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*60 - 140*
Dibromofluoromethane (Surr)	*106*		*60 - 140*
Toluene-d8 (Surr)	*92*		*60 - 140*

Lab Sample ID: 570-79597-G-1 MSD
Matrix: Water
Analysis Batch: 664145

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	3.1		25.0	27.6		ug/L		98	10 - 234	12	32
1,2-Dichloroethane	ND		25.0	24.7		ug/L		99	49 - 155	3	49
Trichloroethene	4.8		25.0	30.7		ug/L		104	70 - 157	5	48

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-79597-G-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664145

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*95*		*60 - 140*
Dibromofluoromethane (Surr)	*104*		*60 - 140*
Toluene-d8 (Surr)	*99*		*60 - 140*

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-206211/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206285 — **Prep Batch: 206211**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		01/07/22 12:31	01/07/22 12:31	1

Lab Sample ID: LCS 570-206211/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206285 — **Prep Batch: 206211**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM (Oil & Grease)	40.0	36.9		mg/L		92	78 - 114

Lab Sample ID: LCSD 570-206211/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206285 — **Prep Batch: 206211**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM (Oil & Grease)	40.0	38.4		mg/L		96	78 - 114	4	18

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 440-663757/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 663757

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			01/04/22 11:54	1

Lab Sample ID: LCS 440-663757/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 663757

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	687	671		umhos/cm		98	90 - 110

Lab Sample ID: 570-80129-N-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 663757

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	210		213		umhos/cm		0	5

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80530-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

GC/MS VOA

Analysis Batch: 664145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80530-1	Outfall002_20220103_Grab	Total/NA	Water	624.1	
570-80530-3	TB-20220103	Total/NA	Water	624.1	
MB 440-664145/4	Method Blank	Total/NA	Water	624.1	
LCS 440-664145/1002	Lab Control Sample	Total/NA	Water	624.1	
570-79597-G-1 MS	Matrix Spike	Total/NA	Water	624.1	
570-79597-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	624.1	

General Chemistry

Prep Batch: 206211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80530-1	Outfall002_20220103_Grab	Total/NA	Water	1664A	
MB 570-206211/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-206211/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-206211/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

Analysis Batch: 206285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80530-1	Outfall002_20220103_Grab	Total/NA	Water	1664A	206211
MB 570-206211/1-A	Method Blank	Total/NA	Water	1664A	206211
LCS 570-206211/2-A	Lab Control Sample	Total/NA	Water	1664A	206211
LCSD 570-206211/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	206211

Analysis Batch: 663757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80530-1	Outfall002_20220103_Grab	Total/NA	Water	SM 2510B	
MB 440-663757/3	Method Blank	Total/NA	Water	SM 2510B	
LCS 440-663757/4	Lab Control Sample	Total/NA	Water	SM 2510B	
570-80129-N-1 DU	Duplicate	Total/NA	Water	SM 2510B	

Analysis Batch: 664736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80530-1	Outfall002_20220103_Grab	Total/NA	Water	SM 2540F	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80530-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Client Sample ID: Outfall002_20220103_Grab
Lab Sample ID: 570-80530-1
Date Collected: 01/03/22 10:30
Matrix: Water
Date Received: 01/03/22 16:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	664145	01/10/22 23:43	A1W	IRV 2
	Instrument ID: GCMS32									
Total/NA	Prep	1664A			957 mL	1000 mL	206211	01/07/22 12:31	UWEZ	ECL 1
Total/NA	Analysis	1664A		1			206285	01/07/22 12:31	L6IE	ECL 1
	Instrument ID: ICPMS05									
Total/NA	Analysis	SM 2510B		1			663757	01/04/22 11:56	VY3D	IRV 2
	Instrument ID: COND13									
Total/NA	Analysis	SM 2540F		1	1000 mL	1000 mL	664736	01/18/22 14:31	W1BQ	IRV 2
	Instrument ID: NOEQUIP									

Client Sample ID: TB-20220103
Lab Sample ID: 570-80530-3
Date Collected: 01/03/22 10:30
Matrix: Water
Date Received: 01/03/22 16:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	664145	01/11/22 00:10	A1W	IRV 2
	Instrument ID: GCMS32									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80530-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80530-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	IRV 2
1664A	HEM and SGT-HEM	1664A	ECL 1
SM 2510B	Conductivity, Specific Conductance	SM	IRV 2
SM 2540F	Solids, Settleable	SM	IRV 2
1664A	HEM and SGT-HEM (Aqueous)	1664A	ECL 1

Protocol References:

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80530-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80530-1	Outfall002_20220103_Grab	Water	01/03/22 10:30	01/03/22 16:48
570-80530-3	TB-20220103	Water	01/03/22 10:30	01/03/22 16:48

80530

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

VLJUUVKT

R R R R

Client Name/Address.	Project	ANALYSIS REQUIRED	Field Readings	Meter serial #
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2022 Routine Outfall [001, 002, 011, 018] Outfall 002 Grab		Field Readings: (Include units) Time of Readings: 1030 DO 6.74 mg/L pH 7.26 pH unit Temp 41.9 °C/F	
Eurofins Calscience Irvine Contact. Virendra Patel **ECI #44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218				
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiar es and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)			
Sampler: Mark Dominick	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Field readings QC Checked by: MD Date/Time: 1-3-2022/1030	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Oil & Grease (E1664A-HEM)	VOCs - only 1,1-DCE, 1,2-DCA, TCE (E624)	Settleable Solids (E160.5 (SM2540F))	Conductivity (SM2510B / E120.1)	Comments
Outfall 002	Outfall002_20220103_Grab	1/3/2022/1030	WM	1 L Glass Amber	2	HCl	15	No	X				
			WM	40 mL VOA	3	HCl	30	No		X			
			WM	1L Poly	1	None	70	No			X		
			WM	500 mL Poly	1	None	75	No				X	
	Outfall002_20220103_Grab_Extra	1/3/2022/1030	WM	1 L Glass Amber	2	HCl	15	No	H				Hold
			WM	40 mL VOA	3	HCl	30	No		H			Hold
			WM	500 mL Poly	1	None	75	No				H	Hold
Trip Blanks	TB-20220103	1/3/2022/0000	WQ	40 mL VOA	3	HCl	30	No		X			

570-80530 Chain of Custody

Legend: R=Routine

Relinquished By	Date/Time:	Company	Received By	Date/Time:
Mark Dominick	1-3-2022/1330	H&A	ECI	1/3/22 1330
Victor M	1/3/22 1648	ECI	ECI	1-3-2022 16:48

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day ___X___
48 Hour _____ 5 Day _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice. _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV _____ All Level IV: ___X___

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1/20/2022

2019-2020 Rainy Season
Version 4

~~3.5/4.4~~ SC5
3 1/4 0

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148861 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest		Accreditations Required (See note): State Program - California		Job #: 570-80530-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/13/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Grab	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N - None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F MeOH	R Na2S2O3
G Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2540F/ Solids, Settleable	624.1_LL/624_Prep 624.1_LL_12DCA_11DCE_TCE	2510B	624.1_LL/624_Prep 624.1_LL_12DCA_11DCE_TCE (Hold)	2510B (Hold)	Total Number of containers	Special Instructions/Note.
			Preservation Code:										
Outfall002_20220103_Grab (570-80530-1)	1/3/22	10 30 Pacific		Water			X	X	X			2	
Outfall002_20220103_Grab_Extra (570-80530-2)	1/3/22	10 30 Pacific		Water						X	X	1	

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	01/04/22 1725	ECI			
2	Relinquished by	Date/Time	Company	Received by: Olga Oinekas	Date/Time: 01/04/22 1725	Company: EQT
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 1.7/1.2 IR-90

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-149114 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest		Accreditations Required (See note): State Program - California		Job #: 570-80530-1
Address: 2841 Dow Avenue	Due Date Requested: 1/13/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Grab	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	624.1_LL/624_Prep 624.1_LL-12DCA, 11DCE, TCE	Total Number of containers	Special Instructions/Note
			Preservation Code						
TB-20220103 (570-80530-3)	1/3/22	10 30 Pacific		Water			X	3	

Note Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	1/5/2022 19 00	ECI		1/5/2022 19 00	ECT
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.
		2.3/1.8 IR-10

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80530-1

Login Number: 80530
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80530-1

Login Number: 80530
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 01/04/22 05:54 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80530-1

Login Number: 80530
List Number: 3
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 01/06/22 10:16 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-80543-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002
Revision: 2

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/26/2022 2:15:26 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@et.eurofinsus.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-80543-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-80543-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

Job ID: 570-80543-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80543-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 1/17/2022. The report (revision 2) is being revised due to: The PDF report has been revised to include the analyte list requested on the COC.

Report revision history
Revision 1 - 1/25/2022 - Reason - The clients office requested the Enthalpy final report to be revised to remove Total Coliform reporting..

Receipt
The sample was received on 1/4/2022 2:00 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.6º C.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80543-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

Client Sample ID: Outfall002_20220104_Grab
Lab Sample ID: 570-80543-1

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80543-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

Method	Method Description	Protocol	Laboratory
Subcontract	9223- Colilert 18 - E. Coli - level 4 required	None	Enthalpy

Protocol References:

None = None

Laboratory References:

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80543-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80543-1	Outfall002_20220104_Grab	Water	01/04/22 10:30	01/04/22 14:00

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 456331
Report Level: IV
Report Date: 01/25/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDES SSFL Outfall - Outfall 002 - #570-80543

Authorized for release by:

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	Lab Job #: Project No: Location: Date Received:	456331 BOEING NPDES SSFL Boeing NPDES SSFL Outfall - Outfall 002 - #570-80543 01/04/22

Sample ID	Lab ID	Collected	Matrix
OUTFALL002_20220104_GRAB	456331-001	01/04/22 10:30	Water

ENTHALPY ANALYTICAL

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience, Inc. 7440 Lincoln Way Garden Grove, CA 92841-1427 Virendra Patel	Lab Job Number:	456331
	Project No:	BOEING NPDES SSFL
	Location:	Boeing NPDES SSFL Outfall - Outfall 002 - #570-80543
	Date Received:	01/04/22

This data package contains sample and QC results for one water sample, requested for the above referenced project on 01/04/22. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

456331

Chain of Custody Record

C570-80543

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148899.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-80543-1
Address: 931 W. Barkley Ave, ,	Due Date Requested:			Preservation Codes:
City: Orange	TAT Requested (days): Standard TAT			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			Other:
Project Name: Boeing NPDES SSFL Outfall - Outfall 002	Project #: 570-80543			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Analysis Requested: SUB (9223- Colilert 18 - E. Coli - level 4 required)	Special Instructions/Note:
OF002 (570-80543-1)	1/4/22	10:30 Pacific		Water	X	Run and report 1x, 10x, and 100x dilutions - level 4

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	01/04/22 1617 PM	ECI		01/04/22	EA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

2.8/0.3

Ver: 06/08/2021

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Eurofins Calscience Project: 570-80543

Date Received: 1/4/22 Sampler's Name Present: ☑ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2) Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 2.8 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 0.3 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✔		
Are sample IDs present?	✔		
Are sampling dates & times present?	✔		
Is a relinquished signature present?	✔		
Are the tests required clearly indicated on the COC?	✔		
Are custody seals present?		✔	
If custody seals are present, were they intact?			✔
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	✔		
Did all samples arrive intact? If no, indicate in Section 4 below.	✔		
Did all bottle labels agree with COC? (ID, dates and times)	✔		
Were the samples collected in the correct containers for the required tests?	✔		
Are the containers labeled with the correct preservatives?	✔		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✔
Was a sufficient amount of sample submitted for the requested tests?	✔		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: AT 1/4/21

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148899.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-80543-1
Address: 931 W. Barkley Ave, ,	Due Date Requested: 1/18/2022			
City: Orange	TAT Requested (days):			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (9223- Colilert 18 - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
OF002 (570-80543-1)	1/4/22	10:30 Pacific		Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

Please update the sample ID to:Outfall002_20220104_Grab
Virendra (01/13/22)

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 456331 **Project#:** BOEING NPDES SSFL

Client: Eurofins Calscience Tustin **Location:** Boeing NPDES SSFL Outfall - Outfal...

Field ID:	OUTFALL002_20220104_GRAB	**Batch#:**	281192	**Analyzed:**	01/05/22 12:48
Lab ID:	456331-001	**Sampled:**	01/04/22 10:30	**Prep:**	
Matrix:	Water	**Received:**	01/04/22	**Analysis:**	SM 9223Bb
Dil'n Fac:	1.000	**Prepared:**	01/04/22 17:30	**Analyst:**	LVL

Analyte	Result	RL	Units
Coliform, E. Coli	**56**	1.0	MPN/100ml

Legend

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: ST Prep Date/Time: 1/4/22 ~~1755~~ ST 1/27/22 1730 QC Batch ID: 281192 Batch Page 1 of 1

Read Analyst: [illegible] Read Date/Time 1/5/22 1248

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: HT510 Pipette Lot #: A103909, A103931 07/12026

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 1/4/22 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: A Incubator In, Temp/Time: 34.7 1755 Incubator Out, Temp/Time: 1248 34.9

Fecal Coliform: Water Bath ID: NA Water Bath In, Temp/Time: NA Water Bath Out, Temp/Time: NA

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
Eurofins		456329-001	1X	49	48	>2419.6	>2400	6	0	6.3	6					EC-01 1X
calscience		-001	10X	49	23	410.6	4100	0	0	<1	<10					↓ 10X
		-001	100X	22	5	35	3500	0	0	<1	<10					↓ 100X
		456331-001	1X	49	48	>2419.6	>2400	32	4	55.6	56					EC-02 1X
		-001	10X	~~32~~ 49	~~4~~ 27	517.2	5200	10	0	11.0	110 ++ 1/27/22					↓ 10X
		-001	100X	15	2	19.9	2000	0	0	<1	<100					↓ 100X
Quality Control		Culture ID														
Positive +/+ (E. Coli)		1/2/22		49	48	>2419.6	>2400	49	48	>2419.6	>2400					
Positive +/- (K. Pneumonia)		↓		49	48	>2419.6	>2400	0	0	<1.0	<1.0					
Negative -/- (P. Aeruginosa)				0	0	<1.0	<1.0	0	0	<1.0	<1.0					

1/10/22

Data Entered By: 1/10/22 Data Reviewed By:

Patel, Virendra

From: Dallalah, Michelle <MDallalah@haleyaldrich.com>
Sent: Thursday, January 13, 2022 10:28 AM
To: Patel, Virendra; Barr, Anastasia; Miller, Katherine
Subject: RE: Eurofins Southwest sample confirmation files from 570-80543-1 Boeing NPDES SSFL Outfall - Outfall 002

EXTERNAL EMAIL*

Hi Virendra,

Please update the sample ID from OF002 to Outfall002_20220104_Grab

Thanks,

Michelle Dallalah
Staff Engineer

Haley & Aldrich, Inc.
5850 Canoga Avenue | Suite 400
Woodland Hills, CA 91367

T: 714.371.1804
C: 818.298.6878

www.haleyaldrich.com

From: Virendra Patel <Virendra.Patel@eurofinset.com>
Sent: Wednesday, January 5, 2022 9:30 AM
To: Barr, Anastasia <ABarr@haleyaldrich.com>; Miller, Katherine <KMiller@haleyaldrich.com>; Dallalah, Michelle <MDallalah@haleyaldrich.com>; Patel Virendra <Virendra.Patel@eurofinset.com>
Subject: Eurofins Southwest sample confirmation files from 570-80543-1 Boeing NPDES SSFL Outfall - Outfall 002

CAUTION: External Email

Hello,

Attached please find the sample confirmation files for job 570-80543-1; Boeing NPDES SSFL Outfall - Outfall 002

Please feel free to contact me if you have any questions.

Thank you.

Virendra Patel
Project Manager

Eurofins Calscience LLC
Phone: 714-895-5494 Ext: 218

E-mail: Virendra.Patel@eurofinset.com
www.eurofinsus.com/env

Reference: [570-276205]
Attachments: 3

> > Bank information has changed, please refer to remittance information on invoice. < <

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

C570-80543

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148899.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-80543-1
Address: 931 W. Barkley Ave, ,	Due Date Requested: 1/18/2022			
City: Orange	TAT Requested (days):			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (9223- Colilert 18 - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
OF002 (570-80543-1)	1/4/22	10:30 Pacific		Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

Please update the sample ID to:Outfall002_20220104_Grab
Virendra (01/13/22)

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Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

80543

Test America Version 7/19/2010

CHAIN OF CUSTODY FORM

Client Name/Address	Project.
Haley & Aldrich, Inc. 5333 Mission Center Road, Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Outfall 002 Sampler: Neal Smith
Eurofins Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3269 **ECI #44024446**	Project Manager: Katherine Miller Phone Number: (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I D.	Sampling Date/Time	Preservative	Bottle #	E coli (SM9221)	Comments
OF002	W	125mL Sterile Poly	3	OF002_20220104	1/4/2022/1030	$Na_2S_2O_3$	10	X	Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

570-80543 Chain of Custody

Relinquished By Michelle Dallalah (Haley & Aldrich) Date/Time 1/4/2022 1400

Relinquished By Date/Time

Relinquished By Date/Time

Turn around Time (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal ___X___

Sample Integrity (check)
Intact _____ On Ice _____

Data Requirements: (check)
No Level IV ____ All Level IV ____

NPDES Level IV ____

2136 SCC

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80543-1

Login Number: 80543
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80548-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp
Revision: 1

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/28/2022 4:45:04 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
PI	Primary and confirm results varied by > than 40% RPD

HPLC/IC

Qualifier	Qualifier Description
BA	Relative percent difference out of control
BB	Sample > 4X spike concentration
LN	MS and/or MSD below acceptance limits. See Blank Spike (LCS)

Metals

Qualifier	Qualifier Description
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LR	LCS/LCSD recovery below method control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: Haley & Aldrich, Inc. Job ID: 570-80548-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Job ID: 570-80548-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80548-1

Comments
No additional comments.

Receipt
The samples were received on 1/4/2022 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.3º C and 3.6º C.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method Filtration: The following samples were not filtered within 15 minutes of sample collection as required by the method: Outfall002_20220104_F (570-80548-3), (570-80548-C-3 MS) and (570-80548-C-3 MSD). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall002_20220104_F (570-80548-3). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with insufficient time to filter within the HT.

01/06/21 @ 15:40 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall002_20220104_F (570-80548-3). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with insufficient time to filter within the HT.

01/06/21 @ 16:17 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method 180.1: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: Outfall002_20220104_Comp (570-80548-1).

Method SM5210B: The glucose-glutamic acid standard (LCS) recovered outside the recovery limits specified in the method in analytical batch 440-664229. The method holding time had expired, therefore the analysis was not repeated. The data was qualified and reported.

Job ID: 570-80548-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

Method SM5210B: The following sample underdepleted: Outfall002_20220104_Comp (570-80548-1). Results have been reported and may be biased high.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-205540. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 608LL

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-205520. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 625.1 Sim

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220104_Comp
Lab Sample ID: 570-80548-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	18		2.0	0.72	mg/L	2		300.0	Total/NA
Nitrate as N	2.5		0.20	0.048	mg/L	2		300.0	Total/NA
Sulfate	140		2.0	0.47	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	2.5		0.20	0.071	mg/L	1		NO2NO3 Calc	Total/NA
Iron	250		100	50	ug/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	17	J,DX	20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Copper	2.3		2.0	0.50	ug/L	1		200.8	Total Recoverable
Selenium	0.89	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Turbidity	6.2	BU	0.10	0.05	NTU	1		180.1	Total/NA
Total Dissolved Solids	390		10	3.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	9.1		1.1	0.53	mg/L	1		SM 2540D	Total/NA
Ammonia (as N)	0.194	J,DX	0.200	0.100	mg/L	1		SM 4500 NH3 G	Total/NA

Client Sample ID: Outfall002_20220104_Comp_F
Lab Sample ID: 570-80548-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	9.2	J,DX	20	6.8	ug/L	1		200.7 Rev 4.4	Dissolved
Copper	2.1		2.0	0.50	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: Outfall002_20220104_Comp
Lab Sample ID: 570-80548-1
Date Collected: 01/04/22 10:10
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.2	0.079	ug/L		01/05/22 06:03	01/05/22 20:39	1
2,4-Dinitrotoluene	ND		0.23	0.12	ug/L		01/05/22 06:03	01/05/22 20:39	1
Bis(2-ethylhexyl) phthalate	ND		5.9	2.1	ug/L		01/05/22 06:03	01/05/22 20:39	1
N-Nitrosodimethylamine	ND		0.23	0.16	ug/L		01/05/22 06:03	01/05/22 20:39	1
Pentachlorophenol	ND		1.2	0.13	ug/L		01/05/22 06:03	01/05/22 20:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*48*		*31 - 120*	*01/05/22 06:03*	*01/05/22 20:39*	*1*
Phenol-d6 (Surr)	*27*		*10 - 120*	*01/05/22 06:03*	*01/05/22 20:39*	*1*
p-Terphenyl-d14 (Surr)	*55*		*45 - 120*	*01/05/22 06:03*	*01/05/22 20:39*	*1*
2,4,6-Tribromophenol	*71*		*28 - 127*	*01/05/22 06:03*	*01/05/22 20:39*	*1*
2-Fluorophenol	*41*		*17 - 120*	*01/05/22 06:03*	*01/05/22 20:39*	*1*
Nitrobenzene-d5	*56*		*27 - 120*	*01/05/22 06:03*	*01/05/22 20:39*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall002_20220104_Comp
Lab Sample ID: 570-80548-1
Date Collected: 01/04/22 10:10
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.00080	ug/L		01/05/22 08:38	01/06/22 12:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*48*		*20 - 139*	*01/05/22 08:38*	*01/06/22 12:56*	*1*
DCB Decachlorobiphenyl (Surr)	*29*	*PI*	*20 - 154*	*01/05/22 08:38*	*01/06/22 12:56*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall002_20220104_Comp
Lab Sample ID: 570-80548-1
Date Collected: 01/04/22 10:10
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**18**		2.0	0.72	mg/L			01/05/22 16:10	2
Nitrite as N	ND		0.20	0.036	mg/L			01/05/22 16:10	2
Nitrate as N	**2.5**		0.20	0.048	mg/L			01/05/22 16:10	2
Sulfate	**140**		2.0	0.47	mg/L			01/05/22 16:10	2

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 314.0 - Perchlorate (IC)

Client Sample ID: Outfall002_20220104_Comp
Lab Sample ID: 570-80548-1
Date Collected: 01/04/22 10:10
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/05/22 18:53	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall002_20220104_Comp
Lab Sample ID: 570-80548-1
Date Collected: 01/04/22 10:10
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	2.5		0.20	0.071	mg/L			01/09/22 11:31	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: Outfall002_20220104_Comp
Lab Sample ID: 570-80548-1
Date Collected: 01/04/22 10:10
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/20/22 06:32	01/20/22 17:00	1
Iron	**250**		100	50	ug/L		01/20/22 06:32	01/20/22 17:00	1
Manganese	**17**	**J,DX**	20	6.8	ug/L		01/20/22 06:32	01/20/22 17:00	1
Zinc	ND		20	12	ug/L		01/20/22 06:32	01/20/22 17:00	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: Outfall002_20220104_Comp_F
Lab Sample ID: 570-80548-3
Date Collected: 01/04/22 10:10
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/06/22 17:20	01/07/22 21:41	1
Iron	ND		100	50	ug/L		01/06/22 17:20	01/07/22 21:41	1
Manganese	**9.2**	**J,DX**	20	6.8	ug/L		01/06/22 17:20	01/07/22 21:41	1
Zinc	ND		20	12	ug/L		01/06/22 17:20	01/07/22 21:41	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall002_20220104_Comp
Lab Sample ID: 570-80548-1
Date Collected: 01/04/22 10:10
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/20/22 06:46	01/20/22 13:37	1
Copper	**2.3**		2.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:37	1
Lead	ND		1.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:37	1
Selenium	**0.89**	**J,DX**	2.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:37	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall002_20220104_Comp_F
Lab Sample ID: 570-80548-3
Date Collected: 01/04/22 10:10
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/06/22 17:16	01/07/22 14:49	1
Copper	**2.1**		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:49	1
Lead	ND		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:49	1
Selenium	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:49	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 245.1 - Mercury (CVAA)

Client Sample ID: Outfall002_20220104_Comp
Lab Sample ID: 570-80548-1
Date Collected: 01/04/22 10:10
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/17/22 17:42	01/18/22 17:56	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall002_20220104_Comp_F
Lab Sample ID: 570-80548-3
Date Collected: 01/04/22 10:10
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.25	0.12	ug/L		01/19/22 17:58	01/20/22 20:20	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

General Chemistry

Client Sample ID: Outfall002_20220104_Comp
Lab Sample ID: 570-80548-1
Date Collected: 01/04/22 10:10
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	**6.2**	**BU**	0.10	0.05	NTU			01/19/22 18:30	1
Total Dissolved Solids	**390**		10	3.0	mg/L			01/11/22 10:10	1
Total Suspended Solids	**9.1**		1.1	0.53	mg/L			01/05/22 19:16	1
Cyanide, Total	ND		0.0030	0.0014	mg/L		01/04/22 19:30	01/04/22 22:51	1
Ammonia (as N)	**0.194**	**J,DX**	0.200	0.100	mg/L			01/07/22 12:35	1
MBAS	ND		0.30	0.15	mg/L		01/04/22 21:00	01/04/22 22:18	1
Biochemical Oxygen Demand	ND	LR	4.0	4.0	mg/L			01/05/22 22:29	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	PHL6	TPHd14	TBP	2FP	NBZ
Lab Sample ID	Client Sample ID	(31-120)	(10-120)	(45-120)	(28-127)	(17-120)	(27-120)
570-80548-1	Outfall002_20220104_Comp	48	27	55	71	41	56
LCS 570-205520/2-A	Lab Control Sample	59	32	80	85	49	65
LCSD 570-205520/3-A	Lab Control Sample Dup	65	33	79	81	50	67
MB 570-205520/1-A	Method Blank	64	31	72	91	50	71

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
PHL6 = Phenol-d6 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)
TBP = 2,4,6-Tribromophenol
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5

Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
		TCX1	DCB1										
Lab Sample ID	Client Sample ID	(20-139)	(20-154)										
570-80548-1	Outfall002_20220104_Comp	48	29 PI										
LCS 570-205540/2-A	Lab Control Sample	42	35										
LCSD 570-205540/3-A	Lab Control Sample Dup	47	33										
MB 570-205540/1-A	Method Blank	66	66										

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl (Surr)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-205520/1-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205520

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.067	ug/L		01/05/22 06:03	01/05/22 17:08	1
2,4-Dinitrotoluene	ND		0.20	0.11	ug/L		01/05/22 06:03	01/05/22 17:08	1
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		01/05/22 06:03	01/05/22 17:08	1
N-Nitrosodimethylamine	ND		0.20	0.14	ug/L		01/05/22 06:03	01/05/22 17:08	1
Pentachlorophenol	ND		1.0	0.11	ug/L		01/05/22 06:03	01/05/22 17:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*64*		*31 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
Phenol-d6 (Surr)	*31*		*10 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
p-Terphenyl-d14 (Surr)	*72*		*45 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
2,4,6-Tribromophenol	*91*		*28 - 127*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
2-Fluorophenol	*50*		*17 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
Nitrobenzene-d5	*71*		*27 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*

Lab Sample ID: LCS 570-205520/2-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205520

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,6-Trichlorophenol	20.0	16.3		ug/L		81	52 - 129
2,4-Dinitrotoluene	20.0	16.5		ug/L		82	48 - 127
Bis(2-ethylhexyl) phthalate	20.0	20.2		ug/L		101	29 - 137
N-Nitrosodimethylamine	20.0	11.8		ug/L		59	30 - 100
Pentachlorophenol	20.0	15.1		ug/L		76	38 - 152

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*59*		*31 - 120*
Phenol-d6 (Surr)	*32*		*10 - 120*
p-Terphenyl-d14 (Surr)	*80*		*45 - 120*
2,4,6-Tribromophenol	*85*		*28 - 127*
2-Fluorophenol	*49*		*17 - 120*
Nitrobenzene-d5	*65*		*27 - 120*

Lab Sample ID: LCSD 570-205520/3-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205520

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4,6-Trichlorophenol	20.0	16.7		ug/L		84	52 - 129	3	35
2,4-Dinitrotoluene	20.0	16.0		ug/L		80	48 - 127	3	25
Bis(2-ethylhexyl) phthalate	20.0	19.7		ug/L		98	29 - 137	3	50
N-Nitrosodimethylamine	20.0	10.9		ug/L		55	30 - 100	8	20
Pentachlorophenol	20.0	14.2		ug/L		71	38 - 152	6	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*65*		*31 - 120*
Phenol-d6 (Surr)	*33*		*10 - 120*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-205520/3-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205520

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
p-Terphenyl-d14 (Surr)	*79*		*45 - 120*
2,4,6-Tribromophenol	*81*		*28 - 127*
2-Fluorophenol	*50*		*17 - 120*
Nitrobenzene-d5	*67*		*27 - 120*

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-205540/1-A
Matrix: Water
Analysis Batch: 205595

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205540

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.00080	ug/L		01/05/22 08:38	01/06/22 11:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*66*		*20 - 139*	*01/05/22 08:38*	*01/06/22 11:44*	*1*
DCB Decachlorobiphenyl (Surr)	*66*		*20 - 154*	*01/05/22 08:38*	*01/06/22 11:44*	*1*

Lab Sample ID: LCS 570-205540/2-A
Matrix: Water
Analysis Batch: 205595

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205540

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
alpha-BHC			0.0333	0.0165		ug/L		50	37 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*42*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*35*		*20 - 154*

Lab Sample ID: LCSD 570-205540/3-A
Matrix: Water
Analysis Batch: 205595

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205540

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
alpha-BHC			0.0333	0.0181		ug/L		54	37 - 140	9	36

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*47*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*33*		*20 - 154*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-205584/5
Matrix: Water
Analysis Batch: 205584

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.36	mg/L			01/05/22 10:37	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 570-205584/5
Matrix: Water
Analysis Batch: 205584

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.24	mg/L			01/05/22 10:37	1

Lab Sample ID: LCS 570-205584/6
Matrix: Water
Analysis Batch: 205584

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			50.0	47.7		mg/L		95	90 - 110		
Fluoride			2.50	2.46		mg/L		98	90 - 110		
Sulfate			50.0	49.6		mg/L		99	90 - 110		

Lab Sample ID: LCSD 570-205584/7
Matrix: Water
Analysis Batch: 205584

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			50.0	47.7		mg/L		95	90 - 110	0	15
Fluoride			2.50	2.50		mg/L		100	90 - 110	2	15
Sulfate			50.0	49.6		mg/L		99	90 - 110	0	15

Lab Sample ID: 570-80593-A-4 MS
Matrix: Water
Analysis Batch: 205584

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	13		50.0	58.8		mg/L		91	80 - 120		
Fluoride	0.12	J,DX	2.50	2.73		mg/L		104	80 - 120		
Sulfate	36		50.0	85.6		mg/L		99	80 - 120		

Lab Sample ID: 570-80593-A-4 MSD
Matrix: Water
Analysis Batch: 205584

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	13		50.0	51.3	LN	mg/L		76	80 - 120	14	20
Fluoride	0.12	J,DX	2.50	2.81		mg/L		107	80 - 120	3	20
Sulfate	36		50.0	66.0	LN BA	mg/L		60	80 - 120	26	20

Lab Sample ID: MB 570-205585/5
Matrix: Water
Analysis Batch: 205585

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			01/05/22 10:37	1
Nitrate as N	ND		0.10	0.024	mg/L			01/05/22 10:37	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 570-205585/6
Matrix: Water
Analysis Batch: 205585

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N			2.50	2.44		mg/L		98	90 - 110		
Nitrate as N			5.00	4.96		mg/L		99	90 - 110		

Lab Sample ID: LCSD 570-205585/7
Matrix: Water
Analysis Batch: 205585

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N			2.50	2.46		mg/L		98	90 - 110	1	15
Nitrate as N			5.00	4.92		mg/L		98	90 - 110	1	15

Lab Sample ID: 570-80593-A-4 MS
Matrix: Water
Analysis Batch: 205585

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N	ND		2.50	2.59		mg/L		104	80 - 120		
Nitrate as N	0.64		5.00	5.46		mg/L		96	80 - 120		

Lab Sample ID: 570-80593-A-4 MSD
Matrix: Water
Analysis Batch: 205585

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	ND		2.50	2.58		mg/L		103	80 - 120	0	20
Nitrate as N	0.64		5.00	5.25		mg/L		92	80 - 120	4	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-205610/6
Matrix: Water
Analysis Batch: 205610

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/05/22 11:56	1

Lab Sample ID: LCS 570-205610/7
Matrix: Water
Analysis Batch: 205610

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			25.0	24.8		ug/L		99	85 - 115		

Lab Sample ID: LCSD 570-205610/8
Matrix: Water
Analysis Batch: 205610

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate			25.0	25.1		ug/L		100	85 - 115	1	15

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: 570-80578-G-1 MS
Matrix: Water
Analysis Batch: 205610

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1500		50.0	1530	BB	ug/L		34	80 - 120

Lab Sample ID: 570-80578-G-1 MSD
Matrix: Water
Analysis Batch: 205610

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	1500		50.0	1520	BB	ug/L		1	80 - 120	1	15

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-664923/1-A
Matrix: Water
Analysis Batch: 665020

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664923

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/20/22 06:32	01/20/22 16:07	1
Iron	ND		100	50	ug/L		01/20/22 06:32	01/20/22 16:07	1
Manganese	ND		20	6.8	ug/L		01/20/22 06:32	01/20/22 16:07	1
Zinc	ND		20	12	ug/L		01/20/22 06:32	01/20/22 16:07	1

Lab Sample ID: LCS 440-664923/2-A
Matrix: Water
Analysis Batch: 665020

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664923

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	489		ug/L		98	85 - 115
Iron	500	500		ug/L		100	85 - 115
Manganese	500	500		ug/L		100	85 - 115
Zinc	500	499		ug/L		100	85 - 115

Lab Sample ID: 440-294369-A-1-B MS
Matrix: Water
Analysis Batch: 665020

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664923

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		500	565		ug/L		113	70 - 130
Iron	1900		500	2370		ug/L		93	70 - 130
Manganese	120		500	670		ug/L		110	70 - 130
Zinc	130		500	686		ug/L		110	70 - 130

Lab Sample ID: 440-294369-A-1-C MSD
Matrix: Water
Analysis Batch: 665020

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664923

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	536		ug/L		107	70 - 130	5	20
Iron	1900		500	2330		ug/L		83	70 - 130	2	20
Manganese	120		500	641		ug/L		104	70 - 130	4	20
Zinc	130		500	655		ug/L		104	70 - 130	5	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-663928/1-C
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663949

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/06/22 17:20	01/07/22 21:20	1
Iron	ND		100	50	ug/L		01/06/22 17:20	01/07/22 21:20	1
Manganese	ND		20	6.8	ug/L		01/06/22 17:20	01/07/22 21:20	1
Zinc	ND		20	12	ug/L		01/06/22 17:20	01/07/22 21:20	1

Lab Sample ID: LCS 440-663928/2-C
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663949

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	474		ug/L		95	85 - 115
Iron	500	486		ug/L		97	85 - 115
Manganese	500	466		ug/L		93	85 - 115
Zinc	500	472		ug/L		94	85 - 115

Lab Sample ID: 570-80532-R-1-D MS
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663949

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		500	497		ug/L		99	70 - 130
Iron	160		500	530		ug/L		74	70 - 130
Manganese	ND		500	488		ug/L		98	70 - 130
Zinc	19	J,DX	500	513		ug/L		99	70 - 130

Lab Sample ID: 570-80532-R-1-E MSD
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663949

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	496		ug/L		99	70 - 130	0	20
Iron	160		500	524		ug/L		73	70 - 130	1	20
Manganese	ND		500	486		ug/L		97	70 - 130	0	20
Zinc	19	J,DX	500	515		ug/L		99	70 - 130	0	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-664924/1-A
Matrix: Water
Analysis Batch: 664984

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664924

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/20/22 06:46	01/20/22 13:12	1
Copper	ND		2.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:12	1
Lead	ND		1.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:12	1
Selenium	ND		2.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:12	1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 440-664924/2-A
Matrix: Water
Analysis Batch: 664984

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664924

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cadmium			80.0	80.2		ug/L		100	85 - 115		
Copper			80.0	79.3		ug/L		99	85 - 115		
Lead			80.0	80.8		ug/L		101	85 - 115		
Selenium			80.0	83.4		ug/L		104	85 - 115		

Lab Sample ID: 570-80509-A-2-B MS
Matrix: Water
Analysis Batch: 664984

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664924

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cadmium	ND		80.0	81.9		ug/L		102	70 - 130		
Copper	13		80.0	94.7		ug/L		102	70 - 130		
Lead	ND		80.0	82.1		ug/L		103	70 - 130		
Selenium	ND		80.0	78.8		ug/L		99	70 - 130		

Lab Sample ID: 570-80509-A-2-C MSD
Matrix: Water
Analysis Batch: 664984

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664924

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	81.3		ug/L		102	70 - 130	1	20
Copper	13		80.0	95.4		ug/L		103	70 - 130	1	20
Lead	ND		80.0	82.3		ug/L		103	70 - 130	0	20
Selenium	ND		80.0	80.5		ug/L		101	70 - 130	2	20

Lab Sample ID: MB 440-663928/1-B
Matrix: Water
Analysis Batch: 664013

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663947

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/06/22 17:16	01/07/22 14:30	1
Copper	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Lead	ND		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Selenium	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1

Lab Sample ID: LCS 440-663928/2-B
Matrix: Water
Analysis Batch: 664013

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663947

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cadmium			80.0	79.3		ug/L		99	85 - 115		
Copper			80.0	81.3		ug/L		102	85 - 115		
Lead			80.0	79.4		ug/L		99	85 - 115		
Selenium			80.0	75.7		ug/L		95	85 - 115		

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-80544-C-2-C MS
Matrix: Water
Analysis Batch: 664013

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663947

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	80.4		ug/L		100	70 - 130
Copper	3.5		80.0	87.2		ug/L		105	70 - 130
Lead	ND		80.0	81.1		ug/L		101	70 - 130
Selenium	ND		80.0	79.8		ug/L		100	70 - 130

Lab Sample ID: 570-80544-C-2-D MSD
Matrix: Water
Analysis Batch: 664013

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663947

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	80.5		ug/L		101	70 - 130	0	20
Copper	3.5		80.0	86.8		ug/L		104	70 - 130	1	20
Lead	ND		80.0	80.6		ug/L		101	70 - 130	1	20
Selenium	ND		80.0	77.7		ug/L		97	70 - 130	3	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-208112/1-A
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208112

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/17/22 17:42	01/18/22 17:34	1

Lab Sample ID: LCS 570-208112/2-A
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208112

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	11.0		ug/L		110	85 - 115

Lab Sample ID: LCSD 570-208112/3-A
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208112

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	10.0	11.0		ug/L		110	85 - 115	0	10

Lab Sample ID: 440-293718-B-1-E MS
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 208112

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		10.0	10.9		ug/L		109	70 - 130

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 440-293718-B-1-F MSD
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 208112

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	10.9		ug/L		109	70 - 130	0	10

Lab Sample ID: MB 570-208358/1-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 208361

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/19/22 17:58	01/20/22 19:43	1

Lab Sample ID: LCS 570-208358/2-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	9.71		ug/L		97	85 - 115

Lab Sample ID: LCSD 570-208358/3-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	10.0	9.72		ug/L		97	85 - 115	0	10

Lab Sample ID: 570-80548-3 MS
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Outfall002_20220104_Comp_F
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND	BU	10.0	9.05		ug/L		90	70 - 130

Lab Sample ID: 570-80548-3 MSD
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Outfall002_20220104_Comp_F
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND	BU	10.0	9.21		ug/L		92	70 - 130	2	10

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 440-664889/6
Matrix: Water
Analysis Batch: 664889

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	ND		0.10	0.05	NTU			01/19/22 18:28	1

Method: 180.1 - Turbidity, Nephelometric (Continued)

Lab Sample ID: MRL 440-664889/5
Matrix: Water
Analysis Batch: 664889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	0.100	0.10		NTU		90	50 - 150

Lab Sample ID: 570-80231-I-1 DU
Matrix: Water
Analysis Batch: 664889

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Turbidity	0.40		0.35		NTU		10	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-663806/1
Matrix: Water
Analysis Batch: 663806

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	3.0	mg/L			01/11/22 10:10	1

Lab Sample ID: LCS 440-663806/2
Matrix: Water
Analysis Batch: 663806

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	974		mg/L		97	90 - 110

Lab Sample ID: 570-80544-E-1 DU
Matrix: Water
Analysis Batch: 663806

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	160		157		mg/L		1	5

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-663860/1
Matrix: Water
Analysis Batch: 663860

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			01/05/22 19:16	1

Lab Sample ID: LCS 440-663860/2
Matrix: Water
Analysis Batch: 663860

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	1000	1010		mg/L		101	85 - 115

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: 440-293826-D-1 DU
Matrix: Water
Analysis Batch: 663860

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	7.2		7.40		mg/L		3	5

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 570-205516/1-A
Matrix: Water
Analysis Batch: 205489

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205516

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0030	0.0014	mg/L		01/04/22 16:30	01/04/22 19:10	1

Lab Sample ID: LCS 570-205516/2-A
Matrix: Water
Analysis Batch: 205489

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205516

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0100	0.0102		mg/L		102	80 - 120

Lab Sample ID: LCSD 570-205516/3-A
Matrix: Water
Analysis Batch: 205489

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205516

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.0100	0.0100		mg/L		100	80 - 120	2	20

Lab Sample ID: 570-80531-L-1-A MS
Matrix: Water
Analysis Batch: 205489

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 205516

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0043		0.0100	0.0150		mg/L		108	74 - 115

Lab Sample ID: 570-80531-L-1-B MSD
Matrix: Water
Analysis Batch: 205489

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 205516

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.0043		0.0100	0.0140		mg/L		97	74 - 115	7	20

Method: SM 4500 NH3 G - Ammonia

Lab Sample ID: MB 440-664022/10
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.200	0.100	mg/L			01/07/22 11:11	1

Method: SM 4500 NH3 G - Ammonia (Continued)

Lab Sample ID: LCS 440-664022/11
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	5.00	5.370		mg/L		107	90 - 110

Lab Sample ID: MRL 440-664022/9
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.200	0.1950	J,DX	mg/L		98	50 - 150

Lab Sample ID: 570-80545-H-1 MS
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.845		5.00	5.760		mg/L		98	90 - 110

Lab Sample ID: 570-80545-H-1 MSD
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.845		5.00	5.710		mg/L		97	90 - 110	1	15

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 570-205510/5-A
Matrix: Water
Analysis Batch: 205513

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205510

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.30	0.15	mg/L		01/04/22 21:00	01/04/22 22:12	1

Lab Sample ID: LCS 570-205510/6-A
Matrix: Water
Analysis Batch: 205513

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205510

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
MBAS	1.00	1.05		mg/L		105	85 - 111

Lab Sample ID: LCSD 570-205510/7-A
Matrix: Water
Analysis Batch: 205513

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205510

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MBAS	1.00	1.06		mg/L		106	85 - 111	1	7

Method: SM 5540C - Methylene Blue Active Substances (MBAS) (Continued)

Lab Sample ID: 570-80545-K-1-A MS
Matrix: Water
Analysis Batch: 205513

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 205510

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
MBAS	ND		1.00	1.18		mg/L		118	75 - 125

Lab Sample ID: 570-80545-K-1-B MSD
Matrix: Water
Analysis Batch: 205513

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 205510

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MBAS	ND		1.00	1.19		mg/L		119	75 - 125	0	12

Method: SM5210B - BOD, 5 Day

Lab Sample ID: USB 440-664229/2
Matrix: Water
Analysis Batch: 664229

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			01/05/22 09:34	1

Lab Sample ID: LCS 440-664229/4
Matrix: Water
Analysis Batch: 664229

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Biochemical Oxygen Demand	199	167	LR	mg/L		84	85 - 115

Lab Sample ID: 570-80518-O-1 DU
Matrix: Water
Analysis Batch: 664229

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Biochemical Oxygen Demand	ND	LR	ND	LR	mg/L		NC	20

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

GC/MS Semi VOA

Prep Batch: 205520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	625	
MB 570-205520/1-A	Method Blank	Total/NA	Water	625	
LCS 570-205520/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-205520/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 205774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	625.1 SIM	205520
MB 570-205520/1-A	Method Blank	Total/NA	Water	625.1 SIM	205520
LCS 570-205520/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	205520
LCSD 570-205520/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	205520

GC Semi VOA

Prep Batch: 205540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	608	
MB 570-205540/1-A	Method Blank	Total/NA	Water	608	
LCS 570-205540/2-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-205540/3-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 205595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	608.3	205540
MB 570-205540/1-A	Method Blank	Total/NA	Water	608.3	205540
LCS 570-205540/2-A	Lab Control Sample	Total/NA	Water	608.3	205540
LCSD 570-205540/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	205540

HPLC/IC

Analysis Batch: 205584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	300.0	
MB 570-205584/5	Method Blank	Total/NA	Water	300.0	
LCS 570-205584/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-205584/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80593-A-4 MS	Matrix Spike	Total/NA	Water	300.0	
570-80593-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 205585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	300.0	
MB 570-205585/5	Method Blank	Total/NA	Water	300.0	
LCS 570-205585/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-205585/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80593-A-4 MS	Matrix Spike	Total/NA	Water	300.0	
570-80593-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 205610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	314.0	
MB 570-205610/6	Method Blank	Total/NA	Water	314.0	

HPLC/IC (Continued)

Analysis Batch: 205610 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-205610/7	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-205610/8	Lab Control Sample Dup	Total/NA	Water	314.0	
570-80578-G-1 MS	Matrix Spike	Total/NA	Water	314.0	
570-80578-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	

Analysis Batch: 206419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	NO2NO3 Calc	

Metals

Prep Batch: 208112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	245.1	
MB 570-208112/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-208112/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-208112/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
440-293718-B-1-E MS	Matrix Spike	Total/NA	Water	245.1	
440-293718-B-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 208127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	245.1	208112
MB 570-208112/1-A	Method Blank	Total/NA	Water	245.1	208112
LCS 570-208112/2-A	Lab Control Sample	Total/NA	Water	245.1	208112
LCSD 570-208112/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	208112
440-293718-B-1-E MS	Matrix Spike	Total/NA	Water	245.1	208112
440-293718-B-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	208112

Filtration Batch: 208358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-3	Outfall002_20220104_Comp_F	Dissolved	Water	Filtration	
MB 570-208358/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-80548-3 MS	Outfall002_20220104_Comp_F	Dissolved	Water	Filtration	
570-80548-3 MSD	Outfall002_20220104_Comp_F	Dissolved	Water	Filtration	

Prep Batch: 208361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-3	Outfall002_20220104_Comp_F	Dissolved	Water	245.1	208358
MB 570-208358/1-B	Method Blank	Dissolved	Water	245.1	208358
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	245.1	208358
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	208358
570-80548-3 MS	Outfall002_20220104_Comp_F	Dissolved	Water	245.1	208358
570-80548-3 MSD	Outfall002_20220104_Comp_F	Dissolved	Water	245.1	208358

Analysis Batch: 208671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-3	Outfall002_20220104_Comp_F	Dissolved	Water	245.1	208361
MB 570-208358/1-B	Method Blank	Dissolved	Water	245.1	208361

Metals (Continued)

Analysis Batch: 208671 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	245.1	208361
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	208361
570-80548-3 MS	Outfall002_20220104_Comp_F	Dissolved	Water	245.1	208361
570-80548-3 MSD	Outfall002_20220104_Comp_F	Dissolved	Water	245.1	208361

Filtration Batch: 663928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-3	Outfall002_20220104_Comp_F	Dissolved	Water	FILTRATION	
MB 440-663928/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-663928/1-C	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663928/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-663928/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
570-80532-R-1-D MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80532-R-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
570-80544-C-2-C MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80544-C-2-D MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Prep Batch: 663947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-3	Outfall002_20220104_Comp_F	Dissolved	Water	200.2	663928
MB 440-663928/1-B	Method Blank	Dissolved	Water	200.2	663928
LCS 440-663928/2-B	Lab Control Sample	Dissolved	Water	200.2	663928
570-80544-C-2-C MS	Matrix Spike	Dissolved	Water	200.2	663928
570-80544-C-2-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663928

Prep Batch: 663949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-3	Outfall002_20220104_Comp_F	Dissolved	Water	200.2	663928
MB 440-663928/1-C	Method Blank	Dissolved	Water	200.2	663928
LCS 440-663928/2-C	Lab Control Sample	Dissolved	Water	200.2	663928
570-80532-R-1-D MS	Matrix Spike	Dissolved	Water	200.2	663928
570-80532-R-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663928

Analysis Batch: 664013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-3	Outfall002_20220104_Comp_F	Dissolved	Water	200.8	663947
MB 440-663928/1-B	Method Blank	Dissolved	Water	200.8	663947
LCS 440-663928/2-B	Lab Control Sample	Dissolved	Water	200.8	663947
570-80544-C-2-C MS	Matrix Spike	Dissolved	Water	200.8	663947
570-80544-C-2-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	663947

Analysis Batch: 664049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-3	Outfall002_20220104_Comp_F	Dissolved	Water	200.7 Rev 4.4	663949
MB 440-663928/1-C	Method Blank	Dissolved	Water	200.7 Rev 4.4	663949
LCS 440-663928/2-C	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	663949
570-80532-R-1-D MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	663949
570-80532-R-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	663949

Metals

Prep Batch: 664923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total Recoverable	Water	200.2	
MB 440-664923/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664923/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
440-294369-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.2	
440-294369-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Prep Batch: 664924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total Recoverable	Water	200.2	
MB 440-664924/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664924/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80509-A-2-B MS	Matrix Spike	Total Recoverable	Water	200.2	
570-80509-A-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 664984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total Recoverable	Water	200.8	664924
MB 440-664924/1-A	Method Blank	Total Recoverable	Water	200.8	664924
LCS 440-664924/2-A	Lab Control Sample	Total Recoverable	Water	200.8	664924
570-80509-A-2-B MS	Matrix Spike	Total Recoverable	Water	200.8	664924
570-80509-A-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	664924

Analysis Batch: 665020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total Recoverable	Water	200.7 Rev 4.4	664923
MB 440-664923/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	664923
LCS 440-664923/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	664923
440-294369-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	664923
440-294369-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	664923

General Chemistry

Analysis Batch: 205489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	SM 4500 CN E	205516
MB 570-205516/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	205516
LCS 570-205516/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	205516
LCSD 570-205516/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	205516
570-80531-L-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	205516
570-80531-L-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	205516

Prep Batch: 205510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	SM 5540C	
MB 570-205510/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-205510/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-205510/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	
570-80545-K-1-A MS	Matrix Spike	Total/NA	Water	SM 5540C	
570-80545-K-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5540C	

General Chemistry

Analysis Batch: 205513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	SM 5540C	205510
MB 570-205510/5-A	Method Blank	Total/NA	Water	SM 5540C	205510
LCS 570-205510/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	205510
LCSD 570-205510/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	205510
570-80545-K-1-A MS	Matrix Spike	Total/NA	Water	SM 5540C	205510
570-80545-K-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5540C	205510

Prep Batch: 205516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	SM 4500 CN C	
MB 570-205516/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-205516/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-205516/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-80531-L-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN C	
570-80531-L-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN C	

Analysis Batch: 663806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	SM 2540C	
MB 440-663806/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-663806/2	Lab Control Sample	Total/NA	Water	SM 2540C	
570-80544-E-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 663860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	SM 2540D	
MB 440-663860/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-663860/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-293826-D-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Analysis Batch: 664022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	SM 4500 NH3 G	
MB 440-664022/10	Method Blank	Total/NA	Water	SM 4500 NH3 G	
LCS 440-664022/11	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
MRL 440-664022/9	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
570-80545-H-1 MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 G	
570-80545-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 G	

Analysis Batch: 664229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	SM5210B	
USB 440-664229/2	Method Blank	Total/NA	Water	SM5210B	
LCS 440-664229/4	Lab Control Sample	Total/NA	Water	SM5210B	
570-80518-O-1 DU	Duplicate	Total/NA	Water	SM5210B	

Analysis Batch: 664889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	180.1	
MB 440-664889/6	Method Blank	Total/NA	Water	180.1	
MRL 440-664889/5	Lab Control Sample	Total/NA	Water	180.1	

General Chemistry (Continued)

Analysis Batch: 664889 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-I-1 DU	Duplicate	Total/NA	Water	180.1	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220104_Comp
Lab Sample ID: 570-80548-1
Date Collected: 01/04/22 10:10
Matrix: Water
Date Received: 01/04/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			852.1 mL	2 mL	205520	01/05/22 06:03	H1SH	ECL 1
Total/NA	Analysis	625.1 SIM		1			205774	01/05/22 20:39	ULLI	ECL 1
	Instrument ID: GCMSJJJ									
Total/NA	Prep	608			1500 mL	1 mL	205540	01/05/22 08:38	OAJ3	ECL 1
Total/NA	Analysis	608.3		1			205595	01/06/22 12:56	UHHN	ECL 1
	Instrument ID: GC44									
Total/NA	Analysis	300.0		2			205584	01/05/22 16:10	URMH	ECL 1
	Instrument ID: IC7									
Total/NA	Analysis	300.0		2			205585	01/05/22 16:10	URMH	ECL 1
	Instrument ID: IC7									
Total/NA	Analysis	314.0		1			205610	01/05/22 18:53	URMH	ECL 1
	Instrument ID: IC13									
Total/NA	Analysis	NO2NO3 Calc		1			206419	01/09/22 11:31	URMH	ECL 1
	Instrument ID: IC7									
Total Recoverable	Prep	200.2			25 mL	25 mL	664923	01/20/22 06:32		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			665020	01/20/22 17:00	P1R	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	664924	01/20/22 06:46		IRV 2
Total Recoverable	Analysis	200.8		1			664984	01/20/22 13:37	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total/NA	Prep	245.1			50 mL	100 mL	208112	01/17/22 17:42	VWJ7	ECL 4
Total/NA	Analysis	245.1		1			208127	01/18/22 17:56	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Analysis	180.1		1			664889	01/19/22 18:30	W1BQ	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	663806	01/11/22 10:10	VY3D	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540D		1	950 mL	1000 mL	663860	01/05/22 19:16	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	205516	01/04/22 19:30	CY2M	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	5.0 mL	5.0 mL	205489	01/04/22 22:51	CY2M	ECL 1
	Instrument ID: UV8									
Total/NA	Analysis	SM 4500 NH3 G		1	0.8 mL	8.0 mL	664022	01/07/22 12:35	GG0B	IRV 2
	Instrument ID: LACHAT01									
Total/NA	Prep	SM 5540C			100 mL	100 mL	205510	01/04/22 21:00	WN6Y	ECL 1
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	205513	01/04/22 22:18	WN6Y	ECL 1
	Instrument ID: UV9									
Total/NA	Analysis	SM5210B		1			664229	01/05/22 22:29	VY3D	IRV 2
	Instrument ID: BOD 10									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220104_Comp_F
Lab Sample ID: 570-80548-3

Date Collected: 01/04/22 10:10
Matrix: Water
Date Received: 01/04/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			150 mL	150 mL	663928	01/06/22 15:10	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663949	01/06/22 17:20	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			664049	01/07/22 21:41	K1UV	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			150 mL	150 mL	663928	01/06/22 15:10	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663947	01/06/22 17:16	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664013	01/07/22 14:49	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	208358	01/19/22 17:49	UIAS	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	208361	01/19/22 17:58	VWJ7	ECL 4
Dissolved	Analysis	245.1		1			208671	01/20/22 20:20	VWJ7	ECL 1
	Instrument ID: HG7									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method	Method Description	Protocol	Laboratory
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	40CFR136A	ECL 1
608.3	Organochlorine Pesticides in Water	40CFR136A	ECL 1
300.0	Anions, Ion Chromatography	MCAWW	ECL 1
314.0	Perchlorate (IC)	EPA	ECL 1
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	ECL 1
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	ECL 1
180.1	Turbidity, Nephelometric	MCAWW	IRV 2
SM 2540C	Solids, Total Dissolved (TDS)	SM	IRV 2
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 2
SM 4500 CN E	Cyanide, Total (Low Level)	SM	ECL 1
SM 4500 NH3 G	Ammonia	SM	IRV 2
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	ECL 1
SM5210B	BOD, 5 Day	SM	IRV 2
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	ECL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	ECL 1
625	Liquid-Liquid Extraction	40CFR136A	ECL 1
Filtration	Sample Filtration	None	ECL 4
FILTRATION	Sample Filtration	None	IRV 2
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1
SM 5540C	Preparation, Methylene Blue Active Substances (MBAS)	SM	ECL 1

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80548-1	Outfall002_20220104_Comp	Water	01/04/22 10:10	01/04/22 17:00
570-80548-3	Outfall002_20220104_Comp_F	Water	01/04/22 10:10	01/04/22 17:00

80548

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80548 Chain of Custody

Client Name/Address.	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108	Boeing-SSFL NPDES Permit 2022 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Mark Dominick / Michelle Dallalah	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	ANALYSIS REQUIRED R: Total Recoverable Metals. (E200.7): Zn (E200.8): Cu, Pb, Cd, Se	R: TCDD (and all congeners) (E1613B)	R: BOD5 (20 degrees C) (E405.1(SM5210B_BODCalc))	R: Surfactants (MBAS) (SM5540C/E425.1)	R: Cl- SO4, Nitrate-N Nitrite-N NO3+NO2-N Perchlorate (E300)	R: Turbidity TDS (SM2540C/E160.1)	R: TSS (160.2 (SM2540D))	R: Ammonia-N (350.2)	R: alpha-BHC (E608)	R: 2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	R: Total Recoverable Metals. Mercury (E245.1)	C: Total Recoverable Metals (E200.7) As Mn, Fe		Comments
Outfall 002	Outfall002_20220104_Comp	1/4/2022 1040	WM	500 mL Poly	1	HNO_3	90	No	X										X	X		Outfall 001 analyze for Fe Outfall 002 analyze for Fe. Outfall 01 analyze for As Mn and Fe
			WM	1 L Glass Amber	2	None	110	No		X												
			WM	1L Poly	1	None	115	No			X											
			WM	500 mL Poly	2	None	120	No				X										
			WM	500 mL Poly	2	None	130	No					X									48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X								48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X						
			WM	1 L Glass Amber	2	None	170	No									X					
			WM	1 L Glass Amber	2	None	180	No										X				
			WM	1L Poly	1	None	185	No							X							
	Outfall002_20220104_Comp_Extra	1/4/2022 1010	WM	1 L Glass Amber	2	None	110	No		H												Hold
			WM	500 mL Poly	2	None	120	No				H										Hold
			WM	500 mL Poly	2	None	130	No					H									Hold
			WM	1 L Glass Amber	2	None	170	No									H					Hold
			WM	1 L Glass Amber	2	None	180	No										H				Hold

Legend: C=Conditional, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Michelle Dallalah	1/4/2022 1400	Haley & Aldrich		ECI 01/04/22 1400
	01/04/22	1700		1/4/22 1700

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV: _____ All Level IV: __X__

1.8/3.3 2.1/3.6 SC6

1/28/2022 (Rev. 1)

2019-2020 Rainy Season
Version 4

80548

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address.	Project:	ANALYSIS REQUIRED
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108 Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	Boeing-SSFL NPDES Permit 2022 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp	R: Total Dissolved Metals. (E200.7) Zn (E200.8). Cu, Pb, Cd, Se R: Cyanide (SM4500-CN E / E335.2) R: Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 226 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1) R: Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA R: Total Dissolved Metals Mercury (E245.1) C: Total Dissolved Metals (E200.7) As, Mn, Fe

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates and TestAmerica Laboratories Inc.

Project Manager: Katherine Miller
520.289.8606, 520.904.6944 (cell)

Sampler: Mark Dominick / Michelle Dallalah

Field Manager: Mark Dominick
978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Comments
Outfall 002	Outfall002_20220104_Comp_F	1/4/2022 / 1010	WM	1L Poly	1	None	200	No	Filter and preserve w/in 24hrs of receipt at lab Outfall 001 analyze for Fe Outfall 002 analyze for Fe Outfall 018 analyze for As, Mn and Fe
			WM	borosilicate vials	1	None	320	No	Sample receiving DO NOT OPEN BAG Bag to be opened in Mercury Prep using clean procedures.
	Outfall002_20220104_Comp	1/4/2022 / 10:00	WM	500 mL Poly	1	NaOH	220	No	
			WM	2.5 Gal Cube	1	None	225	No	Unfiltered and unpreserved analysis. Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
				1 L Glass Amber	1	None	230	No	
			WM	1 Gal Cube	6	None	235	No	Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA.

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Michelle Dallalah	1/4/2022 1400	Haley & Aldrich	[signature]	ECI 01/04/22 1400
[signature]	01/04/22	1700	[signature]	1/4/22 1700

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV: _____ All Level IV: __X__

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-149015 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80548-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/1/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:				
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall002_20220104_Comp (570-80548-1)	1/4/22	10:10 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	1/5/22 1338				
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-149048 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80548-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/20/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
Preservation Code:										
Outfall002_20220104_Comp (570-80548-1)	1/4/22	10:10 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware
Outfall002_20220104_Extra (570-80548-2)	1/4/22	10:10 Pacific		Water				X	2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time: 1/5/22 1610	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-149026 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80548-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/14/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.8/200.2 Cd,Pb,Cu,Se	245.1/245.1_Prep Mercury	200.7/200.2 Outfall 011 - 200.7 Total List	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	180.1/ Turbidity	SM4500NH3_G/ Ammonia	SM5210B_BODCalc/ BOD, 5 Day	200.8/FILTRATION (MOD) Diss Cd,Pb,Cu,Se	245.1/FILTRATION Diss Mercury	200.7/FILTRATION Outfall 011 - 200.7 Diss List			Total Number of containers	Special Instructions/Note:
				Preservation Code:																	
Outfall002_20220104_Comp (570-80548-1)	1/4/22	10:10 Pacific		Water			X	X	X	X	X	X	X	X						6	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall002_20220104_F (570-80548-3)	1/4/22	10 10 Pacific		Water											X	X	X			3	Filter within 24 hours, use VOA vials from LL Hg Kit-Clean Hands procedure Filter

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements: IR-90 1.8/1.3

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		1/5/22 1618	ECS		1/5/22	
2		1/5/22 1735		Olga Oinelo	01/05/22 1735	ECT
3						

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-149026 2
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80545-1
Address: 2841 Dow Avenue,	Due Date Requested: 1/14/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site	SSOW#:			

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2340B/Filtration_AC Diss hardness	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall18_20220104_Comp (570-80545-1)	1/4/22	11 00 Pacific		Water				1	use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall18_20220104_Comp_F (570-80545-3)	1/4/22	11 00 Pacific		Water			X	3	Filter w/in 24 hours, Filter within 24 hours use VOA vials from LL Hg Kit-Clean Hands

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/5/22 1618	EGI		1/5/22	
2		1/5/22 1735		Olga Olmelas	01/05/22 1735	EGT
3						

Custody Seals Intact: Custody Seal No

Cooler Temperature(s) °C and Other Remarks.

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80548-1

Login Number: 80548
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80548-1

Login Number: 80548
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 01/05/22 06:21 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80548-2
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/4/2022 12:44:39 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80548-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80548-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80548-2

Comments
No additional comments.

Receipt
The samples were received on 1/4/2022 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.3º C and 3.6º C.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV012122). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 10D5 exceeded this criteria: Outfall002_20220104_Comp (570-80548-1), (CCV 320-559828/1), (LCS 320-557282/2-A), (LCSD 320-557282/3-A) and (MB 320-557282/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: The ending resolution check was done after more than 48 hours due to an electronic glitch in the system over the weekend which caused the acquisition of the samples in the queue to stop. The resolution check performed in the morning on the following Monday meets all the required criteria without changing any parameter of the initial tune.

Outfall002_20220104_Comp (570-80548-1), (CCV 320-559828/1), (LCS 320-557282/2-A), (LCSD 320-557282/3-A), (MB 320-557282/1-A) and (WDM 320-559828/2)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220104_Comp
Lab Sample ID: 570-80548-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.0000014	J,DX	0.000050	0.00000063	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.00000096	J,DX q	0.000050	0.00000044	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.0000010	J,DX	0.000050	0.00000043	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000026	J,DX q MB	0.000050	0.00000040	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000012	J,DX	0.000050	0.00000041	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000014	J,DX	0.000050	0.00000035	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000014	J,DX	0.000050	0.00000026	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000014	J,DX	0.000050	0.00000028	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000014	J,DX	0.000050	0.00000022	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000014	J,DX	0.000050	0.00000023	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000078	J,DX MB	0.000050	0.00000025	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000032	J,DX MB	0.000050	0.00000033	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000015	J,DX	0.000050	0.00000034	ug/L	1		1613B	Total/NA
OCDD	0.000061	J,DX MB	0.00010	0.00000044	ug/L	1		1613B	Total/NA
OCDF	0.0000056	J,DX MB	0.00010	0.00000042	ug/L	1		1613B	Total/NA
Total TCDF	0.0000016	J,DX MB	0.000010	0.00000030	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000014	J,DX	0.000050	0.00000063	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000020	J,DX q	0.000050	0.00000043	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000052	J,DX q MB	0.000050	0.00000035	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000056	J,DX	0.000050	0.00000022	ug/L	1		1613B	Total/NA
Total HpCDD	0.000014	J,DX MB	0.000050	0.00000025	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000067	J,DX MB	0.000050	0.00000033	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall002_20220104_Comp
Date Collected: 01/04/22 10:10
Date Received: 01/04/22 17:00

Lab Sample ID: 570-80548-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000070	ug/L		01/11/22 11:43	01/21/22 22:11	1
1,2,3,7,8-PeCDD	**0.0000014**	**J,DX**	0.000050	0.00000063	ug/L		01/11/22 11:43	01/21/22 22:11	1
1,2,3,7,8-PeCDF	**0.00000096**	**J,DX q**	0.000050	0.00000044	ug/L		01/11/22 11:43	01/21/22 22:11	1
2,3,4,7,8-PeCDF	**0.0000010**	**J,DX**	0.000050	0.00000043	ug/L		01/11/22 11:43	01/21/22 22:11	1
1,2,3,4,7,8-HxCDD	**0.0000026**	**J,DX q MB**	0.000050	0.00000040	ug/L		01/11/22 11:43	01/21/22 22:11	1
1,2,3,6,7,8-HxCDD	**0.0000012**	**J,DX**	0.000050	0.00000041	ug/L		01/11/22 11:43	01/21/22 22:11	1
1,2,3,7,8,9-HxCDD	**0.0000014**	**J,DX**	0.000050	0.00000035	ug/L		01/11/22 11:43	01/21/22 22:11	1
1,2,3,4,7,8-HxCDF	**0.0000014**	**J,DX**	0.000050	0.00000026	ug/L		01/11/22 11:43	01/21/22 22:11	1
1,2,3,6,7,8-HxCDF	**0.0000014**	**J,DX**	0.000050	0.00000028	ug/L		01/11/22 11:43	01/21/22 22:11	1
1,2,3,7,8,9-HxCDF	**0.0000014**	**J,DX**	0.000050	0.00000022	ug/L		01/11/22 11:43	01/21/22 22:11	1
2,3,4,6,7,8-HxCDF	**0.0000014**	**J,DX**	0.000050	0.00000023	ug/L		01/11/22 11:43	01/21/22 22:11	1
1,2,3,4,6,7,8-HpCDD	**0.0000078**	**J,DX MB**	0.000050	0.00000025	ug/L		01/11/22 11:43	01/21/22 22:11	1
1,2,3,4,6,7,8-HpCDF	**0.0000032**	**J,DX MB**	0.000050	0.00000033	ug/L		01/11/22 11:43	01/21/22 22:11	1
1,2,3,4,7,8,9-HpCDF	**0.0000015**	**J,DX**	0.000050	0.00000034	ug/L		01/11/22 11:43	01/21/22 22:11	1
OCDD	**0.000061**	**J,DX MB**	0.00010	0.00000044	ug/L		01/11/22 11:43	01/21/22 22:11	1
OCDF	**0.0000056**	**J,DX MB**	0.00010	0.00000042	ug/L		01/11/22 11:43	01/21/22 22:11	1
Total TCDD	ND		0.000010	0.00000070	ug/L		01/11/22 11:43	01/21/22 22:11	1
Total TCDF	**0.0000016**	**J,DX MB**	0.000010	0.00000030	ug/L		01/11/22 11:43	01/21/22 22:11	1
Total PeCDD	**0.0000014**	**J,DX**	0.000050	0.00000063	ug/L		01/11/22 11:43	01/21/22 22:11	1
Total PeCDF	**0.0000020**	**J,DX q**	0.000050	0.00000043	ug/L		01/11/22 11:43	01/21/22 22:11	1
Total HxCDD	**0.0000052**	**J,DX q MB**	0.000050	0.00000035	ug/L		01/11/22 11:43	01/21/22 22:11	1
Total HxCDF	**0.0000056**	**J,DX**	0.000050	0.00000022	ug/L		01/11/22 11:43	01/21/22 22:11	1
Total HpCDD	**0.000014**	**J,DX MB**	0.000050	0.00000025	ug/L		01/11/22 11:43	01/21/22 22:11	1
Total HpCDF	**0.0000067**	**J,DX MB**	0.000050	0.00000033	ug/L		01/11/22 11:43	01/21/22 22:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*84*		*25 - 164*	*01/11/22 11:43*	*01/21/22 22:11*	*1*
13C-2,3,7,8-TCDF	*85*		*24 - 169*	*01/11/22 11:43*	*01/21/22 22:11*	*1*
13C-1,2,3,7,8-PeCDD	*101*		*25 - 181*	*01/11/22 11:43*	*01/21/22 22:11*	*1*
13C-1,2,3,7,8-PeCDF	*94*		*24 - 185*	*01/11/22 11:43*	*01/21/22 22:11*	*1*
13C-2,3,4,7,8-PeCDF	*108*		*21 - 178*	*01/11/22 11:43*	*01/21/22 22:11*	*1*
13C-1,2,3,4,7,8-HxCDD	*97*		*32 - 141*	*01/11/22 11:43*	*01/21/22 22:11*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall002_20220104_Comp **Lab Sample ID: 570-80548-1**
Date Collected: 01/04/22 10:10 **Matrix: Water**
Date Received: 01/04/22 17:00

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDD	92		28 - 130	01/11/22 11:43	01/21/22 22:11	1
13C-1,2,3,4,7,8-HxCDF	93		26 - 152	01/11/22 11:43	01/21/22 22:11	1
13C-1,2,3,6,7,8-HxCDF	84		26 - 123	01/11/22 11:43	01/21/22 22:11	1
13C-1,2,3,7,8,9-HxCDF	83		29 - 147	01/11/22 11:43	01/21/22 22:11	1
13C-2,3,4,6,7,8-HxCDF	86		28 - 136	01/11/22 11:43	01/21/22 22:11	1
13C-1,2,3,4,6,7,8-HpCDD	94		23 - 140	01/11/22 11:43	01/21/22 22:11	1
13C-1,2,3,4,6,7,8-HpCDF	90		28 - 143	01/11/22 11:43	01/21/22 22:11	1
13C-1,2,3,4,7,8,9-HpCDF	109		26 - 138	01/11/22 11:43	01/21/22 22:11	1
13C-OCDD	110		17 - 157	01/11/22 11:43	01/21/22 22:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	91		35 - 197	01/11/22 11:43	01/21/22 22:11	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: Outfall002_20220104_Comp
Lab Sample ID: 570-80548-1
Date Collected: 01/04/22 10:10
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000067	ug/L		01/11/22 11:43	01/24/22 13:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*92*		*24 - 169*	*01/11/22 11:43*	*01/24/22 13:54*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*86*		*35 - 197*	*01/11/22 11:43*	*01/24/22 13:54*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	37TCDD (35-197)								
570-80548-1	Outfall002_20220104_Comp	91								
570-80548-1 - RA	Outfall002_20220104_Comp	86								
MB 320-557282/1-A	Method Blank	85								
MB 320-557282/1-A - RA	Method Blank	82								

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	37TCDD (31-191)								
LCS 320-557282/2-A	Lab Control Sample	94								
LCSD 320-557282/3-A	Lab Control Sample Dup	92								

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80548-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-80548-1	Outfall002_20220104_Comp	84	85	101	94	108	97	92	93
570-80548-1 - RA	Outfall002_20220104_Comp		92						
MB 320-557282/1-A	Method Blank	69	69	84	75	89	77	73	74
MB 320-557282/1-A - RA	Method Blank		72						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-80548-1	Outfall002_20220104_Comp	84	83	86	94	90	109	110
570-80548-1 - RA	Outfall002_20220104_Comp							
MB 320-557282/1-A	Method Blank	66	66	67	73	71	86	83
MB 320-557282/1-A - RA	Method Blank							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-557282/2-A	Lab Control Sample	66	66	83	75	87	74	69	70
LCSD 320-557282/3-A	Lab Control Sample Dup	75	75	92	84	99	86	80	82

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-557282/2-A	Lab Control Sample	64	65	65	71	69	84	83
LCSD 320-557282/3-A	Lab Control Sample Dup	74	75	77	85	80	97	95

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-557282/1-A
Matrix: Water
Analysis Batch: 559828

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 557282

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000081	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000071	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000052	ug/L		01/11/22 11:43	01/21/22 19:11	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000048	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,4,7,8-HxCDD	0.00000163	J,DX q	0.000050	0.00000044	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.00000046	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.00000039	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.00000049	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.00000053	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,7,8,9-HxCDF	ND		0.000050	0.00000043	ug/L		01/11/22 11:43	01/21/22 19:11	1
2,3,4,6,7,8-HxCDF	ND		0.000050	0.00000044	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,4,6,7,8-HpCDD	0.000000967	J,DX q	0.000050	0.00000022	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,4,6,7,8-HpCDF	0.000000604	J,DX q	0.000050	0.00000031	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.00000033	ug/L		01/11/22 11:43	01/21/22 19:11	1
OCDD	0.00000421	J,DX	0.00010	0.00000041	ug/L		01/11/22 11:43	01/21/22 19:11	1
OCDF	0.00000109	J,DX	0.00010	0.00000051	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total TCDD	ND		0.000010	0.00000081	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total TCDF	0.000000418	J,DX q	0.000010	0.00000039	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total PeCDD	ND		0.000050	0.00000071	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total PeCDF	ND		0.000050	0.00000048	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total HxCDD	0.00000163	J,DX q	0.000050	0.00000039	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total HxCDF	ND		0.000050	0.00000043	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total HpCDD	0.00000248	J,DX q	0.000050	0.00000022	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total HpCDF	0.000000604	J,DX q	0.000050	0.00000031	ug/L		01/11/22 11:43	01/21/22 19:11	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*69*		*25 - 164*	*01/11/22 11:43*	*01/21/22 19:11*	*1*
13C-2,3,7,8-TCDF	*69*		*24 - 169*	*01/11/22 11:43*	*01/21/22 19:11*	*1*
13C-1,2,3,7,8-PeCDD	*84*		*25 - 181*	*01/11/22 11:43*	*01/21/22 19:11*	*1*
13C-1,2,3,7,8-PeCDF	*75*		*24 - 185*	*01/11/22 11:43*	*01/21/22 19:11*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-557282/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 559828 **Prep Batch: 557282**

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	89		21 - 178	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,4,7,8-HxCDD	77		32 - 141	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,6,7,8-HxCDD	73		28 - 130	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,4,7,8-HxCDF	74		26 - 152	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,6,7,8-HxCDF	66		26 - 123	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,7,8,9-HxCDF	66		29 - 147	01/11/22 11:43	01/21/22 19:11	1
13C-2,3,4,6,7,8-HxCDF	67		28 - 136	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,4,6,7,8-HpCDD	73		23 - 140	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,4,6,7,8-HpCDF	71		28 - 143	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,4,7,8,9-HpCDF	86		26 - 138	01/11/22 11:43	01/21/22 19:11	1
13C-OCDD	83		17 - 157	01/11/22 11:43	01/21/22 19:11	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	85		35 - 197	01/11/22 11:43	01/21/22 19:11	1

Lab Sample ID: LCS 320-557282/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 559828 **Prep Batch: 557282**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000212		ug/L		106	67 - 158
2,3,7,8-TCDF	0.000200	0.000202	MB	ug/L		101	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.00104		ug/L		104	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.00101		ug/L		101	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000911		ug/L		91	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000898	MB	ug/L		90	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000946		ug/L		95	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000900		ug/L		90	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000931		ug/L		93	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.00102		ug/L		102	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.00102		ug/L		102	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.00104		ug/L		104	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000979	MB	ug/L		98	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000937	MB	ug/L		94	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000862		ug/L		86	78 - 138
OCDD	0.00200	0.00184	MB	ug/L		92	78 - 144
OCDF	0.00200	0.00185	MB	ug/L		93	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	66		20 - 175
13C-2,3,7,8-TCDF	66		22 - 152
13C-1,2,3,7,8-PeCDD	83		21 - 227
13C-1,2,3,7,8-PeCDF	75		21 - 192
13C-2,3,4,7,8-PeCDF	87		13 - 328
13C-1,2,3,4,7,8-HxCDD	74		21 - 193
13C-1,2,3,6,7,8-HxCDD	69		25 - 163
13C-1,2,3,4,7,8-HxCDF	70		19 - 202
13C-1,2,3,6,7,8-HxCDF	64		21 - 159

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-557282/2-A
Matrix: Water
Analysis Batch: 559828

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 557282

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,7,8,9-HxCDF	65		17 - 205
13C-2,3,4,6,7,8-HxCDF	65		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	71		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	69		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	84		20 - 186
13C-OCDD	83		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	94		31 - 191

Lab Sample ID: LCSD 320-557282/3-A
Matrix: Water
Analysis Batch: 559828

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 557282

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000193		ug/L		97	67 - 158	9	50
2,3,7,8-TCDF			0.000200	0.000188	MB	ug/L		94	75 - 158	7	50
1,2,3,7,8-PeCDD			0.00100	0.000964		ug/L		96	70 - 142	8	50
1,2,3,7,8-PeCDF			0.00100	0.000947		ug/L		95	80 - 134	7	50
2,3,4,7,8-PeCDF			0.00100	0.000841		ug/L		84	68 - 160	8	50
1,2,3,4,7,8-HxCDD			0.00100	0.000838	MB	ug/L		84	70 - 164	7	50
1,2,3,6,7,8-HxCDD			0.00100	0.000911		ug/L		91	76 - 134	4	50
1,2,3,7,8,9-HxCDD			0.00100	0.000858		ug/L		86	64 - 162	5	50
1,2,3,4,7,8-HxCDF			0.00100	0.000868		ug/L		87	72 - 134	7	50
1,2,3,6,7,8-HxCDF			0.00100	0.000971		ug/L		97	84 - 130	5	50
1,2,3,7,8,9-HxCDF			0.00100	0.000960		ug/L		96	78 - 130	6	50
2,3,4,6,7,8-HxCDF			0.00100	0.000971		ug/L		97	70 - 156	6	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.000944	MB	ug/L		94	70 - 140	4	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.000895	MB	ug/L		90	82 - 122	5	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000826		ug/L		83	78 - 138	4	50
OCDD			0.00200	0.00181	MB	ug/L		91	78 - 144	2	50
OCDF			0.00200	0.00180	MB	ug/L		90	63 - 170	3	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	75		20 - 175
13C-2,3,7,8-TCDF	75		22 - 152
13C-1,2,3,7,8-PeCDD	92		21 - 227
13C-1,2,3,7,8-PeCDF	84		21 - 192
13C-2,3,4,7,8-PeCDF	99		13 - 328
13C-1,2,3,4,7,8-HxCDD	86		21 - 193
13C-1,2,3,6,7,8-HxCDD	80		25 - 163
13C-1,2,3,4,7,8-HxCDF	82		19 - 202
13C-1,2,3,6,7,8-HxCDF	74		21 - 159
13C-1,2,3,7,8,9-HxCDF	75		17 - 205
13C-2,3,4,6,7,8-HxCDF	77		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	85		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	80		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	97		20 - 186

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-557282/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 559828 **Prep Batch: 557282**

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-OCDD	95		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	92		31 - 191

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-557282/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 560151 **Prep Batch: 557282**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	ND		0.000010	0.0000068	ug/L		01/11/22 11:43	01/24/22 12:37	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF - RA	72		24 - 169	01/11/22 11:43	01/24/22 12:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD - RA	82		35 - 197	01/11/22 11:43	01/24/22 12:37	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Specialty Organics

Prep Batch: 557282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	1613B	
570-80548-1 - RA	Outfall002_20220104_Comp	Total/NA	Water	1613B	
MB 320-557282/1-A	Method Blank	Total/NA	Water	1613B	
MB 320-557282/1-A - RA	Method Blank	Total/NA	Water	1613B	
LCS 320-557282/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-557282/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 559828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	1613B	557282
MB 320-557282/1-A	Method Blank	Total/NA	Water	1613B	557282
LCS 320-557282/2-A	Lab Control Sample	Total/NA	Water	1613B	557282
LCSD 320-557282/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	557282

Analysis Batch: 560151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1 - RA	Outfall002_20220104_Comp	Total/NA	Water	1613B	557282
MB 320-557282/1-A - RA	Method Blank	Total/NA	Water	1613B	557282

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220104_Comp
Lab Sample ID: 570-80548-1
Date Collected: 01/04/22 10:10
Matrix: Water
Date Received: 01/04/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			1000.1 mL	20.0 uL	557282	01/11/22 11:43	CB	TAL SAC
Total/NA	Analysis	1613B		1			559828	01/21/22 22:11	SMA	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		1000.1 mL	20.0 uL	557282	01/11/22 11:43	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			560151	01/24/22 13:54	DB	TAL SAC
	Instrument ID: 11D2									

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80548-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Kansas	NELAP	E-10375	10-31-21 *
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-23
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-22
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80548-1	Outfall002_20220104_Comp	Water	01/04/22 10:10	01/04/22 17:00

80548

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80548 Chain of Custody

Client Name/Address.	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108	Boeing-SSFL NPDES Permit 2022 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Mark Dominick / Michelle Dallalah	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									ANALYSIS REQUIRED															
									R	R	R	R	R	R	R	R	R	R	R	R	C			
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals. (E200.7): Zn (E200.8): Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1(SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- SO_4, Nitrate-N Nitrite-N NO3+NO2-N Perchlorate (E300)	Turbidity TDS (SM2540C/E160.1)	TSS (160.2 (SM2540D))	Ammonia-N (350.2)	alpha-BHC (E608)	2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	Total Recoverable Metals. Mercury (E245.1)	Total Recoverable Metals (E200.7) As Mn, Fe			Comments
Outfall 002	Outfall002_20220104_Comp	1/4/2022 1040	WM	500 mL Poly	1	HNO_3	90	No	X										X	X			Outfall 001 analyze for Fe Outfall 002 analyze for Fe. Outfall 01 analyze for As Mn and Fe
			WM	1 L Glass Amber	2	None	110	No		X													
			WM	1L Poly	1	None	115	No			X												
			WM	500 mL Poly	2	None	120	No				X											
			WM	500 mL Poly	2	None	130	No					X										48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X									48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X							
			WM	1 L Glass Amber	2	None	170	No									X						
			WM	1 L Glass Amber	2	None	180	No										X					
			WM	1L Poly	1	None	185	No							X								
	Outfall002_20220104_Comp_Extra	1/4/2022 1010	WM	1 L Glass Amber	2	None	110	No		H													Hold
			WM	500 mL Poly	2	None	120	No				H											Hold
			WM	500 mL Poly	2	None	130	No					H										Hold
			WM	1 L Glass Amber	2	None	170	No									H						Hold
			WM	1 L Glass Amber	2	None	180	No										H					Hold

Legend: C=Conditional, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Michelle Dallalah	1/4/2022 1400	Haley & Aldrich		ECI 01/04/22 1400
	01/04/22	17:00		1/4/22 1700

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV: _____ All Level IV: __X__

1.8/3.3 21/3.6 SC6

2/4/2022

2019-2020 Rainy Season
Version 4

80548

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

									R	R	R	R	R	C							
Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108 Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218				Project: Boeing-SSFL NPDES Permit 2022 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp					ANALYSIS REQUIRED												
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates and TestAmerica Laboratories Inc.				Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)					Total Dissolved Metals. (E200.7) Zn (E200.8). Cu, Pb, Cd, Se	Cyanide (SM4500-CN E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Trifium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 226 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	Total Dissolved Metals Mercury (E245.1)	Total Dissolved Metals (E200.7) As, Mn, Fe						Comments
Sampler: Mark Dominick /Michelle Dallalah				Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)																	
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD													
Outfall 002	Outfall002_20220104_Comp_F	1/4/2022 /1010	WM	1L Poly	1	None	200	No	X					X							Filter and preserve w/in 24hrs of receipt at lab Outfall 001 analyze for Fe Outfall 002 analyze for Fe Outfall 0 analyze for As, Mn and Fe
			WM	borosilicate vials	1	None	320	No					X								Sample receiving DO NOT OPEN BAG Bag to be opened in Mercury Prep using clean procedures.
	Outfall002_20220104_Comp	1/4/2022 /10:0	WM	500 mL Poly	1	NaOH	220	No		X											
			WM	2.5 Gal Cube	1	None	225	No			X										Unfiltered and unpreserved analysis. Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
				1 L Glass Amber	1	None	230	No													
			WM	1 Gal Cube	6	None	235	No				X									Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA.

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Michelle Dallalah	1/4/2022 1400	Haley & Aldrich		ECI 01/04/22 1400
	01/04/22	1700		1/4/22 1700

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV: _____ All Level IV: __X__

2/4/2022

2019-2020 Rainy Season
Version 4

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-149015 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80548-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/1/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:				
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall002_20220104_Comp (570-80548-1)	1/4/22	10:10 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		1/5/22 1338				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-149048 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80548-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/20/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
Preservation Code:										
Outfall002_20220104_Comp (570-80548-1)	1/4/22	10:10 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware
Outfall002_20220104_Extra (570-80548-2)	1/4/22	10:10 Pacific		Water				X	2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/5/22 1610	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149048.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80548-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/20/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
Preservation Code:										
Outfall002_20220104_Comp (570-80548-1)	1/4/22	10:10 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall002_20220104_Extra (570-80548-2)	1/4/22	10:10 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/5/22 1610			1/6/22 1000	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 1.1c

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149048.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80548-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/20/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
Preservation Code:										
Outfall002_20220104_Comp (570-80548-1)	1/4/22	10:10 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall002_20220104_Extra (570-80548-2)	1/4/22	10:10 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 1/5/22 1610	Company	Received by: Date/Time: 1/6/22 1000 Company
Relinquished by:	Date/Time:	Company	Received by: Date/Time: Company
Relinquished by:	Date/Time:	Company	Received by: Date/Time: Company

Custody Seals Intact: ▲ Yes ▲ No | Custody Seal No.: Seal | Cooler Temperature(s) °C and Other Remarks: 1.4c

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80548-2

Login Number: 80548
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80548-2

Login Number: 80548
List Number: 3
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 01/06/22 03:44 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.1c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80548-3
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/7/2022 4:38:03 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80548-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80548-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80548-3

Comments
No additional comments.

Receipt
The samples were received on 1/4/2022 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.3º C and 3.6º C.

RAD
Method 900.0: Gross Alpha Beta prep batch 160-547126:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall002_20220104_Comp (570-80548-1), (LCS 160-547126/2-A), (LCSB 160-547126/3-A), (MB 160-547126/1-A), (570-80548-R-1-U DU), (570-80548-R-1-S MS) and (570-80548-R-1-T MSBT)

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Method 901.1: Gamma Prep Batch 160-546005

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Job ID: 570-80548-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Outfall002_20220104_Comp (570-80548-1), (570-80749-R-1-F) and (570-80749-R-1-G DU)

Method 903.0: Radium 226 Batch 160-545836:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall002_20220104_Comp (570-80548-1), (LCS 160-545836/1-A), (LCSD 160-545836/2-A) and (MB 160-545836/24-A)

Method 904.0: Radium 228 batch 545838
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall002_20220104_Comp (570-80548-1), (LCS 160-545838/1-A), (LCSD 160-545838/2-A) and (MB 160-545838/24-A)

Method 905: Strontium 90 batch 546021
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall002_20220104_Comp (570-80548-1), (LCS 160-546021/1-A), (LCSD 160-546021/2-A) and (MB 160-546021/18-A)

Method 906.0: Tritium in Liquid batch 160-545833
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
Outfall002_20220104_Comp (570-80548-1), (LCS 160-545833/2-A), (MB 160-545833/1-A), (570-80746-Q-1-A), (570-80746-Q-1-B MS), (570-80749-Q-1-A) and (570-80749-Q-1-B DU)

Method A-01-R: Isotopic Uranium Batch 160-545831:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall002_20220104_Comp (570-80548-1), (LCS 160-545831/2-A), (MB 160-545831/1-A), (570-80749-R-1-D) and (570-80749-R-1-E DU)

Method Evaporation: Gross Alpha/Beta preparation batch 160-546014

The following samples had a final mall above the 100 mg limit: Outfall002_20220104_Comp (570-80548-1), (570-80548-R-1 DU), (570-80548-R-1 MS) and (570-80548-R-1 MSBT). A dilution was performed and is reflected in the initial amount used.

Method ExtChrom: Uranium Prep Batch 160-545831

The following samples were prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall002_20220104_Comp

Job ID: 570-80548-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

(570-80548-1).

Method PrecSep_0: Radium-228 Prep Batch 160-545838

The following samples were prepared at a reduced aliquot due to Matrix: Outfall002_20220104_Comp (570-80548-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-545836

The following samples were prepared at a reduced aliquot due to Matrix: Outfall002_20220104_Comp (570-80548-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-546021

The following samples were prepared at a reduced aliquot due to Matrix: Outfall002_20220104_Comp (570-80548-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220104_Comp
Lab Sample ID: 570-80548-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall002_20220104_Comp
Lab Sample ID: 570-80548-1
Date Collected: 01/04/22 10:10
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	1.07	U	1.74	1.74	3.00	2.93	pCi/L	01/19/22 09:35	01/24/22 13:42	1
Gross Beta	**2.34**		0.578	0.624	4.00	0.781	pCi/L	01/19/22 09:35	01/24/22 13:42	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall002_20220104_Comp
Date Collected: 01/04/22 10:10
Date Received: 01/04/22 17:00

Lab Sample ID: 570-80548-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	3.05	U	9.15	9.16	20.0	11.0	pCi/L	01/12/22 09:57	01/25/22 14:59	1
Potassium-40	54.8	U	93.6	93.8		98.4	pCi/L	01/12/22 09:57	01/25/22 14:59	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall002_20220104_Comp
Date Collected: 01/04/22 10:10
Date Received: 01/04/22 17:00

Lab Sample ID: 570-80548-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0262	U	0.160	0.160	1.00	0.325	pCi/L	01/11/22 12:38	02/07/22 11:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.9*		*40 - 110*	*01/11/22 12:38*	*02/07/22 11:43*	*1*

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall002_20220104_Comp
Date Collected: 01/04/22 10:10
Date Received: 01/04/22 17:00

Lab Sample ID: 570-80548-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.432	U	0.348	0.350	1.00	0.553	pCi/L	01/11/22 13:24	02/05/22 12:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.9*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:34*	*1*
Y Carrier	*84.1*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:34*	*1*

Method: 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall002_20220104_Comp **Lab Sample ID: 570-80548-1**
Date Collected: 01/04/22 10:10 **Matrix: Water**
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	**0.958**		0.492	0.499	3.00	0.736	pCi/L	01/12/22 12:11	01/24/22 16:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*80.9*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:53*	*1*
Y Carrier	*91.2*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:53*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall002_20220104_Comp
Lab Sample ID: 570-80548-1
Date Collected: 01/04/22 10:10
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-173	U	200	201	500	390	pCi/L	01/11/22 12:29	01/14/22 16:20	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall002_20220104_Comp
Date Collected: 01/04/22 10:10
Date Received: 01/04/22 17:00

Lab Sample ID: 570-80548-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	**1.60**		0.377	0.389	1.00	0.135	pCi/L	01/11/22 11:42	01/16/22 16:25	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*107*		*30 - 110*	*01/11/22 11:42*	*01/16/22 16:25*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
570-80548-1	Outfall002_20220104_Comp	94.9
LCS 160-545836/1-A	Lab Control Sample	91.4
LCSD 160-545836/2-A	Lab Control Sample Dup	95.2
MB 160-545836/24-A	Method Blank	103

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80548-1	Outfall002_20220104_Comp	94.9	84.1
LCS 160-545838/1-A	Lab Control Sample	91.4	83.4
LCSD 160-545838/2-A	Lab Control Sample Dup	95.2	84.5
MB 160-545838/24-A	Method Blank	103	90.1

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Sr	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80548-1	Outfall002_20220104_Comp	80.9	91.2
LCS 160-546021/1-A	Lab Control Sample	88.0	86.7
LCSD 160-546021/2-A	Lab Control Sample Dup	69.5	81.1
MB 160-546021/18-A	Method Blank	81.5	91.2

Tracer/Carrier Legend

Sr = Sr Carrier
Y = Y Carrier

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		U-232
Lab Sample ID	Client Sample ID	(30-110)
570-80548-1	Outfall002_20220104_Comp	107
570-80749-R-1-E DU	Duplicate	90.5
LCS 160-545831/2-A	Lab Control Sample	91.9
MB 160-545831/1-A	Method Blank	83.7

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-547126/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 547481 — **Prep Batch: 547126**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.04269	U	0.612	0.612	3.00	1.19	pCi/L	01/19/22 09:35	01/21/22 13:53	1
Gross Beta	0.5433	U	0.532	0.535	4.00	0.861	pCi/L	01/19/22 09:35	01/21/22 13:53	1

Lab Sample ID: LCS 160-547126/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 547481 — **Prep Batch: 547126**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	52.84		7.62	3.00	2.09	pCi/L	104	75 - 125

Lab Sample ID: LCSB 160-547126/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 547481 — **Prep Batch: 547126**

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.6	74.43		7.97	4.00	1.06	pCi/L	98	75 - 125

Lab Sample ID: 570-80548-1 MS — **Client Sample ID: Outfall002_20220104_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 547481 — **Prep Batch: 547126**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	3.00	U G	50.6	33.21		6.09	3.00	3.28	pCi/L	64	60 - 140

Lab Sample ID: 570-80548-1 MSBT — **Client Sample ID: Outfall002_20220104_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 547481 — **Prep Batch: 547126**

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	3.81		75.6	76.60		8.22	4.00	1.01	pCi/L	98	60 - 140

Lab Sample ID: 570-80548-1 DU — **Client Sample ID: Outfall002_20220104_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 547960 — **Prep Batch: 547126**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	1.07	U	1.137	U	1.53	3.00	2.53	pCi/L	0.02	1
Gross Beta	2.34		2.080		0.584	4.00	0.728	pCi/L	0.21	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-546005/1-A
Matrix: Water
Analysis Batch: 547972

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 546005

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-4.333	U	11.2	11.2	20.0	13.2	pCi/L	01/12/22 09:57	01/25/22 16:40	1
Potassium-40	54.77	U	93.6	93.8		98.4	pCi/L	01/12/22 09:57	01/25/22 16:40	1

Lab Sample ID: LCS 160-546005/2-A
Matrix: Water
Analysis Batch: 547972

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 546005

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium-241	135000	138500		16500		435	pCi/L	102	75 - 125
Cesium-137	42000	42890		5110	20.0	101	pCi/L	102	75 - 125
Cobalt-60	20800	21330		2540		49.6	pCi/L	103	75 - 125

Lab Sample ID: 570-80749-R-1-G DU
Matrix: Water
Analysis Batch: 547984

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 546005

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Cesium-137	3.59	U	-6.217	U	13.5	20.0	16.5	pCi/L	0.48	1
Potassium-40	88.6		-65.58	U	121		186	pCi/L	0.90	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-545836/24-A
Matrix: Water
Analysis Batch: 549570

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545836

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.03016	U	0.101	0.101	1.00	0.228	pCi/L	01/11/22 12:38	02/07/22 12:17	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*01/11/22 12:38*	*02/07/22 12:17*	*1*

Lab Sample ID: LCS 160-545836/1-A
Matrix: Water
Analysis Batch: 549569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545836

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.1	13.84		1.60	1.00	0.255	pCi/L	92	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.4*		*40 - 110*

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-545836/2-A
Matrix: Water
Analysis Batch: 549569

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 545836

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	13.98		1.60	1.00	0.279	pCi/L	92	75 - 125	0.04	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*95.2*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-545838/24-A
Matrix: Water
Analysis Batch: 549231

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545838

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.6159		0.326	0.331	1.00	0.487	pCi/L	01/11/22 13:24	02/05/22 12:35	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:35*	*1*
Y Carrier	*90.1*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:35*	*1*

Lab Sample ID: LCS 160-545838/1-A
Matrix: Water
Analysis Batch: 549232

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545838

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			11.9	13.74		1.58	1.00	0.462	pCi/L	116	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.4*		*40 - 110*
Y Carrier	*83.4*		*40 - 110*

Lab Sample ID: LCSD 160-545838/2-A
Matrix: Water
Analysis Batch: 549232

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 545838

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			11.9	14.06		1.60	1.00	0.452	pCi/L	119	75 - 125	0.10	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*95.2*		*40 - 110*
Y Carrier	*84.5*		*40 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-546021/18-A
Matrix: Water
Analysis Batch: 547796

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 546021

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.4294		0.203	0.206	3.00	0.290	pCi/L	01/12/22 12:11	01/24/22 16:53	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*81.5*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:53*	*1*
Y Carrier	*91.2*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:53*	*1*

Lab Sample ID: LCS 160-546021/1-A
Matrix: Water
Analysis Batch: 547958

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 546021

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Strontium-90			7.56	7.562		0.824	3.00	0.290	pCi/L	100	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*88.0*		*40 - 110*
Y Carrier	*86.7*		*40 - 110*

Lab Sample ID: LCSD 160-546021/2-A
Matrix: Water
Analysis Batch: 547958

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 546021

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Strontium-90			7.56	6.786		0.827	3.00	0.408	pCi/L	90	75 - 125	0.47	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*69.5*		*40 - 110*
Y Carrier	*81.1*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-545833/1-A
Matrix: Water
Analysis Batch: 546736

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545833

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-85.59	U	210	210	500	394	pCi/L	01/11/22 12:29	01/14/22 14:05	1

Lab Sample ID: LCS 160-545833/2-A
Matrix: Water
Analysis Batch: 546736

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545833

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			2240	1986		398	500	399	pCi/L	89	75 - 125		

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 570-80749-Q-1-B DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 546915 — **Prep Batch: 545833**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	-90.1	U		-132.9	U	155	500	290	pCi/L			0.12	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-545831/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 546580 — **Prep Batch: 545831**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.1253	U	0.1306	0.1308	1.00	0.154	pCi/L	01/11/22 11:42	01/16/22 16:25	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*83.7*		*30 - 110*	*01/11/22 11:42*	*01/16/22 16:25*	*1*

Lab Sample ID: LCS 160-545831/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 546581 — **Prep Batch: 545831**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Uranium-234			18.2	18.21		1.99	1.00	0.148	pCi/L	100	75 - 125		
Uranium-238			18.6	18.24		1.99	1.00	0.107	pCi/L	98	75 - 125		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*91.9*		*30 - 110*

Lab Sample ID: 570-80749-R-1-E DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 546589 — **Prep Batch: 545831**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Total Uranium	0.0721	U		0.09260	U	0.09449	1.00	0.113	pCi/L			0.12	1

Tracer	*DU %Yield*	*DU Qualifier*	*Limits*
Uranium-232	*90.5*		*30 - 110*

Rad

Prep Batch: 545831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	ExtChrom	
MB 160-545831/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-545831/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
570-80749-R-1-E DU	Duplicate	Total/NA	Water	ExtChrom	

Prep Batch: 545833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-545833/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-545833/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
570-80749-Q-1-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 545836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	PrecSep-21	
MB 160-545836/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-545836/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-545836/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 545838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	PrecSep_0	
MB 160-545838/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-545838/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-545838/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 546005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-546005/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-546005/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-80749-R-1-G DU	Duplicate	Total/NA	Water	Fill_Geo-0	

Prep Batch: 546021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	PrecSep-7	
MB 160-546021/18-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-546021/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-546021/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Prep Batch: 547126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-1	Outfall002_20220104_Comp	Total/NA	Water	Evaporation	
MB 160-547126/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-547126/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-547126/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-80548-1 MS	Outfall002_20220104_Comp	Total/NA	Water	Evaporation	
570-80548-1 MSBT	Outfall002_20220104_Comp	Total/NA	Water	Evaporation	
570-80548-1 DU	Outfall002_20220104_Comp	Total/NA	Water	Evaporation	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220104_Comp
Lab Sample ID: 570-80548-1
Date Collected: 01/04/22 10:10
Matrix: Water
Date Received: 01/04/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			200.01 mL	1.0 g	547126	01/19/22 09:35	KG	TAL SL
Total/NA	Analysis	900.0		1			547960	01/24/22 13:42	ANW	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	546005	01/12/22 09:57	SRE	TAL SL
Total/NA	Analysis	901.1		1			547972	01/25/22 14:59	JCB	TAL SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			749.98 mL	1.0 g	545836	01/11/22 12:38	LPS	TAL SL
Total/NA	Analysis	903.0		1			549569	02/07/22 11:43	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			749.98 mL	1.0 g	545838	01/11/22 13:24	LPS	TAL SL
Total/NA	Analysis	904.0		1			549231	02/05/22 12:34	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-7			500.13 mL	1.0 g	546021	01/12/22 12:11	LPS	TAL SL
Total/NA	Analysis	905		1			547796	01/24/22 16:53	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	LSC_Dist_Susp			100.48 mL	1.0 g	545833	01/11/22 12:29	BAL	TAL SL
Total/NA	Analysis	906.0		1			546736	01/14/22 16:20	JLP	TAL SL
	Instrument ID: LSCTEAL									
Total/NA	Prep	ExtChrom			350.16 mL	1.0 mL	545831	01/11/22 11:42	MLO	TAL SL
Total/NA	Analysis	A-01-R		1			546585	01/16/22 16:25	CLP	TAL SL
	Instrument ID: ALPHAVISION									

Laboratory References:
TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80548-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	TAL SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	TAL SL

Protocol References:

DOE = U.S. Department of Energy

EPA = US Environmental Protection Agency

None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80548-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80548-1	Outfall002_20220104_Comp	Water	01/04/22 10:10	01/04/22 17:00

80548

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80548 Chain of Custody

Client Name/Address.	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108	Boeing-SSFL NPDES Permit 2022 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Mark Dominick / Michelle Dallalah	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R Total Recoverable Metals. (E200.7): Zn (E200.8): Cu, Pb, Cd, Se	R TCDD (and all congeners) (E1613B)	R BOD5 (20 degrees C) (E405.1(SM5210B_BODCalc))	R Surfactants (MBAS) (SM5540C/E425.1)	R Cl- SO4, Nitrate-N Nitrite-N NO3+NO2-N Perchlorate (E300)	R Turbidity TDS (SM2540C/E160.1)	R TSS (160.2 (SM2540D))	R Ammonia-N (350.2)	R alpha-BHC (E608)	R 2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	R Total Recoverable Metals. Mercury (E245.1)	C Total Recoverable Metals (E200.7) As Mn, Fe		Comments
Outfall 002	Outfall002_20220104_Comp	1/4/2022 1040	WM	500 mL Poly	1	HNO_3	90	No	X										X	X		Outfall 001 analyze for Fe Outfall 002 analyze for Fe. Outfall 01 analyze for As Mn and Fe
			WM	1 L Glass Amber	2	None	110	No		X												
			WM	1L Poly	1	None	115	No			X											
			WM	500 mL Poly	2	None	120	No				X										
			WM	500 mL Poly	2	None	130	No					X									48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X								48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X						
			WM	1 L Glass Amber	2	None	170	No									X					
			WM	1 L Glass Amber	2	None	180	No										X				
			WM	1L Poly	1	None	185	No							X							
	Outfall002_20220104_Comp_Extra	1/4/2022 1010	WM	1 L Glass Amber	2	None	110	No		H												Hold
			WM	500 mL Poly	2	None	120	No				H										Hold
			WM	500 mL Poly	2	None	130	No					H									Hold
			WM	1 L Glass Amber	2	None	170	No									H					Hold
			WM	1 L Glass Amber	2	None	180	No										H				Hold

Legend: C=Conditional, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Michelle Dallalah	1/4/2022 1400	Haley & Aldrich		ECI 01/04/22 1400
	01/04/22	17:00		1/4/22 1700

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV: _____ All Level IV: __X__

1.8/3.3 2.1/3.6 SC6

2/7/2022

2019-2020 Rainy Season
Version 4

80548

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108 Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	Project: Boeing-SSFL NPDES Permit 2022 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Mark Dominick / Michelle Dallalah	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									ANALYSIS REQUIRED														
									R	R		R		R	R	C							
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals. (E200.7) Zn (E200.8). Cu, Pb, Cd, Se	Cyanide (SM4500-CN E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 226 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	Total Dissolved Metals Mercury (E245.1)	Total Dissolved Metals (E200.7) As, Mn, Fe							Comments
Outfall 002	Outfall002_20220104_Comp_F	1/4/2022 /1010	WM	1L Poly	1	None	200	No	X						X								Filter and preserve w/in 24hrs of receipt at lab Outfall 001 analyze for Fe Outfall 002 analyze for Fe Outfall 0 analyze for As, Mn and Fe
			WM	borosilicate vials	1	None	320	No						X									Sample receiving DO NOT OPEN BAG Bag to be opened in Mercury Prep using clean procedures.
	Outfall002_20220104_Comp	1/4/2022 /10:0	WM	500 mL Poly	1	NaOH	220	No		X													
			WM	2.5 Gal Cube	1	None	225	No			X												Unfiltered and unpreserved analysis. Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
				1 L Glass Amber	1	None	230	No															
			WM	1 Gal Cube	6	None	235	No				X											Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA.

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Michelle Dallalah	1/4/2022 1400	Haley & Aldrich		ECI 01/04/22 1400
	01/04/22	1700		1/4/22 1700

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV: _____ All Level IV: __X__

2/7/2022

2019-2020 Rainy Season
Version 4

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-149015 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80548-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/1/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:				
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall002_20220104_Comp (570-80548-1)	1/4/22	10:10 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		1/5/22 1338				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/7/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-149048 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80548-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/20/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
Preservation Code:										
Outfall002_20220104_Comp (570-80548-1)	1/4/22	10:10 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware
Outfall002_20220104_Extra (570-80548-2)	1/4/22	10:10 Pacific		Water				X	2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/5/22 1610	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80548-3

Login Number: 80548
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80548-3

Login Number: 80548
List Number: 4
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 01/07/22 02:06 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80637-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab
Revision: 1

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/3/2022 2:48:04 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80637-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Qualifiers

General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time
BV	Sample received after holding time expired

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-80637-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Job ID: 570-80637-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80637-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 1/20/2022. The report (revision 1) is being revised due to: The EPA Method 1664A results were revied to remove the "BU" qualifier. The subject sample was analyzed within hold time..

Receipt
The samples were received on 1/4/2022 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.4º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 2540F: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: Outfall002_20220104_Grab (570-80637-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80637-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Client Sample ID: Outfall002_20220104_Grab
Lab Sample ID: 570-80637-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	1.4		0.50	0.17	ug/L	1		624.1	Total/NA
Specific Conductance	370	BU BV	1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: TB-20220104
Lab Sample ID: 570-80637-3

No Detections.

This Detection Summary does not include radiochemical test results.

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall002_20220104_Grab **Lab Sample ID: 570-80637-1**
Date Collected: 01/04/22 10:30 **Matrix: Water**
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/11/22 00:38	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/11/22 00:38	1
Trichloroethene	**1.4**		0.50	0.17	ug/L			01/11/22 00:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*60 - 140*		*01/11/22 00:38*	*1*
Dibromofluoromethane (Surr)	*110*		*60 - 140*		*01/11/22 00:38*	*1*
Toluene-d8 (Surr)	*97*		*60 - 140*		*01/11/22 00:38*	*1*

Client Sample ID: TB-20220104 **Lab Sample ID: 570-80637-3**
Date Collected: 01/04/22 10:30 **Matrix: Water**
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/11/22 01:05	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/11/22 01:05	1
Trichloroethene	ND		0.50	0.17	ug/L			01/11/22 01:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*60 - 140*		*01/11/22 01:05*	*1*
Dibromofluoromethane (Surr)	*112*		*60 - 140*		*01/11/22 01:05*	*1*
Toluene-d8 (Surr)	*96*		*60 - 140*		*01/11/22 01:05*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80637-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

General Chemistry

Client Sample ID: Outfall002_20220104_Grab
Lab Sample ID: 570-80637-1
Date Collected: 01/04/22 10:30
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.54	mg/L		01/05/22 11:09	01/05/22 11:09	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	**370**	**BU BV**	1.0	1.0	umhos/cm			01/06/22 12:00	1
Settleable Solids	ND	BU	0.10	0.10	mL/L/Hr			01/18/22 14:31	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80637-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
		BFB	DBFM	TOL						
Lab Sample ID	Client Sample ID	(60-140)	(60-140)	(60-140)						
570-79597-G-1 MS	Matrix Spike	97	106	92						
570-79597-G-1 MSD	Matrix Spike Duplicate	95	104	99						
570-80637-1	Outfall002_20220104_Grab	102	110	97						
570-80637-3	TB-20220104	97	112	96						
LCS 440-664145/1002	Lab Control Sample	99	102	99						
MB 440-664145/4	Method Blank	94	108	98						

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-664145/4
Matrix: Water
Analysis Batch: 664145

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/10/22 16:51	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/10/22 16:51	1
Trichloroethene	ND		0.50	0.17	ug/L			01/10/22 16:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*60 - 140*		*01/10/22 16:51*	*1*
Dibromofluoromethane (Surr)	*108*		*60 - 140*		*01/10/22 16:51*	*1*
Toluene-d8 (Surr)	*98*		*60 - 140*		*01/10/22 16:51*	*1*

Lab Sample ID: LCS 440-664145/1002
Matrix: Water
Analysis Batch: 664145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	25.0	28.5		ug/L		114	19 - 212
1,2-Dichloroethane	25.0	23.8		ug/L		95	72 - 137
Trichloroethene	25.0	26.9		ug/L		108	75 - 138

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*60 - 140*
Dibromofluoromethane (Surr)	*102*		*60 - 140*
Toluene-d8 (Surr)	*99*		*60 - 140*

Lab Sample ID: 570-79597-G-1 MS
Matrix: Water
Analysis Batch: 664145

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	3.1		25.0	31.1		ug/L		112	10 - 234
1,2-Dichloroethane	ND		25.0	25.5		ug/L		102	49 - 155
Trichloroethene	4.8		25.0	32.3		ug/L		110	70 - 157

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*60 - 140*
Dibromofluoromethane (Surr)	*106*		*60 - 140*
Toluene-d8 (Surr)	*92*		*60 - 140*

Lab Sample ID: 570-79597-G-1 MSD
Matrix: Water
Analysis Batch: 664145

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	3.1		25.0	27.6		ug/L		98	10 - 234	12	32
1,2-Dichloroethane	ND		25.0	24.7		ug/L		99	49 - 155	3	49
Trichloroethene	4.8		25.0	30.7		ug/L		104	70 - 157	5	48

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-79597-G-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664145

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*60 - 140*
Dibromofluoromethane (Surr)	*104*		*60 - 140*
Toluene-d8 (Surr)	*99*		*60 - 140*

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-205637/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205766 — **Prep Batch: 205637**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		01/05/22 11:09	01/05/22 11:09	1

Lab Sample ID: LCS 570-205637/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205766 — **Prep Batch: 205637**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM (Oil & Grease)	40.0	35.1		mg/L		88	78 - 114

Lab Sample ID: LCSD 570-205637/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205766 — **Prep Batch: 205637**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM (Oil & Grease)	40.0	37.4		mg/L		94	78 - 114	6	18

Lab Sample ID: 570-80586-A-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205766 — **Prep Batch: 205637**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM (Oil & Grease)	ND		49.8	46.3		mg/L		93	78 - 114

Lab Sample ID: 570-80586-A-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205766 — **Prep Batch: 205637**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM (Oil & Grease)	ND		48.3	46.7		mg/L		97	78 - 114	1	18

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 440-663912/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 663912

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			01/06/22 12:00	1

Method: SM 2510B - Conductivity, Specific Conductance (Continued)

Lab Sample ID: LCS 440-663912/4 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 663912

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Specific Conductance			687	663		umhos/cm		96	90 - 110		

Lab Sample ID: 570-80637-1 DU **Client Sample ID: Outfall002_20220104_Grab**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 663912

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Specific Conductance	370	BU BV		372		umhos/cm				0.4	5

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80637-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

GC/MS VOA

Analysis Batch: 664145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80637-1	Outfall002_20220104_Grab	Total/NA	Water	624.1	
570-80637-3	TB-20220104	Total/NA	Water	624.1	
MB 440-664145/4	Method Blank	Total/NA	Water	624.1	
LCS 440-664145/1002	Lab Control Sample	Total/NA	Water	624.1	
570-79597-G-1 MS	Matrix Spike	Total/NA	Water	624.1	
570-79597-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	624.1	

General Chemistry

Prep Batch: 205637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80637-1	Outfall002_20220104_Grab	Total/NA	Water	1664A	
MB 570-205637/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-205637/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-205637/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	
570-80586-A-1-A MS	Matrix Spike	Total/NA	Water	1664A	
570-80586-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	1664A	

Analysis Batch: 205766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80637-1	Outfall002_20220104_Grab	Total/NA	Water	1664A	205637
MB 570-205637/1-A	Method Blank	Total/NA	Water	1664A	205637
LCS 570-205637/2-A	Lab Control Sample	Total/NA	Water	1664A	205637
LCSD 570-205637/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	205637
570-80586-A-1-A MS	Matrix Spike	Total/NA	Water	1664A	205637
570-80586-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	1664A	205637

Analysis Batch: 663912

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80637-1	Outfall002_20220104_Grab	Total/NA	Water	SM 2510B	
MB 440-663912/3	Method Blank	Total/NA	Water	SM 2510B	
LCS 440-663912/4	Lab Control Sample	Total/NA	Water	SM 2510B	
570-80637-1 DU	Outfall002_20220104_Grab	Total/NA	Water	SM 2510B	

Analysis Batch: 664736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80637-1	Outfall002_20220104_Grab	Total/NA	Water	SM 2540F	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80637-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Client Sample ID: Outfall002_20220104_Grab
Lab Sample ID: 570-80637-1
Date Collected: 01/04/22 10:30
Matrix: Water
Date Received: 01/04/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	664145	01/11/22 00:38	A1W	IRV 2
	Instrument ID: GCMS32									
Total/NA	Prep	1664A			953 mL	1000 mL	205637	01/05/22 11:09	UWEZ	ECL 1
Total/NA	Analysis	1664A		1			205766	01/05/22 11:09	USUL	ECL 1
	Instrument ID: ICPMS05									
Total/NA	Analysis	SM 2510B		1			663912	01/06/22 12:00	VY3D	IRV 2
	Instrument ID: COND13									
Total/NA	Analysis	SM 2540F		1	1000 mL	1000 mL	664736	01/18/22 14:31	W1BQ	IRV 2
	Instrument ID: NOEQUIP									

Client Sample ID: TB-20220104
Lab Sample ID: 570-80637-3
Date Collected: 01/04/22 10:30
Matrix: Water
Date Received: 01/04/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	664145	01/11/22 01:05	A1W	IRV 2
	Instrument ID: GCMS32									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80637-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80637-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	IRV 2
1664A	HEM and SGT-HEM	1664A	ECL 1
SM 2510B	Conductivity, Specific Conductance	SM	IRV 2
SM 2540F	Solids, Settleable	SM	IRV 2
1664A	HEM and SGT-HEM (Aqueous)	1664A	ECL 1

Protocol References:

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80637-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80637-1	Outfall002_20220104_Grab	Water	01/04/22 10:30	01/04/22 17:00
570-80637-3	TB-20220104	Water	01/04/22 10:30	01/04/22 17:00

80637

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project Boeing-SSFL NPDES Permit 2022 Routine Outfall [001, 002, 011, 018] Outfall 002 Grab
Eurofins Calscience Irvine Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: michelle dallalah	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R Oil & Grease (E1664A-HEM)	R VOCs - only 1,1-DCE, 1,2-DCA, TCE (E624)	R Settleable Solids (E160.5 (SM2540F))	R Conductivity (SM2510B / E120.1)	Comments
Outfall 002	Outfall002_20220104_Grab	1/4/2022 1030	WM	1 L Glass Amber	2	HCl	15	No	X				
			WM	40 mL VOA	3	HCl	30	No		X			
			WM	1L Poly	1	None	70	No			X		
			WM	500 mL Poly	1	None	75	No				X	
	Outfall002_20220104_Grab_Extra	1/4/2022 1030	WM	1 L Glass Amber	2	HCl	15	No	H				Hold
			WM	40 mL VOA	3	HCl	30	No		H			Hold
			WM	500 mL Poly	1	None	75	No				H	Hold
Trip Blanks	TB-20220104	1/4/2022	WQ	40 mL VOA	3	HCl	30	No		X			

Field Readings	Meter serial #
Field Readings: (Include units)	
Time of Readings: 10:22 AM	
DO 18.18 mg/L	
pH 7.79 pH unit	
Temp 48.9 °C (°F)	
Field readings QC	
Checked by: Michelle Dallalah	
Date/Time: 10:22 AM	

570-80637 Chain of Custody

Legend: R=Routine

Relinquished By: Michelle Dallalah	Date/Time: 1/4/2022 1400	Company: Haley&Aldrich	Received By:	Date/Time:	Company:
Relinquished By:	Date/Time: 01/04/22 17:00	Company: ECI	Received By:	Date/Time: 1/4/22 1700	Company:
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:	Company:

Received By: ECI 01/04/22 14:06

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: X
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV: _____ All Level IV: X

1.9/3.4 SCG

2/3/2022 (Rev. 1)

2019-2020 Rainy Season
Version 4

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148948 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80637-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/14/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Grab	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A HCL M Hexane
B NaOH N None
C Zn Acetate O AsNaO2
D - Nitric Acid P Na2O4S
E NaHSO4 Q Na2SO3
F - MeOH R - Na2S2O3
G - Amchlor S H2SO4
H - Ascorbic Acid T TSP Dodecahydrate
I - Ice U Acetone
J - DI Water V MCAA
K - EDTA W pH 4-5
L - EDA Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2540F/ Solids, Settleable	624.1_LL/624_Prep 624.1_LL-12DCA, 11DCE, TCE	2510B	624.1_LL/624_Prep 624.1_LL-12DCA, 11DCE, TCE (Hold)	2510B (Hold)	Total Number of containers	Special Instructions/Note:
Preservation Code:													
Outfall002_20220104_Grab (570-80637-1)	1/4/20	10 30 Pacific		Water			X	X	X			3	
Outfall002_20220104_Grab_Extra (570-80637-2)	1/4/20	10 30 Pacific		Water						X	X	3	
TB-20220104 (570-80637-3)	1/4/20	10 30 Pacific		Water				X				3	

Note. Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements: TR-89 1.4/14

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		01/05/22	EC1			
2	Relinquished by:	Date/Time	Company	Received by: Olga Oinelas	Date/Time: 01/05/22 1130	Company ECL
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80637-1

Login Number: 80637
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80637-1

Login Number: 80637
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 01/05/22 01:21 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80746-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp
Revision: 1

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/28/2022 4:49:03 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80746-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
PI	Primary and confirm results varied by > than 40% RPD

HPLC/IC

Qualifier	Qualifier Description
EY	Result exceeds normal dynamic range; reported as a min. est.

Metals

Qualifier	Qualifier Description
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80746-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80746-1

Comments
No additional comments.

Receipt
The samples were received on 1/5/2022 6:25 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.3º C, 3.7º C and 3.7º C.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall002_20220105_F (570-80746-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall002_20220105_F (570-80746-3). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with insufficient time to filter within the HT.

01/07/21 @ 19:18 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall002_20220105_F (570-80746-3). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with insufficient time to filter within the HT.

01/07/21 @ 19:54 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method 180.1: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: Outfall002_20220105_Comp (570-80746-1).

Method SM5210B: The following sample underdepleted: Outfall002_20220105_Comp (570-80746-1). Results have been reported and may be biased high.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-205520. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this

Job ID: 570-80746-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

batch. 625.1 Sim

Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-206098. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 608/608 LL

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.0		1.0	0.36	mg/L	1		300.0	Total/NA
Nitrate as N	3.5		0.10	0.024	mg/L	1		300.0	Total/NA
Sulfate - DL	100		5.0	1.2	mg/L	5		300.0	Total/NA
Nitrate Nitrite as N	3.5		0.20	0.071	mg/L	1		NO2NO3 Calc	Total/NA
Manganese	8.0	J,DX	20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Copper	1.6	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Turbidity	0.30	BU	0.10	0.05	NTU	1		180.1	Total/NA
Total Dissolved Solids	250		10	3.0	mg/L	1		SM 2540C	Total/NA
Cyanide, Total	0.0015	J,DX	0.0030	0.0014	mg/L	1		SM 4500 CN E	Total/NA
Ammonia (as N)	1.45		0.200	0.100	mg/L	1		SM 4500 NH3 G	Total/NA

Client Sample ID: Outfall002_20220105_Comp_F
Lab Sample ID: 570-80746-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	11	J,DX	20	6.8	ug/L	1		200.7 Rev 4.4	Dissolved
Copper	1.5	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1
Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.068	ug/L		01/06/22 05:37	01/07/22 12:08	1
2,4-Dinitrotoluene	ND		0.20	0.11	ug/L		01/06/22 05:37	01/07/22 12:08	1
Bis(2-ethylhexyl) phthalate	ND		5.1	1.8	ug/L		01/06/22 05:37	01/07/22 12:08	1
N-Nitrosodimethylamine	ND		0.20	0.14	ug/L		01/06/22 05:37	01/07/22 12:08	1
Pentachlorophenol	ND		1.0	0.11	ug/L		01/06/22 05:37	01/07/22 12:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*48*		*31 - 120*	*01/06/22 05:37*	*01/07/22 12:08*	*1*
Phenol-d6 (Surr)	*23*		*10 - 120*	*01/06/22 05:37*	*01/07/22 12:08*	*1*
p-Terphenyl-d14 (Surr)	*58*		*45 - 120*	*01/06/22 05:37*	*01/07/22 12:08*	*1*
2,4,6-Tribromophenol	*66*		*28 - 127*	*01/06/22 05:37*	*01/07/22 12:08*	*1*
2-Fluorophenol	*34*		*17 - 120*	*01/06/22 05:37*	*01/07/22 12:08*	*1*
Nitrobenzene-d5	*49*		*27 - 120*	*01/06/22 05:37*	*01/07/22 12:08*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1
Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.00080	ug/L		01/07/22 08:26	01/11/22 17:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*34*	*PI*	*20 - 139*	*01/07/22 08:26*	*01/11/22 17:13*	*1*
DCB Decachlorobiphenyl (Surr)	*23*	*PI*	*20 - 154*	*01/07/22 08:26*	*01/11/22 17:13*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1
Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.0**		1.0	0.36	mg/L			01/06/22 17:49	1
Nitrite as N	ND		0.10	0.018	mg/L			01/06/22 17:49	1
Nitrate as N	**3.5**		0.10	0.024	mg/L			01/06/22 17:49	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 300.0 - Anions, Ion Chromatography - DL

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1
Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**100**		5.0	1.2	mg/L			01/07/22 17:19	5

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 314.0 - Perchlorate (IC)

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1
Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/07/22 15:38	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1
Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	3.5		0.20	0.071	mg/L			01/09/22 11:32	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1
Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/20/22 12:12	01/20/22 19:40	1
Iron	ND		100	50	ug/L		01/20/22 12:12	01/20/22 19:40	1
Manganese	**8.0**	**J,DX**	20	6.8	ug/L		01/20/22 12:12	01/20/22 19:40	1
Zinc	ND		20	12	ug/L		01/20/22 12:12	01/20/22 19:40	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: Outfall002_20220105_Comp_F
Lab Sample ID: 570-80746-3
Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/10/22 08:35	01/10/22 16:00	1
Iron	ND		100	50	ug/L		01/10/22 08:35	01/10/22 16:00	1
Manganese	**11**	**J,DX**	20	6.8	ug/L		01/10/22 08:35	01/10/22 16:00	1
Zinc	ND		20	12	ug/L		01/10/22 08:35	01/10/22 16:00	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1
Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/24/22 13:48	01/25/22 11:06	1
Copper	**1.6**	**J,DX**	2.0	0.50	ug/L		01/24/22 13:48	01/25/22 11:06	1
Lead	ND		1.0	0.50	ug/L		01/24/22 13:48	01/25/22 11:06	1
Selenium	ND		2.0	0.50	ug/L		01/24/22 13:48	01/25/22 11:06	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall002_20220105_Comp_F
Lab Sample ID: 570-80746-3
Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/10/22 08:31	01/10/22 12:57	1
Copper	**1.5**	**J,DX**	2.0	0.50	ug/L		01/10/22 08:31	01/10/22 12:57	1
Lead	ND		1.0	0.50	ug/L		01/10/22 08:31	01/10/22 12:57	1
Selenium	ND		2.0	0.50	ug/L		01/10/22 08:31	01/10/22 12:57	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 245.1 - Mercury (CVAA)

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1
Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/17/22 17:42	01/18/22 18:00	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall002_20220105_Comp_F
Lab Sample ID: 570-80746-3
Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.25	0.12	ug/L		01/24/22 16:25	01/25/22 14:50	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

General Chemistry

Client Sample ID: Outfall002_20220105_Comp
Date Collected: 01/05/22 09:00
Date Received: 01/05/22 18:25

Lab Sample ID: 570-80746-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	**0.30**	**BU**	0.10	0.05	NTU			01/19/22 18:30	1
Total Dissolved Solids	**250**		10	3.0	mg/L			01/11/22 10:10	1
Total Suspended Solids	ND		1.0	0.50	mg/L			01/07/22 15:00	1
Cyanide, Total	**0.0015**	**J,DX**	0.0030	0.0014	mg/L		01/18/22 12:00	01/18/22 23:39	1
Ammonia (as N)	**1.45**		0.200	0.100	mg/L			01/07/22 12:08	1
MBAS	ND		0.30	0.15	mg/L		01/05/22 21:30	01/05/22 23:04	1
Biochemical Oxygen Demand	ND		3.0	3.0	mg/L			01/06/22 20:20	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	PHL6	TPHd14	TBP	2FP	NBZ
Lab Sample ID	Client Sample ID	(31-120)	(10-120)	(45-120)	(28-127)	(17-120)	(27-120)
570-80746-1	Outfall002_20220105_Comp	48	23	58	66	34	49
LCS 570-205520/2-A	Lab Control Sample	59	32	80	85	49	65
LCSD 570-205520/3-A	Lab Control Sample Dup	65	33	79	81	50	67
MB 570-205520/1-A	Method Blank	64	31	72	91	50	71

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
PHL6 = Phenol-d6 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)
TBP = 2,4,6-Tribromophenol
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5

Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		TCX1	DCB1
Lab Sample ID	Client Sample ID	(20-139)	(20-154)
570-80746-1	Outfall002_20220105_Comp	34 PI	23 PI
LCS 570-206098/2-A	Lab Control Sample	76	76
LCSD 570-206098/3-A	Lab Control Sample Dup	74	77
MB 570-206098/1-A	Method Blank	55 PI	64

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl (Surr)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-205520/1-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205520

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.067	ug/L		01/05/22 06:03	01/05/22 17:08	1
2,4-Dinitrotoluene	ND		0.20	0.11	ug/L		01/05/22 06:03	01/05/22 17:08	1
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		01/05/22 06:03	01/05/22 17:08	1
N-Nitrosodimethylamine	ND		0.20	0.14	ug/L		01/05/22 06:03	01/05/22 17:08	1
Pentachlorophenol	ND		1.0	0.11	ug/L		01/05/22 06:03	01/05/22 17:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*64*		*31 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
Phenol-d6 (Surr)	*31*		*10 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
p-Terphenyl-d14 (Surr)	*72*		*45 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
2,4,6-Tribromophenol	*91*		*28 - 127*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
2-Fluorophenol	*50*		*17 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
Nitrobenzene-d5	*71*		*27 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*

Lab Sample ID: LCS 570-205520/2-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205520

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,6-Trichlorophenol	20.0	16.3		ug/L		81	52 - 129
2,4-Dinitrotoluene	20.0	16.5		ug/L		82	48 - 127
Bis(2-ethylhexyl) phthalate	20.0	20.2		ug/L		101	29 - 137
N-Nitrosodimethylamine	20.0	11.8		ug/L		59	30 - 100
Pentachlorophenol	20.0	15.1		ug/L		76	38 - 152

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*59*		*31 - 120*
Phenol-d6 (Surr)	*32*		*10 - 120*
p-Terphenyl-d14 (Surr)	*80*		*45 - 120*
2,4,6-Tribromophenol	*85*		*28 - 127*
2-Fluorophenol	*49*		*17 - 120*
Nitrobenzene-d5	*65*		*27 - 120*

Lab Sample ID: LCSD 570-205520/3-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205520

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4,6-Trichlorophenol	20.0	16.7		ug/L		84	52 - 129	3	35
2,4-Dinitrotoluene	20.0	16.0		ug/L		80	48 - 127	3	25
Bis(2-ethylhexyl) phthalate	20.0	19.7		ug/L		98	29 - 137	3	50
N-Nitrosodimethylamine	20.0	10.9		ug/L		55	30 - 100	8	20
Pentachlorophenol	20.0	14.2		ug/L		71	38 - 152	6	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*65*		*31 - 120*
Phenol-d6 (Surr)	*33*		*10 - 120*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-205520/3-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205520

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
p-Terphenyl-d14 (Surr)	*79*		*45 - 120*
2,4,6-Tribromophenol	*81*		*28 - 127*
2-Fluorophenol	*50*		*17 - 120*
Nitrobenzene-d5	*67*		*27 - 120*

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-206098/1-A
Matrix: Water
Analysis Batch: 206435

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 206098

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.00080	ug/L		01/07/22 08:26	01/11/22 16:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*55*	*PI*	*20 - 139*	*01/07/22 08:26*	*01/11/22 16:30*	*1*
DCB Decachlorobiphenyl (Surr)	*64*		*20 - 154*	*01/07/22 08:26*	*01/11/22 16:30*	*1*

Lab Sample ID: LCS 570-206098/2-A
Matrix: Water
Analysis Batch: 206925

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 206098

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
alpha-BHC			0.0333	0.0302		ug/L		91	37 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*76*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*76*		*20 - 154*

Lab Sample ID: LCSD 570-206098/3-A
Matrix: Water
Analysis Batch: 206925

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 206098

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
alpha-BHC			0.0333	0.0305		ug/L		91	37 - 140	1	36

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*74*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*77*		*20 - 154*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-205908/5
Matrix: Water
Analysis Batch: 205908

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.36	mg/L			01/06/22 12:29	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 570-205908/6
Matrix: Water
Analysis Batch: 205908

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			50.0	47.9		mg/L		96	90 - 110		
Fluoride			2.50	2.54		mg/L		102	90 - 110		

Lab Sample ID: LCSD 570-205908/7
Matrix: Water
Analysis Batch: 205908

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			50.0	47.6		mg/L		95	90 - 110	1	15
Fluoride			2.50	2.50		mg/L		100	90 - 110	1	15

Lab Sample ID: 570-80778-E-1 MS
Matrix: Water
Analysis Batch: 205908

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	50		50.0	104	EY	mg/L		108	80 - 120		
Fluoride	0.33		2.50	2.91		mg/L		103	80 - 120		

Lab Sample ID: 570-80778-E-1 MSD
Matrix: Water
Analysis Batch: 205908

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50		50.0	106	EY	mg/L		114	80 - 120	3	20
Fluoride	0.33		2.50	3.02		mg/L		107	80 - 120	4	20

Lab Sample ID: MB 570-205909/5
Matrix: Water
Analysis Batch: 205909

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			01/06/22 12:29	1
Nitrate as N	ND		0.10	0.024	mg/L			01/06/22 12:29	1

Lab Sample ID: LCS 570-205909/6
Matrix: Water
Analysis Batch: 205909

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N			2.50	2.41		mg/L		96	90 - 110		
Nitrate as N			5.00	4.95		mg/L		99	90 - 110		

Lab Sample ID: LCSD 570-205909/7
Matrix: Water
Analysis Batch: 205909

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N			2.50	2.50		mg/L		100	90 - 110	3	15
Nitrate as N			5.00	4.92		mg/L		98	90 - 110	1	15

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 570-80778-E-1 MS
Matrix: Water
Analysis Batch: 205909

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N	ND		2.50	2.41		mg/L		96	80 - 120		
Nitrate as N	5.8		5.00	11.3	EY	mg/L		110	80 - 120		

Lab Sample ID: 570-80778-E-1 MSD
Matrix: Water
Analysis Batch: 205909

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	ND		2.50	2.44		mg/L		98	80 - 120	1	20
Nitrate as N	5.8		5.00	11.3	EY	mg/L		110	80 - 120	0	20

Lab Sample ID: MB 570-206134/5
Matrix: Water
Analysis Batch: 206134

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.24	mg/L			01/07/22 10:40	1

Lab Sample ID: LCS 570-206134/6
Matrix: Water
Analysis Batch: 206134

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	50.0	49.3		mg/L		99	90 - 110

Lab Sample ID: LCSD 570-206134/7
Matrix: Water
Analysis Batch: 206134

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	50.0	49.2		mg/L		98	90 - 110	0	15

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 570-80778-E-1 MS
Matrix: Water
Analysis Batch: 206134

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate - DL	120		50.0	166		mg/L		96	80 - 120		

Lab Sample ID: 570-80778-E-1 MSD
Matrix: Water
Analysis Batch: 206134

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate - DL	120		50.0	169		mg/L		102	80 - 120	2	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-206102/6
Matrix: Water
Analysis Batch: 206102

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/07/22 10:40	1

Lab Sample ID: LCS 570-206102/7
Matrix: Water
Analysis Batch: 206102

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	25.3		ug/L		101	85 - 115

Lab Sample ID: LCSD 570-206102/8
Matrix: Water
Analysis Batch: 206102

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	25.0	23.3		ug/L		93	85 - 115	9	15

Lab Sample ID: 570-80835-A-24 MS
Matrix: Water
Analysis Batch: 206102

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	ND		50.0	55.5		ug/L		111	80 - 120

Lab Sample ID: 570-80835-A-24 MSD
Matrix: Water
Analysis Batch: 206102

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		50.0	53.3		ug/L		107	80 - 120	4	15

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-664982/1-A
Matrix: Water
Analysis Batch: 665028

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664982

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/20/22 12:12	01/20/22 18:08	1
Iron	ND		100	50	ug/L		01/20/22 12:12	01/20/22 18:08	1
Manganese	ND		20	6.8	ug/L		01/20/22 12:12	01/20/22 18:08	1
Zinc	ND		20	12	ug/L		01/20/22 12:12	01/20/22 18:08	1

Lab Sample ID: LCS 440-664982/2-A
Matrix: Water
Analysis Batch: 665028

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664982

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	490		ug/L		98	85 - 115
Iron	500	500		ug/L		100	85 - 115
Manganese	500	502		ug/L		100	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-664982/2-A
Matrix: Water
Analysis Batch: 665028

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664982

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Zinc			500	500		ug/L		100	85 - 115		

Lab Sample ID: 570-80500-A-2-D MS
Matrix: Water
Analysis Batch: 665028

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664982

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		500	525		ug/L		105	70 - 130
Iron	720		500	1300		ug/L		116	70 - 130
Manganese	22		500	560		ug/L		108	70 - 130
Zinc	70		500	602		ug/L		106	70 - 130

Lab Sample ID: 570-80500-A-2-E MSD
Matrix: Water
Analysis Batch: 665028

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664982

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	517		ug/L		103	70 - 130	1	20
Iron	720		500	1280		ug/L		111	70 - 130	2	20
Manganese	22		500	553		ug/L		106	70 - 130	1	20
Zinc	70		500	597		ug/L		105	70 - 130	1	20

Lab Sample ID: MB 440-664037/1-D
Matrix: Water
Analysis Batch: 664155

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 664111

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/10/22 08:35	01/10/22 15:45	1
Iron	ND		100	50	ug/L		01/10/22 08:35	01/10/22 15:45	1
Manganese	ND		20	6.8	ug/L		01/10/22 08:35	01/10/22 15:45	1
Zinc	ND		20	12	ug/L		01/10/22 08:35	01/10/22 15:45	1

Lab Sample ID: LCS 440-664037/2-D
Matrix: Water
Analysis Batch: 664155

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 664111

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			500	491		ug/L		98	85 - 115		
Iron			500	483		ug/L		97	85 - 115		
Manganese			500	491		ug/L		98	85 - 115		
Zinc			500	502		ug/L		100	85 - 115		

Lab Sample ID: 570-80749-C-3-D MS
Matrix: Water
Analysis Batch: 664155

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 664111

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		500	488		ug/L		98	70 - 130
Iron	ND		500	481		ug/L		96	70 - 130
Manganese	12	J,DX	500	494		ug/L		96	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 570-80749-C-3-D MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 664155 — **Prep Batch: 664111**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Zinc	ND		500	509		ug/L		102	70 - 130

Lab Sample ID: 570-80749-C-3-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 664155 — **Prep Batch: 664111**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	502		ug/L		100	70 - 130	3	20
Iron	ND		500	487		ug/L		97	70 - 130	1	20
Manganese	12	J,DX	500	497		ug/L		97	70 - 130	1	20
Zinc	ND		500	513		ug/L		103	70 - 130	1	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-665252/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 665379 — **Prep Batch: 665252**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/24/22 13:48	01/25/22 11:02	1
Copper	ND		2.0	0.50	ug/L		01/24/22 13:48	01/25/22 11:02	1
Lead	ND		1.0	0.50	ug/L		01/24/22 13:48	01/25/22 11:02	1
Selenium	ND		2.0	0.50	ug/L		01/24/22 13:48	01/25/22 11:02	1

Lab Sample ID: LCS 440-665252/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 665379 — **Prep Batch: 665252**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	82.8		ug/L		103	85 - 115
Copper	80.0	78.5		ug/L		98	85 - 115
Lead	80.0	83.1		ug/L		104	85 - 115
Selenium	80.0	84.2		ug/L		105	85 - 115

Lab Sample ID: 570-80746-1 MS — **Client Sample ID: Outfall002_20220105_Comp**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 665379 — **Prep Batch: 665252**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	86.0		ug/L		108	70 - 130
Copper	1.6	J,DX	80.0	84.8		ug/L		104	70 - 130
Lead	ND		80.0	86.2		ug/L		108	70 - 130
Selenium	ND		80.0	85.2		ug/L		106	70 - 130

Lab Sample ID: 570-80746-1 MSD — **Client Sample ID: Outfall002_20220105_Comp**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 665379 — **Prep Batch: 665252**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	83.8		ug/L		105	70 - 130	3	20

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-80746-1 MSD
Matrix: Water
Analysis Batch: 665379

Client Sample ID: Outfall002_20220105_Comp
Prep Type: Total Recoverable
Prep Batch: 665252

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Copper	1.6	J,DX	80.0	82.7		ug/L		101	70 - 130	2	20
Lead	ND		80.0	84.2		ug/L		105	70 - 130	2	20
Selenium	ND		80.0	84.9		ug/L		106	70 - 130	0	20

Lab Sample ID: MB 440-664037/1-C
Matrix: Water
Analysis Batch: 664141

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 664110

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/10/22 08:31	01/10/22 12:53	1
Copper	ND		2.0	0.50	ug/L		01/10/22 08:31	01/10/22 12:53	1
Lead	ND		1.0	0.50	ug/L		01/10/22 08:31	01/10/22 12:53	1
Selenium	ND		2.0	0.50	ug/L		01/10/22 08:31	01/10/22 12:53	1

Lab Sample ID: LCS 440-664037/2-C
Matrix: Water
Analysis Batch: 664141

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 664110

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	76.0		ug/L		95	85 - 115
Copper	80.0	81.1		ug/L		101	85 - 115
Lead	80.0	78.7		ug/L		98	85 - 115
Selenium	80.0	74.6		ug/L		93	85 - 115

Lab Sample ID: 570-80746-3 MS
Matrix: Water
Analysis Batch: 664141

Client Sample ID: Outfall002_20220105_Comp_F
Prep Type: Dissolved
Prep Batch: 664110

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	73.1		ug/L		91	70 - 130
Copper	1.5	J,DX	80.0	79.6		ug/L		98	70 - 130
Lead	ND		80.0	74.7		ug/L		93	70 - 130
Selenium	ND		80.0	73.1		ug/L		91	70 - 130

Lab Sample ID: 570-80746-3 MSD
Matrix: Water
Analysis Batch: 664141

Client Sample ID: Outfall002_20220105_Comp_F
Prep Type: Dissolved
Prep Batch: 664110

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	75.5		ug/L		94	70 - 130	3	20
Copper	1.5	J,DX	80.0	82.9		ug/L		102	70 - 130	4	20
Lead	ND		80.0	77.8		ug/L		97	70 - 130	4	20
Selenium	ND		80.0	75.6		ug/L		94	70 - 130	3	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-208112/1-A
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208112

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/17/22 17:42	01/18/22 17:34	1

Lab Sample ID: LCS 570-208112/2-A
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208112

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	11.0		ug/L		110	85 - 115

Lab Sample ID: LCSD 570-208112/3-A
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208112

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	10.0	11.0		ug/L		110	85 - 115	0	10

Lab Sample ID: 440-293718-B-1-E MS
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 208112

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		10.0	10.9		ug/L		109	70 - 130

Lab Sample ID: 440-293718-B-1-F MSD
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 208112

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	10.9		ug/L		109	70 - 130	0	10

Lab Sample ID: MB 570-209151/1-B
Matrix: Water
Analysis Batch: 209351

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 209173

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/24/22 16:25	01/25/22 14:37	1

Lab Sample ID: LCS 570-209151/2-B
Matrix: Water
Analysis Batch: 209351

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 209173

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	9.89		ug/L		99	85 - 115

Lab Sample ID: LCSD 570-209151/3-B
Matrix: Water
Analysis Batch: 209351

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 209173

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	10.0	10.0		ug/L		100	85 - 115	2	10

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: 570-80749-A-3-F MS
Matrix: Water
Analysis Batch: 209351

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 209173

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.12	J,DX	10.0	10.4		ug/L		104	70 - 130

Lab Sample ID: 570-80749-A-3-G MSD
Matrix: Water
Analysis Batch: 209351

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 209173

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.12	J,DX	10.0	10.2		ug/L		102	70 - 130	2	10

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 440-664889/6
Matrix: Water
Analysis Batch: 664889

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	ND		0.10	0.05	NTU			01/19/22 18:28	1

Lab Sample ID: MRL 440-664889/5
Matrix: Water
Analysis Batch: 664889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	0.100	0.10		NTU		90	50 - 150

Lab Sample ID: 570-80231-I-1 DU
Matrix: Water
Analysis Batch: 664889

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Turbidity	0.40		0.35		NTU		10	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-663806/1
Matrix: Water
Analysis Batch: 663806

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	3.0	mg/L			01/11/22 10:10	1

Lab Sample ID: LCS 440-663806/2
Matrix: Water
Analysis Batch: 663806

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	974		mg/L		97	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 570-80544-E-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 663806

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	160		157		mg/L		1	5

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-664016/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664016

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			01/07/22 15:00	1

Lab Sample ID: LCS 440-664016/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664016

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	1000	903		mg/L		90	85 - 115

Lab Sample ID: 440-293899-A-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664016

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	62		63.0		mg/L		2	5

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 570-208185/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208184 — **Prep Batch: 208185**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0030	0.0014	mg/L		01/18/22 12:00	01/18/22 23:31	1

Lab Sample ID: LCS 570-208185/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208184 — **Prep Batch: 208185**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0100	0.0103		mg/L		103	80 - 120

Lab Sample ID: LCSD 570-208185/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208184 — **Prep Batch: 208185**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.0100	0.00979		mg/L		98	80 - 120	5	20

Method: SM 4500 CN E - Cyanide, Total (Low Level) (Continued)

Lab Sample ID: 570-81289-H-6-A MS
Matrix: Water
Analysis Batch: 208184

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 208185

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	ND		0.0100	0.0110		mg/L		110	74 - 115

Lab Sample ID: 570-81289-H-6-B MSD
Matrix: Water
Analysis Batch: 208184

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 208185

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		0.0100	0.00950		mg/L		95	74 - 115	15	20

Lab Sample ID: 570-81289-H-6-D DU
Matrix: Water
Analysis Batch: 208184

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 208185

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cyanide, Total	ND		ND		mg/L		NC	25

Method: SM 4500 NH3 G - Ammonia

Lab Sample ID: MB 440-664022/10
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.200	0.100	mg/L			01/07/22 11:11	1

Lab Sample ID: LCS 440-664022/11
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	5.00	5.370		mg/L		107	90 - 110

Lab Sample ID: MRL 440-664022/9
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.200	0.1950	J,DX	mg/L		98	50 - 150

Lab Sample ID: 570-80545-H-1 MS
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.845		5.00	5.760		mg/L		98	90 - 110

Method: SM 4500 NH3 G - Ammonia (Continued)

Lab Sample ID: 570-80545-H-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664022

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.845		5.00	5.710		mg/L		97	90 - 110	1	15

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 570-205960/5-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206228 — **Prep Batch: 205960**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.30	0.15	mg/L		01/05/22 21:30	01/05/22 22:59	1

Lab Sample ID: LCS 570-205960/6-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206228 — **Prep Batch: 205960**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
MBAS	1.00	1.03		mg/L		103	85 - 111

Lab Sample ID: LCSD 570-205960/7-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206228 — **Prep Batch: 205960**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MBAS	1.00	1.01		mg/L		101	85 - 111	3	7

Lab Sample ID: 570-80746-1 MS — **Client Sample ID: Outfall002_20220105_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206228 — **Prep Batch: 205960**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
MBAS	ND		1.00	1.23		mg/L		123	75 - 125

Lab Sample ID: 570-80746-1 MSD — **Client Sample ID: Outfall002_20220105_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206228 — **Prep Batch: 205960**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MBAS	ND		1.00	1.22		mg/L		122	75 - 125	1	12

Method: SM5210B - BOD, 5 Day

Lab Sample ID: USB 440-664304/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664304

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			01/06/22 09:10	1

Method: SM5210B - BOD, 5 Day (Continued)

Lab Sample ID: LCS 440-664304/4
Matrix: Water
Analysis Batch: 664304

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Biochemical Oxygen Demand			199	178		mg/L		89	85 - 115		

Lab Sample ID: 440-293813-B-1 DU
Matrix: Water
Analysis Batch: 664304

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Biochemical Oxygen Demand	54			56.7		mg/L				5	20

GC/MS Semi VOA

Prep Batch: 205520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	625	
MB 570-205520/1-A	Method Blank	Total/NA	Water	625	
LCS 570-205520/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-205520/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 205774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-205520/1-A	Method Blank	Total/NA	Water	625.1 SIM	205520
LCS 570-205520/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	205520
LCSD 570-205520/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	205520

Analysis Batch: 206168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	625.1 SIM	205520

GC Semi VOA

Prep Batch: 206098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	608	
MB 570-206098/1-A	Method Blank	Total/NA	Water	608	
LCS 570-206098/2-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-206098/3-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 206435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	608.3	206098
MB 570-206098/1-A	Method Blank	Total/NA	Water	608.3	206098

Analysis Batch: 206925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-206098/2-A	Lab Control Sample	Total/NA	Water	608.3	206098
LCSD 570-206098/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	206098

HPLC/IC

Analysis Batch: 205908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	300.0	
MB 570-205908/5	Method Blank	Total/NA	Water	300.0	
LCS 570-205908/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-205908/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80778-E-1 MS	Matrix Spike	Total/NA	Water	300.0	
570-80778-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 205909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	300.0	
MB 570-205909/5	Method Blank	Total/NA	Water	300.0	
LCS 570-205909/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-205909/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80778-E-1 MS	Matrix Spike	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 205909 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80778-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 206102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	314.0	
MB 570-206102/6	Method Blank	Total/NA	Water	314.0	
LCS 570-206102/7	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-206102/8	Lab Control Sample Dup	Total/NA	Water	314.0	
570-80835-A-24 MS	Matrix Spike	Total/NA	Water	314.0	
570-80835-A-24 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	

Analysis Batch: 206134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1 - DL	Outfall002_20220105_Comp	Total/NA	Water	300.0	
MB 570-206134/5	Method Blank	Total/NA	Water	300.0	
LCS 570-206134/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-206134/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80778-E-1 MS - DL	Matrix Spike	Total/NA	Water	300.0	
570-80778-E-1 MSD - DL	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 206420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	NO2NO3 Calc	

Metals

Prep Batch: 208112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	245.1	
MB 570-208112/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-208112/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-208112/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
440-293718-B-1-E MS	Matrix Spike	Total/NA	Water	245.1	
440-293718-B-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 208127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	245.1	208112
MB 570-208112/1-A	Method Blank	Total/NA	Water	245.1	208112
LCS 570-208112/2-A	Lab Control Sample	Total/NA	Water	245.1	208112
LCSD 570-208112/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	208112
440-293718-B-1-E MS	Matrix Spike	Total/NA	Water	245.1	208112
440-293718-B-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	208112

Filtration Batch: 209151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-3	Outfall002_20220105_Comp_F	Dissolved	Water	Filtration	
MB 570-209151/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-209151/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-209151/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-80749-A-3-F MS	Matrix Spike	Dissolved	Water	Filtration	

Metals (Continued)

Filtration Batch: 209151 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-A-3-G MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

Prep Batch: 209173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-3	Outfall002_20220105_Comp_F	Dissolved	Water	245.1	209151
MB 570-209151/1-B	Method Blank	Dissolved	Water	245.1	209151
LCS 570-209151/2-B	Lab Control Sample	Dissolved	Water	245.1	209151
LCSD 570-209151/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	209151
570-80749-A-3-F MS	Matrix Spike	Dissolved	Water	245.1	209151
570-80749-A-3-G MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	209151

Analysis Batch: 209351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-3	Outfall002_20220105_Comp_F	Dissolved	Water	245.1	209173
MB 570-209151/1-B	Method Blank	Dissolved	Water	245.1	209173
LCS 570-209151/2-B	Lab Control Sample	Dissolved	Water	245.1	209173
LCSD 570-209151/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	209173
570-80749-A-3-F MS	Matrix Spike	Dissolved	Water	245.1	209173
570-80749-A-3-G MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	209173

Filtration Batch: 664037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-3	Outfall002_20220105_Comp_F	Dissolved	Water	FILTRATION	
MB 440-664037/1-C	Method Blank	Dissolved	Water	FILTRATION	
MB 440-664037/1-D	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-664037/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-664037/2-D	Lab Control Sample	Dissolved	Water	FILTRATION	
570-80746-3 MS	Outfall002_20220105_Comp_F	Dissolved	Water	FILTRATION	
570-80746-3 MSD	Outfall002_20220105_Comp_F	Dissolved	Water	FILTRATION	
570-80749-C-3-D MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80749-C-3-E MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Prep Batch: 664110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-3	Outfall002_20220105_Comp_F	Dissolved	Water	200.2	664037
MB 440-664037/1-C	Method Blank	Dissolved	Water	200.2	664037
LCS 440-664037/2-C	Lab Control Sample	Dissolved	Water	200.2	664037
570-80746-3 MS	Outfall002_20220105_Comp_F	Dissolved	Water	200.2	664037
570-80746-3 MSD	Outfall002_20220105_Comp_F	Dissolved	Water	200.2	664037

Prep Batch: 664111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-3	Outfall002_20220105_Comp_F	Dissolved	Water	200.2	664037
MB 440-664037/1-D	Method Blank	Dissolved	Water	200.2	664037
LCS 440-664037/2-D	Lab Control Sample	Dissolved	Water	200.2	664037
570-80749-C-3-D MS	Matrix Spike	Dissolved	Water	200.2	664037
570-80749-C-3-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	664037

Analysis Batch: 664141

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-3	Outfall002_20220105_Comp_F	Dissolved	Water	200.8	664110

Metals (Continued)

Analysis Batch: 664141 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-664037/1-C	Method Blank	Dissolved	Water	200.8	664110
LCS 440-664037/2-C	Lab Control Sample	Dissolved	Water	200.8	664110
570-80746-3 MS	Outfall002_20220105_Comp_F	Dissolved	Water	200.8	664110
570-80746-3 MSD	Outfall002_20220105_Comp_F	Dissolved	Water	200.8	664110

Analysis Batch: 664155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-3	Outfall002_20220105_Comp_F	Dissolved	Water	200.7 Rev 4.4	664111
MB 440-664037/1-D	Method Blank	Dissolved	Water	200.7 Rev 4.4	664111
LCS 440-664037/2-D	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	664111
570-80749-C-3-D MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	664111
570-80749-C-3-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	664111

Prep Batch: 664982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total Recoverable	Water	200.2	
MB 440-664982/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664982/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80500-A-2-D MS	Matrix Spike	Total Recoverable	Water	200.2	
570-80500-A-2-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 665028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total Recoverable	Water	200.7 Rev 4.4	664982
MB 440-664982/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	664982
LCS 440-664982/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	664982
570-80500-A-2-D MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	664982
570-80500-A-2-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	664982

Prep Batch: 665252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total Recoverable	Water	200.2	
MB 440-665252/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-665252/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80746-1 MS	Outfall002_20220105_Comp	Total Recoverable	Water	200.2	
570-80746-1 MSD	Outfall002_20220105_Comp	Total Recoverable	Water	200.2	

Analysis Batch: 665379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total Recoverable	Water	200.8	665252
MB 440-665252/1-A	Method Blank	Total Recoverable	Water	200.8	665252
LCS 440-665252/2-A	Lab Control Sample	Total Recoverable	Water	200.8	665252
570-80746-1 MS	Outfall002_20220105_Comp	Total Recoverable	Water	200.8	665252
570-80746-1 MSD	Outfall002_20220105_Comp	Total Recoverable	Water	200.8	665252

General Chemistry

Prep Batch: 205960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	SM 5540C	
MB 570-205960/5-A	Method Blank	Total/NA	Water	SM 5540C	

General Chemistry (Continued)

Prep Batch: 205960 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-205960/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-205960/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	
570-80746-1 MS	Outfall002_20220105_Comp	Total/NA	Water	SM 5540C	
570-80746-1 MSD	Outfall002_20220105_Comp	Total/NA	Water	SM 5540C	

Analysis Batch: 206228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	SM 5540C	205960
MB 570-205960/5-A	Method Blank	Total/NA	Water	SM 5540C	205960
LCS 570-205960/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	205960
LCSD 570-205960/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	205960
570-80746-1 MS	Outfall002_20220105_Comp	Total/NA	Water	SM 5540C	205960
570-80746-1 MSD	Outfall002_20220105_Comp	Total/NA	Water	SM 5540C	205960

Analysis Batch: 208184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	SM 4500 CN E	208185
MB 570-208185/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	208185
LCS 570-208185/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	208185
LCSD 570-208185/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	208185
570-81289-H-6-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	208185
570-81289-H-6-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	208185
570-81289-H-6-D DU	Duplicate	Total/NA	Water	SM 4500 CN E	208185

Prep Batch: 208185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	SM 4500 CN C	
MB 570-208185/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-208185/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-208185/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-81289-H-6-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN C	
570-81289-H-6-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN C	
570-81289-H-6-D DU	Duplicate	Total/NA	Water	SM 4500 CN C	

Analysis Batch: 663806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	SM 2540C	
MB 440-663806/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-663806/2	Lab Control Sample	Total/NA	Water	SM 2540C	
570-80544-E-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 664016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	SM 2540D	
MB 440-664016/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-664016/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-293899-A-3 DU	Duplicate	Total/NA	Water	SM 2540D	

Analysis Batch: 664022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	SM 4500 NH3 G	

General Chemistry (Continued)

Analysis Batch: 664022 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-664022/10	Method Blank	Total/NA	Water	SM 4500 NH3 G	
LCS 440-664022/11	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
MRL 440-664022/9	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
570-80545-H-1 MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 G	
570-80545-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 G	

Analysis Batch: 664304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	SM5210B	
USB 440-664304/2	Method Blank	Total/NA	Water	SM5210B	
LCS 440-664304/4	Lab Control Sample	Total/NA	Water	SM5210B	
440-293813-B-1 DU	Duplicate	Total/NA	Water	SM5210B	

Analysis Batch: 664889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	180.1	
MB 440-664889/6	Method Blank	Total/NA	Water	180.1	
MRL 440-664889/5	Lab Control Sample	Total/NA	Water	180.1	
570-80231-I-1 DU	Duplicate	Total/NA	Water	180.1	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1
Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			988.2 mL	2 mL	205520	01/06/22 05:37	H1SH	ECL 1
Total/NA	Analysis	625.1 SIM		1			206168	01/07/22 12:08	ULLI	ECL 1
	Instrument ID:	GCMSJJJ								
Total/NA	Prep	608			1500 mL	1 mL	206098	01/07/22 08:26	OAJ3	ECL 1
Total/NA	Analysis	608.3		1			206435	01/11/22 17:13	UHHN	ECL 1
	Instrument ID:	GC44								
Total/NA	Analysis	300.0	DL	5			206134	01/07/22 17:19	URMH	ECL 1
	Instrument ID:	IC7								
Total/NA	Analysis	300.0		1	4 mL	1.0 mL	205908	01/06/22 17:49	URMH	ECL 1
	Instrument ID:	IC9								
Total/NA	Analysis	300.0		1			205909	01/06/22 17:49	URMH	ECL 1
	Instrument ID:	IC9								
Total/NA	Analysis	314.0		1			206102	01/07/22 15:38	URMH	ECL 1
	Instrument ID:	IC13								
Total/NA	Analysis	NO2NO3 Calc		1			206420	01/09/22 11:32	URMH	ECL 1
	Instrument ID:	IC9								
Total Recoverable	Prep	200.2			25 mL	25 mL	664982	01/20/22 12:12		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			665028	01/20/22 19:40	P1R	IRV 2
	Instrument ID:	ICP8								
Total Recoverable	Prep	200.2			25 mL	25 mL	665252	01/24/22 13:48		IRV 2
Total Recoverable	Analysis	200.8		1			665379	01/25/22 11:06	Y2WS	IRV 2
	Instrument ID:	ICPMS6								
Total/NA	Prep	245.1			50 mL	100 mL	208112	01/17/22 17:42	VWJ7	ECL 4
Total/NA	Analysis	245.1		1			208127	01/18/22 18:00	VWJ7	ECL 1
	Instrument ID:	HG7								
Total/NA	Analysis	180.1		1			664889	01/19/22 18:30	W1BQ	IRV 2
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	663806	01/11/22 10:10	VY3D	IRV 2
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	664016	01/07/22 15:00	ZL7L	IRV 2
	Instrument ID:	NOEQUIP								
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	208185	01/18/22 12:00	UAPD	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	5 mL	5 mL	208184	01/18/22 23:39	UAPD	ECL 1
	Instrument ID:	UV9								
Total/NA	Analysis	SM 4500 NH3 G		1	0.8 mL	8.0 mL	664022	01/07/22 12:08	GG0B	IRV 2
	Instrument ID:	LACHAT01								
Total/NA	Prep	SM 5540C			100 mL	100 mL	205960	01/05/22 21:30	WN6Y	ECL 1
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	206228	01/05/22 23:04	WN6Y	ECL 1
	Instrument ID:	UV9								
Total/NA	Analysis	SM5210B		1			664304	01/06/22 20:20	VY3D	IRV 2
	Instrument ID:	BOD 10								

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220105_Comp_F
Lab Sample ID: 570-80746-3
Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			150 mL	150 mL	664037	01/07/22 18:54	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	664111	01/10/22 08:35	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			664155	01/10/22 16:00	K1UV	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			150 mL	150 mL	664037	01/07/22 18:54	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	664110	01/10/22 08:31	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664141	01/10/22 12:57	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	209151	01/24/22 16:04	UIAS	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	209173	01/24/22 16:25	VWJ7	ECL 4
Dissolved	Analysis	245.1		1			209351	01/25/22 14:50	VWJ7	ECL 1
	Instrument ID: HG7									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method	Method Description	Protocol	Laboratory
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	40CFR136A	ECL 1
608.3	Organochlorine Pesticides in Water	40CFR136A	ECL 1
300.0	Anions, Ion Chromatography	MCAWW	ECL 1
314.0	Perchlorate (IC)	EPA	ECL 1
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	ECL 1
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	ECL 1
180.1	Turbidity, Nephelometric	MCAWW	IRV 2
SM 2540C	Solids, Total Dissolved (TDS)	SM	IRV 2
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 2
SM 4500 CN E	Cyanide, Total (Low Level)	SM	ECL 1
SM 4500 NH3 G	Ammonia	SM	IRV 2
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	ECL 1
SM5210B	BOD, 5 Day	SM	IRV 2
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	ECL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	ECL 1
625	Liquid-Liquid Extraction	40CFR136A	ECL 1
Filtration	Sample Filtration	None	ECL 4
FILTRATION	Sample Filtration	None	IRV 2
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1
SM 5540C	Preparation, Methylene Blue Active Substances (MBAS)	SM	ECL 1

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80746-1	Outfall002_20220105_Comp	Water	01/05/22 09:00	01/05/22 18:25
570-80746-3	Outfall002_20220105_Comp_F	Water	01/05/22 09:00	01/05/22 18:25

80746

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80746 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2022 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: michelle dallalah	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	ANALYSIS REQUIRED R: Total Recoverable Metals. (E200.7) Zn (E200.8). Cu, Pb, Cd, Se	R: TCDD (and all congeners) (E1613B)	R: BOD5 (20 degrees C) (E405.1(SM5210B_BODCalc))	R: Surfactants (MBAS) (SM5540C/E425.1)	R: Cl- SO4, Nitrate-N Nitrite-N NO3+NO2-N Perchlorate (E300)	R: Turbidity TDS (SM2540C/E180.1)	R: TSS (160.2 (SM2540D))	R: Ammonia-N (350.2)	R: alpha-BHC (E608)	R: 2,4,6 TCP 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	R: Total Recoverable Metals Mercury (E245.1)	C: Total Recoverable Metals (E200.7) As, Mn Fe		Comments
Outfall 002	Outfall002_20220105_Comp	1/5/2022 0900	WM	500 mL Poly	1	HNO_3	90	No	X										X	X		~~Outfall 002 analyze for Fe~~ MRD Outfall 002 analyze for Fe ~~Outfall 011 analyze for Fe, Mn and Fe~~ MRD
			WM	1 L Glass Amber	2	None	110	No		X												
			WM	1L Poly	1	None	115	No			X											
			WM	500 mL Poly	2	None	120	No				X										
			WM	500 mL Poly	2	None	130	No					X									48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X								48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X						
			WM	1 L Glass Amber	2	None	170	No									X					
			WM	1 L Glass Amber	2	None	180	No										X				
			WM	1L Poly	1	None	185	No							X							
	Outfall002_20220105_Comp_Extra	1/5/2022 0900	WM	1 L Glass Amber	2	None	110	No		H												Hold
			WM	500 mL Poly	2	None	120	No				H										Hold
			WM	500 mL Poly	2	None	130	No					H									Hold
			WM	1 L Glass Amber	2	None	170	No									H					Hold
			WM	1 L Glass Amber	2	None	180	No										H				Hold

Legend: C=Conditional, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Michelle Dallalah	1/5/2022 1300	Haley & Aldrich		ECI 01/05/22 1300
	01/05/22	ECI 18:25		1/5/22 1825

Turn-around time (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____

Store samples for 6 months.

Data Requirements (Check)
No Level IV: _____ All Level IV: __X__

2.2|3.7, 1.8|3.3, 2.2|3.7 SCG

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address.	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108	Boeing-SSFL NPDES Permit 2022 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: michelle dallalah	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	ANALYSIS REQUIRED: Total Dissolved Metals. (E200.7): Zn (E200.8): Cu, Pb, Cd, Se	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Total Dissolved Metals. Mercury (E245.1)	Total Dissolved Metals (E200.7) As, Mn, Fe	Comments
									R	R	R	R	C	
Outfall 002	Outfall002_20220105_Comp_F	1/5/2022 0900	WM	1L Poly	1	None	200	No	X				X	Filter and preserve w/in 24hrs of receipt at lab Outfall 002 analyze ~~or Fe~~ MD ~~Outfall 002 analyze for As, Mn~~ MD
			WM	borosilicate vials	1	None	320	No				X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall002_20220105_Comp	1/5/2022 0900	WM	500 mL Poly	1	NaOH	220	No		X				
			WM	2.5 Gal Cube	1	None	225	No			X			Unfiltered and unpreserved analysis. Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
				1 L Glass Amber	1	None	230	No						Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA. MD

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Michelle Dallalah	1/5/2022 1300	Haley & Aldrich		EA 01105/22 1300
	01105/22	EA 18:25		1/5/22 1825

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements. (Check)
No Level IV: _____ All Level IV: __X__

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149367 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80746-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/2/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	SSOW#:			
Site:				

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall002_20220105_Comp (570-80746-1)	1/5/22	09:00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/6/22 1540				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149377 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80746-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/21/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V MCAA
W - pH 4-5
Z other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
Preservation Code:										
Outfall002_20220105_Comp (570-80746-1)	1/5/22	09:00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L, Use Boeing glassware
Outfall002_20220105_Extra (570-80746-2)	1/5/22	09:00 Pacific		Water				X	2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware.

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/6/22 1636	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-149248 1
Client Contact: Shipping/Receiving	Phone	E Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80746-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/17/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site	SSOW#:			

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.8/200.2 Cd,Pb,Cu,Se	245.1/246.1_Prep Mercury	200.7/200.2 Outfall 011 - 200.7 Total List	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	180.1/ Turbidity	SM4500NH3_G/ Ammonia	SM5210B_BODCalc/ BOD, 5 Day	200.8/FILTRATION (MOD) Diss Cd,Pb,Cu,Se	200.8/200.2 (MOD) Diss Cd,Pb,Cu,Se	245.1/FILTRATION Diss Mercury	245.1/245.1_Prep Diss Mercury	200.7/FILTRATION Outfall 011 - 200.7 Diss List	Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall002_20220105_Comp (570-80746-1)	1/5/22	09:00 Pacific		Water			X	X	X	X	X	X	X	X						6	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall002_20220105_F (570-80746-3)	1/5/22	09:00 Pacific		Water											X	X	X	X	X	3	Filter within 24 hours use VOA vials from LL Hg Kit-Clean Hands procedure Filter

Note. Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	1/6/22 1130	GC			
2	Relinquished by	Date/Time	Company	Received by: Olga Olmelas	Date/Time: 01/06/22 1130	Company: EOT
3	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 2.1/2.1 IR-89

Ver 06 08 2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-149248 2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80746-1
Address: 2841 Dow Avenue	Due Date Requested: 1/17/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200 7/200 2 Outfall 011 - 200.7 Diss List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall002_20220105_Comp (570-80746-1)	1/5/22	09:00 Pacific		Water				6	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall002_20220105_F (570-80746-3)	1/5/22	09 00 Pacific		Water			X	3	Filter within 24 hours use VOA vials from LL Hg Kit-Clean Hands procedure Filter

Note. Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:			
Relinquished by: Rup	Date/Time: 1/6/22 1130	Company: EC	Received by:	Date/Time	Company	
Relinquished by:	Date/Time:	Company	Received by: Olga Oneles	Date/Time: 01/06/22 1130	Company: FEDT	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	

Custody Seals Intact. ☐ Yes ☐ No	Custody Seal No
Cooler Temperature(s) °C and Other Remarks:	

Ver 06 08 2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80746-1

Login Number: 80746
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80746-1

Login Number: 80746
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80746-2
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/25/2022 5:10:26 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80746-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-80746-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Job ID: 570-80746-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80746-2

Comments
No additional comments.

Receipt
The samples were received on 1/5/2022 6:25 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.3º C, 3.7º C and 3.7º C.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV012122). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 10D5 exceeded this criteria: Outfall002_20220105_Comp (570-80746-1), (CCV 320-559828/1), (LCS 320-557282/2-A), (LCSD 320-557282/3-A) and (MB 320-557282/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: The ending resolution check is done after more than 48 hours due to the electronic glitch in the system over the weekend which caused the acquisition of the samples in the queue to stop. The resolution check performed in the morning on the following Monday meets all the required criteria without changing any parameter of the initial tune.

Outfall002_20220105_Comp (570-80746-1), (CCV 320-559828/1), (LCS 320-557282/2-A), (LCSD 320-557282/3-A), (MB 320-557282/1-A) and (WDM 320-559828/2)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDF	0.00000065	J,DX q	0.000051	0.00000037	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000019	J,DX q MB	0.000051	0.00000046	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.00000073	J,DX	0.000051	0.00000047	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.00000067	J,DX q	0.000051	0.00000041	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.00000070	J,DX q	0.000051	0.00000045	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.00000069	J,DX q	0.000051	0.00000047	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000012	J,DX	0.000051	0.00000038	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.00000047	J,DX q	0.000051	0.00000039	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000043	J,DX MB	0.000051	0.00000018	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000016	J,DX q MB	0.000051	0.00000030	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.00000083	J,DX	0.000051	0.00000032	ug/L	1		1613B	Total/NA
OCDD	0.000024	J,DX MB	0.00010	0.00000039	ug/L	1		1613B	Total/NA
OCDF	0.0000041	J,DX MB	0.00010	0.00000045	ug/L	1		1613B	Total/NA
Total TCDF	0.0000018	J,DX q MB	0.000010	0.00000029	ug/L	1		1613B	Total/NA
Total PeCDF	0.00000065	J,DX q	0.000051	0.00000036	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000033	J,DX q MB	0.000051	0.00000041	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000030	J,DX q	0.000051	0.00000038	ug/L	1		1613B	Total/NA
Total HpCDD	0.0000079	J,DX MB	0.000051	0.00000018	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000033	J,DX q MB	0.000051	0.00000030	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1
Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000061	ug/L		01/11/22 11:43	01/21/22 22:56	1
1,2,3,7,8-PeCDD	ND		0.000051	0.00000052	ug/L		01/11/22 11:43	01/21/22 22:56	1
1,2,3,7,8-PeCDF	**0.00000065**	**J,DX q**	0.000051	0.00000037	ug/L		01/11/22 11:43	01/21/22 22:56	1
2,3,4,7,8-PeCDF	ND		0.000051	0.00000036	ug/L		01/11/22 11:43	01/21/22 22:56	1
1,2,3,4,7,8-HxCDD	**0.0000019**	**J,DX q MB**	0.000051	0.00000046	ug/L		01/11/22 11:43	01/21/22 22:56	1
1,2,3,6,7,8-HxCDD	**0.00000073**	**J,DX**	0.000051	0.00000047	ug/L		01/11/22 11:43	01/21/22 22:56	1
1,2,3,7,8,9-HxCDD	**0.00000067**	**J,DX q**	0.000051	0.00000041	ug/L		01/11/22 11:43	01/21/22 22:56	1
1,2,3,4,7,8-HxCDF	**0.00000070**	**J,DX q**	0.000051	0.00000045	ug/L		01/11/22 11:43	01/21/22 22:56	1
1,2,3,6,7,8-HxCDF	**0.00000069**	**J,DX q**	0.000051	0.00000047	ug/L		01/11/22 11:43	01/21/22 22:56	1
1,2,3,7,8,9-HxCDF	**0.0000012**	**J,DX**	0.000051	0.00000038	ug/L		01/11/22 11:43	01/21/22 22:56	1
2,3,4,6,7,8-HxCDF	**0.00000047**	**J,DX q**	0.000051	0.00000039	ug/L		01/11/22 11:43	01/21/22 22:56	1
1,2,3,4,6,7,8-HpCDD	**0.0000043**	**J,DX MB**	0.000051	0.00000018	ug/L		01/11/22 11:43	01/21/22 22:56	1
1,2,3,4,6,7,8-HpCDF	**0.0000016**	**J,DX q MB**	0.000051	0.00000030	ug/L		01/11/22 11:43	01/21/22 22:56	1
1,2,3,4,7,8,9-HpCDF	**0.00000083**	**J,DX**	0.000051	0.00000032	ug/L		01/11/22 11:43	01/21/22 22:56	1
OCDD	**0.000024**	**J,DX MB**	0.00010	0.00000039	ug/L		01/11/22 11:43	01/21/22 22:56	1
OCDF	**0.0000041**	**J,DX MB**	0.00010	0.00000045	ug/L		01/11/22 11:43	01/21/22 22:56	1
Total TCDD	ND		0.000010	0.00000061	ug/L		01/11/22 11:43	01/21/22 22:56	1
Total TCDF	**0.0000018**	**J,DX q MB**	0.000010	0.00000029	ug/L		01/11/22 11:43	01/21/22 22:56	1
Total PeCDD	ND		0.000051	0.00000052	ug/L		01/11/22 11:43	01/21/22 22:56	1
Total PeCDF	**0.00000065**	**J,DX q**	0.000051	0.00000036	ug/L		01/11/22 11:43	01/21/22 22:56	1
Total HxCDD	**0.0000033**	**J,DX q MB**	0.000051	0.00000041	ug/L		01/11/22 11:43	01/21/22 22:56	1
Total HxCDF	**0.0000030**	**J,DX q**	0.000051	0.00000038	ug/L		01/11/22 11:43	01/21/22 22:56	1
Total HpCDD	**0.0000079**	**J,DX MB**	0.000051	0.00000018	ug/L		01/11/22 11:43	01/21/22 22:56	1
Total HpCDF	**0.0000033**	**J,DX q MB**	0.000051	0.00000030	ug/L		01/11/22 11:43	01/21/22 22:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*81*		*25 - 164*	*01/11/22 11:43*	*01/21/22 22:56*	*1*
13C-2,3,7,8-TCDF	*82*		*24 - 169*	*01/11/22 11:43*	*01/21/22 22:56*	*1*
13C-1,2,3,7,8-PeCDD	*97*		*25 - 181*	*01/11/22 11:43*	*01/21/22 22:56*	*1*
13C-1,2,3,7,8-PeCDF	*91*		*24 - 185*	*01/11/22 11:43*	*01/21/22 22:56*	*1*
13C-2,3,4,7,8-PeCDF	*105*		*21 - 178*	*01/11/22 11:43*	*01/21/22 22:56*	*1*
13C-1,2,3,4,7,8-HxCDD	*95*		*32 - 141*	*01/11/22 11:43*	*01/21/22 22:56*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall002_20220105_Comp **Lab Sample ID: 570-80746-1**
Date Collected: 01/05/22 09:00 **Matrix: Water**
Date Received: 01/05/22 18:25

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDD	89		28 - 130	01/11/22 11:43	01/21/22 22:56	1
13C-1,2,3,4,7,8-HxCDF	91		26 - 152	01/11/22 11:43	01/21/22 22:56	1
13C-1,2,3,6,7,8-HxCDF	82		26 - 123	01/11/22 11:43	01/21/22 22:56	1
13C-1,2,3,7,8,9-HxCDF	80		29 - 147	01/11/22 11:43	01/21/22 22:56	1
13C-2,3,4,6,7,8-HxCDF	83		28 - 136	01/11/22 11:43	01/21/22 22:56	1
13C-1,2,3,4,6,7,8-HpCDD	91		23 - 140	01/11/22 11:43	01/21/22 22:56	1
13C-1,2,3,4,6,7,8-HpCDF	87		28 - 143	01/11/22 11:43	01/21/22 22:56	1
13C-1,2,3,4,7,8,9-HpCDF	107		26 - 138	01/11/22 11:43	01/21/22 22:56	1
13C-OCDD	107		17 - 157	01/11/22 11:43	01/21/22 22:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	91		35 - 197	01/11/22 11:43	01/21/22 22:56	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1
Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000066	ug/L		01/11/22 11:43	01/24/22 14:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*93*		*24 - 169*	*01/11/22 11:43*	*01/24/22 14:32*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*91*		*35 - 197*	*01/11/22 11:43*	*01/24/22 14:32*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	37TCDD (35-197)							
570-80746-1	Outfall002_20220105_Comp	91							
570-80746-1 - RA	Outfall002_20220105_Comp	91							
MB 320-557282/1-A	Method Blank	85							
MB 320-557282/1-A - RA	Method Blank	82							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	37TCDD (31-191)							
LCS 320-557282/2-A	Lab Control Sample	94							
LCSD 320-557282/3-A	Lab Control Sample Dup	92							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80746-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-80746-1	Outfall002_20220105_Comp	81	82	97	91	105	95	89	91
570-80746-1 - RA	Outfall002_20220105_Comp		93						
MB 320-557282/1-A	Method Blank	69	69	84	75	89	77	73	74
MB 320-557282/1-A - RA	Method Blank		72						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-80746-1	Outfall002_20220105_Comp	82	80	83	91	87	107	107
570-80746-1 - RA	Outfall002_20220105_Comp							
MB 320-557282/1-A	Method Blank	66	66	67	73	71	86	83
MB 320-557282/1-A - RA	Method Blank							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-557282/2-A	Lab Control Sample	66	66	83	75	87	74	69	70
LCSD 320-557282/3-A	Lab Control Sample Dup	75	75	92	84	99	86	80	82

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-557282/2-A	Lab Control Sample	64	65	65	71	69	84	83
LCSD 320-557282/3-A	Lab Control Sample Dup	74	75	77	85	80	97	95

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-557282/1-A
Matrix: Water
Analysis Batch: 559828

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 557282

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000081	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000071	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000052	ug/L		01/11/22 11:43	01/21/22 19:11	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000048	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,4,7,8-HxCDD	0.00000163	J,DX q	0.000050	0.00000044	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.00000046	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.00000039	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.00000049	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.00000053	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,7,8,9-HxCDF	ND		0.000050	0.00000043	ug/L		01/11/22 11:43	01/21/22 19:11	1
2,3,4,6,7,8-HxCDF	ND		0.000050	0.00000044	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,4,6,7,8-HpCDD	0.000000967	J,DX q	0.000050	0.00000022	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,4,6,7,8-HpCDF	0.000000604	J,DX q	0.000050	0.00000031	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.00000033	ug/L		01/11/22 11:43	01/21/22 19:11	1
OCDD	0.00000421	J,DX	0.00010	0.00000041	ug/L		01/11/22 11:43	01/21/22 19:11	1
OCDF	0.00000109	J,DX	0.00010	0.00000051	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total TCDD	ND		0.000010	0.00000081	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total TCDF	0.000000418	J,DX q	0.000010	0.00000039	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total PeCDD	ND		0.000050	0.00000071	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total PeCDF	ND		0.000050	0.00000048	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total HxCDD	0.00000163	J,DX q	0.000050	0.00000039	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total HxCDF	ND		0.000050	0.00000043	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total HpCDD	0.00000248	J,DX q	0.000050	0.00000022	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total HpCDF	0.000000604	J,DX q	0.000050	0.00000031	ug/L		01/11/22 11:43	01/21/22 19:11	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*69*		*25 - 164*	*01/11/22 11:43*	*01/21/22 19:11*	*1*
13C-2,3,7,8-TCDF	*69*		*24 - 169*	*01/11/22 11:43*	*01/21/22 19:11*	*1*
13C-1,2,3,7,8-PeCDD	*84*		*25 - 181*	*01/11/22 11:43*	*01/21/22 19:11*	*1*
13C-1,2,3,7,8-PeCDF	*75*		*24 - 185*	*01/11/22 11:43*	*01/21/22 19:11*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-557282/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 559828 **Prep Batch: 557282**

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	89		21 - 178	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,4,7,8-HxCDD	77		32 - 141	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,6,7,8-HxCDD	73		28 - 130	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,4,7,8-HxCDF	74		26 - 152	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,6,7,8-HxCDF	66		26 - 123	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,7,8,9-HxCDF	66		29 - 147	01/11/22 11:43	01/21/22 19:11	1
13C-2,3,4,6,7,8-HxCDF	67		28 - 136	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,4,6,7,8-HpCDD	73		23 - 140	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,4,6,7,8-HpCDF	71		28 - 143	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,4,7,8,9-HpCDF	86		26 - 138	01/11/22 11:43	01/21/22 19:11	1
13C-OCDD	83		17 - 157	01/11/22 11:43	01/21/22 19:11	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	85		35 - 197	01/11/22 11:43	01/21/22 19:11	1

Lab Sample ID: LCS 320-557282/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 559828 **Prep Batch: 557282**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000212		ug/L		106	67 - 158
2,3,7,8-TCDF	0.000200	0.000202	MB	ug/L		101	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.00104		ug/L		104	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.00101		ug/L		101	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000911		ug/L		91	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000898	MB	ug/L		90	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000946		ug/L		95	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000900		ug/L		90	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000931		ug/L		93	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.00102		ug/L		102	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.00102		ug/L		102	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.00104		ug/L		104	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000979	MB	ug/L		98	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000937	MB	ug/L		94	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000862		ug/L		86	78 - 138
OCDD	0.00200	0.00184	MB	ug/L		92	78 - 144
OCDF	0.00200	0.00185	MB	ug/L		93	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	66		20 - 175
13C-2,3,7,8-TCDF	66		22 - 152
13C-1,2,3,7,8-PeCDD	83		21 - 227
13C-1,2,3,7,8-PeCDF	75		21 - 192
13C-2,3,4,7,8-PeCDF	87		13 - 328
13C-1,2,3,4,7,8-HxCDD	74		21 - 193
13C-1,2,3,6,7,8-HxCDD	69		25 - 163
13C-1,2,3,4,7,8-HxCDF	70		19 - 202
13C-1,2,3,6,7,8-HxCDF	64		21 - 159

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-557282/2-A
Matrix: Water
Analysis Batch: 559828

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 557282

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,7,8,9-HxCDF	65		17 - 205
13C-2,3,4,6,7,8-HxCDF	65		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	71		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	69		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	84		20 - 186
13C-OCDD	83		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	94		31 - 191

Lab Sample ID: LCSD 320-557282/3-A
Matrix: Water
Analysis Batch: 559828

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 557282

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000193		ug/L		97	67 - 158	9	50
2,3,7,8-TCDF			0.000200	0.000188	MB	ug/L		94	75 - 158	7	50
1,2,3,7,8-PeCDD			0.00100	0.000964		ug/L		96	70 - 142	8	50
1,2,3,7,8-PeCDF			0.00100	0.000947		ug/L		95	80 - 134	7	50
2,3,4,7,8-PeCDF			0.00100	0.000841		ug/L		84	68 - 160	8	50
1,2,3,4,7,8-HxCDD			0.00100	0.000838	MB	ug/L		84	70 - 164	7	50
1,2,3,6,7,8-HxCDD			0.00100	0.000911		ug/L		91	76 - 134	4	50
1,2,3,7,8,9-HxCDD			0.00100	0.000858		ug/L		86	64 - 162	5	50
1,2,3,4,7,8-HxCDF			0.00100	0.000868		ug/L		87	72 - 134	7	50
1,2,3,6,7,8-HxCDF			0.00100	0.000971		ug/L		97	84 - 130	5	50
1,2,3,7,8,9-HxCDF			0.00100	0.000960		ug/L		96	78 - 130	6	50
2,3,4,6,7,8-HxCDF			0.00100	0.000971		ug/L		97	70 - 156	6	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.000944	MB	ug/L		94	70 - 140	4	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.000895	MB	ug/L		90	82 - 122	5	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000826		ug/L		83	78 - 138	4	50
OCDD			0.00200	0.00181	MB	ug/L		91	78 - 144	2	50
OCDF			0.00200	0.00180	MB	ug/L		90	63 - 170	3	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	75		20 - 175
13C-2,3,7,8-TCDF	75		22 - 152
13C-1,2,3,7,8-PeCDD	92		21 - 227
13C-1,2,3,7,8-PeCDF	84		21 - 192
13C-2,3,4,7,8-PeCDF	99		13 - 328
13C-1,2,3,4,7,8-HxCDD	86		21 - 193
13C-1,2,3,6,7,8-HxCDD	80		25 - 163
13C-1,2,3,4,7,8-HxCDF	82		19 - 202
13C-1,2,3,6,7,8-HxCDF	74		21 - 159
13C-1,2,3,7,8,9-HxCDF	75		17 - 205
13C-2,3,4,6,7,8-HxCDF	77		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	85		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	80		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	97		20 - 186

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-557282/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 559828 **Prep Batch: 557282**

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-OCDD	95		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	92		31 - 191

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-557282/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 560151 **Prep Batch: 557282**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	ND		0.000010	0.0000068	ug/L		01/11/22 11:43	01/24/22 12:37	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF - RA	72		24 - 169	01/11/22 11:43	01/24/22 12:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD - RA	82		35 - 197	01/11/22 11:43	01/24/22 12:37	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Specialty Organics

Prep Batch: 557282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	1613B	
570-80746-1 - RA	Outfall002_20220105_Comp	Total/NA	Water	1613B	
MB 320-557282/1-A	Method Blank	Total/NA	Water	1613B	
MB 320-557282/1-A - RA	Method Blank	Total/NA	Water	1613B	
LCS 320-557282/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-557282/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 559828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	1613B	557282
MB 320-557282/1-A	Method Blank	Total/NA	Water	1613B	557282
LCS 320-557282/2-A	Lab Control Sample	Total/NA	Water	1613B	557282
LCSD 320-557282/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	557282

Analysis Batch: 560151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1 - RA	Outfall002_20220105_Comp	Total/NA	Water	1613B	557282
MB 320-557282/1-A - RA	Method Blank	Total/NA	Water	1613B	557282

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1
Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			988.8 mL	20.0 uL	557282	01/11/22 11:43	CB	TAL SAC
Total/NA	Analysis	1613B		1			559828	01/21/22 22:56	SMA	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		988.8 mL	20.0 uL	557282	01/11/22 11:43	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			560151	01/24/22 14:32	DB	TAL SAC
	Instrument ID: 11D2									

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80746-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-29-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-23
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-21 *
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80746-1	Outfall002_20220105_Comp	Water	01/05/22 09:00	01/05/22 18:25

80746

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80746 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2022 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: michelle dallalah	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R Total Recoverable Metals. (E200.7) Zn (E200.8). Cu, Pb, Cd, Se	R TCDD (and all congeners) (E1613B)	R BOD5 (20 degrees C) (E405.1(SM5210B_BODCalc))	R Surfactants (MBAS) (SM5540C/E425.1)	R Cl- SO_4, Nitrate-N Nitrite-N NO3+NO2-N Perchlorate (E300)	R Turbidity TDS (SM2540C/E180.1)	R TSS (160.2 (SM2540D))	R Ammonia-N (350.2)	R alpha-BHC (E608)	R 2,4,6 TCP 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	R Total Recoverable Metals Mercury (E245.1)	C Total Recoverable Metals (E200.7) As, Mn Fe		Comments
Outfall 002	Outfall002_20220105_Comp	1/5/2022 0900	WM	500 mL Poly	1	HNO_3	90	No	X										X	X		~~Outfall 002 analyze for Fe~~ MD Outfall 002 analyze for Fe ~~Outfall 002 analyze for Fe, Mn and Fe~~ MD
			WM	1 L Glass Amber	2	None	110	No		X												
			WM	1L Poly	1	None	115	No			X											
			WM	500 mL Poly	2	None	120	No				X										
			WM	500 mL Poly	2	None	130	No					X									48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X								48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X						
			WM	1 L Glass Amber	2	None	170	No									X					
			WM	1 L Glass Amber	2	None	180	No										X				
			WM	1L Poly	1	None	185	No							X							
	Outfall002_20220105_Comp_Extra	1/5/2022 0900	WM	1 L Glass Amber	2	None	110	No		H												Hold
			WM	500 mL Poly	2	None	120	No				H										Hold
			WM	500 mL Poly	2	None	130	No					H									Hold
			WM	1 L Glass Amber	2	None	170	No									H					Hold
			WM	1 L Glass Amber	2	None	180	No										H				Hold

Legend: C=Conditional, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Michelle Dallalah	1/5/2022 1300	Haley & Aldrich		ECI 01/05/22 1300
	01/05/22	ECI 18:25		1/5/22 1825

Turn-around time (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements (Check)
No Level IV: _____ All Level IV: __X__

2.2|3.7, 1.8|3.3, 2.2|3.7 SCG

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1/25/2022

2019-2020 Rainy Season
Version 4

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address.	Project:	ANALYSIS REQUIRED
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108	Boeing-SSFL NPDES Permit 2022 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp	R: Total Dissolved Metals. (E200.7) Zn (E200.8) Cu, Pb, Cd, Se R: Cyanide (SM4500-CN-E / E335.2) R: Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1) R: Total Dissolved Metals. Mercury (E245.1) C: Total Dissolved Metals (E200.7) As, Mn, Fe
Eurofins Calscience Irvine Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218		
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)	
Sampler: michelle dallalah	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Comments
Outfall 002	Outfall002_20220105_Comp_F	1/5/2022 0900	WM	1L Poly	1	None	200	No	Filter and preserve w/in 24hrs of receipt at lab Outfall 002 analyze or Fe MS
			WM	borosilicate vials	1	None	320	No	Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall002_20220105_Comp	1/5/2022 0900	WM	500 mL Poly	1	NaOH	220	No	
			WM	2.5 Gal Cube	1	None	225	No	Unfiltered and unpreserved analysis. Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
				1 L Glass Amber	1	None	230	No	
									Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA. MS

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Michelle Dallalah	1/5/2022 1300	Haley & Aldrich		EA 01105/22 1300
	01105/22	EA 18:25		1/5/22 1825

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements. (Check)
No Level IV: _____ All Level IV: __X__

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149367 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80746-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/2/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	SSOW#:			
Site:				

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Cs/Flll_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall002_20220105_Comp (570-80746-1)	1/5/22	09:00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	1/6/22 1540				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149377 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80746-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/21/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
Preservation Code:										
Outfall002_20220105_Comp (570-80746-1)	1/5/22	09:00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L, Use Boeing glassware
Outfall002_20220105_Extra (570-80746-2)	1/5/22	09:00 Pacific		Water				X	2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware.

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		1/6/22 1636				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149377.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80746-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/21/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20220105_Comp (570-80746-1)	1/5/22	09:00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall002_20220105_Extra (570-80746-2)	1/5/22	09:00 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/6/22 1636			1/7/22 1135	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 4.6c

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80746-2

Login Number: 80746
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80746-2

Login Number: 80746
List Number: 3
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 01/07/22 04:00 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	seal
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80746-3
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/7/2022 4:40:49 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80746-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80746-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80746-3

Comments
No additional comments.

Receipt
The samples were received on 1/5/2022 6:25 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.3º C, 3.7º C and 3.7º C.

RAD
Method 900.0: Gross alpha beta batch 547126
The detection goal was not met for the following sample due to a reduction of the sample size attributed to high residual mass: Outfall002_20220105_Comp (570-80746-1). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross Alpha Beta prep batch 160-547126:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall002_20220105_Comp (570-80746-1), (LCS 160-547126/2-A), (LCSB 160-547126/3-A), (MB 160-547126/1-A), (570-80548-R-1-O), (570-80548-R-1-U DU), (570-80548-R-1-S MS) and (570-80548-R-1-T MSBT)

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Method 901.1: Gamma Prep Batch 160-546005

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is

Job ID: 570-80746-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall002_20220105_Comp (570-80746-1), (570-80749-R-1-F) and (570-80749-R-1-G DU)

Method 903.0: Radium 226 Batch 160-545836:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall002_20220105_Comp (570-80746-1), (LCS 160-545836/1-A), (LCSD 160-545836/2-A) and (MB 160-545836/24-A)

Method 904.0: Radium 228 batch 545838
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall002_20220105_Comp (570-80746-1), (LCS 160-545838/1-A), (LCSD 160-545838/2-A) and (MB 160-545838/24-A)

Method 905: Strontium 90 batch 545840
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall002_20220105_Comp (570-80746-1), (LCS 160-545840/1-A), (LCSD 160-545840/2-A) and (MB 160-545840/12-A)

Method 906.0: Tritium in Liquid batch 160-545833
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
Outfall002_20220105_Comp (570-80746-1), (LCS 160-545833/2-A), (MB 160-545833/1-A), (570-80746-Q-1-B MS), (570-80749-Q-1-A) and (570-80749-Q-1-B DU)

Method A-01-R: Isotopic Uranium Batch 160-545831:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall002_20220105_Comp (570-80746-1), (LCS 160-545831/2-A), (MB 160-545831/1-A), (570-80749-R-1-D) and (570-80749-R-1-E DU)

Method PrecSep_0: Radium-228 Prep Batch 160-545838

The following samples were prepared at a reduced aliquot due to Matrix: Outfall002_20220105_Comp (570-80746-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch

Job ID: 570-80746-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

precision.

Method PrecSep-21: Radium-226 Prep Batch 160-545836

The following samples were prepared at a reduced aliquot due to Matrix: Outfall002_20220105_Comp (570-80746-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-545840

The following samples were prepared at a reduced aliquot due to Matrix: Outfall002_20220105_Comp (570-80746-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1

No Detections.

This Detection Summary does not include radiochemical test results.

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall002_20220105_Comp **Lab Sample ID: 570-80746-1**
Date Collected: 01/05/22 09:00 **Matrix: Water**
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.908	U G	2.16	2.16	3.00	3.76	pCi/L	01/19/22 09:35	01/21/22 13:53	1
Gross Beta	**2.66**		0.951	0.987	4.00	1.29	pCi/L	01/19/22 09:35	01/21/22 13:53	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall002_20220105_Comp **Lab Sample ID: 570-80746-1**
Date Collected: 01/05/22 09:00 **Matrix: Water**
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-1.44	U	10.9	10.9	20.0	13.2	pCi/L	01/12/22 09:57	01/25/22 13:52	1
Potassium-40	**116**		56.2	57.9		50.2	pCi/L	01/12/22 09:57	01/25/22 13:52	1

Method: 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall002_20220105_Comp
Date Collected: 01/05/22 09:00
Date Received: 01/05/22 18:25

Lab Sample ID: 570-80746-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0424	U	0.150	0.150	1.00	0.282	pCi/L	01/11/22 12:38	02/07/22 11:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.7*		*40 - 110*	*01/11/22 12:38*	*02/07/22 11:43*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall002_20220105_Comp
Date Collected: 01/05/22 09:00
Date Received: 01/05/22 18:25

Lab Sample ID: 570-80746-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.734		0.358	0.364	1.00	0.527	pCi/L	01/11/22 13:24	02/05/22 12:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.7*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:34*	*1*
Y Carrier	*86.0*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:34*	*1*

Method: 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall002_20220105_Comp **Lab Sample ID: 570-80746-1**
Date Collected: 01/05/22 09:00 **Matrix: Water**
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.110	U	0.331	0.331	3.00	0.578	pCi/L	01/11/22 13:52	01/24/22 16:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*86.8*		*40 - 110*	*01/11/22 13:52*	*01/24/22 16:56*	*1*
Y Carrier	*90.5*		*40 - 110*	*01/11/22 13:52*	*01/24/22 16:56*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1
Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-49.5	U	158	158	500	282	pCi/L	01/11/22 12:29	01/17/22 16:02	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall002_20220105_Comp
Date Collected: 01/05/22 09:00
Date Received: 01/05/22 18:25

Lab Sample ID: 570-80746-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	**0.239**		0.131	0.132	1.00	0.107	pCi/L	01/11/22 11:42	01/16/22 16:25	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*99.3*		*30 - 110*	*01/11/22 11:42*	*01/16/22 16:25*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
570-80746-1	Outfall002_20220105_Comp	97.7
LCS 160-545836/1-A	Lab Control Sample	91.4
LCSD 160-545836/2-A	Lab Control Sample Dup	95.2
MB 160-545836/24-A	Method Blank	103

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80746-1	Outfall002_20220105_Comp	97.7	86.0
LCS 160-545838/1-A	Lab Control Sample	91.4	83.4
LCSD 160-545838/2-A	Lab Control Sample Dup	95.2	84.5
MB 160-545838/24-A	Method Blank	103	90.1

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Sr	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80746-1	Outfall002_20220105_Comp	86.8	90.5
LCS 160-545840/1-A	Lab Control Sample	85.2	85.2
LCSD 160-545840/2-A	Lab Control Sample Dup	81.5	90.8
MB 160-545840/12-A	Method Blank	87.7	87.5

Tracer/Carrier Legend

Sr = Sr Carrier
Y = Y Carrier

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		U-232
Lab Sample ID	Client Sample ID	(30-110)
570-80746-1	Outfall002_20220105_Comp	99.3
570-80749-R-1-E DU	Duplicate	90.5
LCS 160-545831/2-A	Lab Control Sample	91.9
MB 160-545831/1-A	Method Blank	83.7

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-547126/1-A
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 547126

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.04269	U	0.612	0.612	3.00	1.19	pCi/L	01/19/22 09:35	01/21/22 13:53	1
Gross Beta	0.5433	U	0.532	0.535	4.00	0.861	pCi/L	01/19/22 09:35	01/21/22 13:53	1

Lab Sample ID: LCS 160-547126/2-A
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	52.84		7.62	3.00	2.09	pCi/L	104	75 - 125

Lab Sample ID: LCSB 160-547126/3-A
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.6	74.43		7.97	4.00	1.06	pCi/L	98	75 - 125

Lab Sample ID: 570-80548-R-1-S MS
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	1.07	U	50.6	33.21		6.09	3.00	3.28	pCi/L	64	60 - 140

Lab Sample ID: 570-80548-R-1-T MSBT
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	2.34		75.6	76.60		8.22	4.00	1.01	pCi/L	98	60 - 140

Lab Sample ID: 570-80548-R-1-U DU
Matrix: Water
Analysis Batch: 547960

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	1.07	U	1.137	U	1.53	3.00	2.53	pCi/L	0.02	1
Gross Beta	2.34		2.080		0.584	4.00	0.728	pCi/L	0.21	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-546005/1-A
Matrix: Water
Analysis Batch: 547972

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 546005

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-4.333	U	11.2	11.2	20.0	13.2	pCi/L	01/12/22 09:57	01/25/22 16:40	1
Potassium-40	54.77	U	93.6	93.8		98.4	pCi/L	01/12/22 09:57	01/25/22 16:40	1

Lab Sample ID: LCS 160-546005/2-A
Matrix: Water
Analysis Batch: 547972

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 546005

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium-241	135000	138500		16500		435	pCi/L	102	75 - 125
Cesium-137	42000	42890		5110	20.0	101	pCi/L	102	75 - 125
Cobalt-60	20800	21330		2540		49.6	pCi/L	103	75 - 125

Lab Sample ID: 570-80749-R-1-G DU
Matrix: Water
Analysis Batch: 547984

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 546005

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Cesium-137	3.59	U	-6.217	U	13.5	20.0	16.5	pCi/L	0.48	1
Potassium-40	88.6		-65.58	U	121		186	pCi/L	0.90	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-545836/24-A
Matrix: Water
Analysis Batch: 549570

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545836

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.03016	U	0.101	0.101	1.00	0.228	pCi/L	01/11/22 12:38	02/07/22 12:17	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*01/11/22 12:38*	*02/07/22 12:17*	*1*

Lab Sample ID: LCS 160-545836/1-A
Matrix: Water
Analysis Batch: 549569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545836

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.1	13.84		1.60	1.00	0.255	pCi/L	92	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.4*		*40 - 110*

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-545836/2-A
Matrix: Water
Analysis Batch: 549569

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 545836

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	13.98		1.60	1.00	0.279	pCi/L	92	75 - 125	0.04	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*95.2*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-545838/24-A
Matrix: Water
Analysis Batch: 549231

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545838

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.6159		0.326	0.331	1.00	0.487	pCi/L	01/11/22 13:24	02/05/22 12:35	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:35*	*1*
Y Carrier	*90.1*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:35*	*1*

Lab Sample ID: LCS 160-545838/1-A
Matrix: Water
Analysis Batch: 549232

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545838

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			11.9	13.74		1.58	1.00	0.462	pCi/L	116	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.4*		*40 - 110*
Y Carrier	*83.4*		*40 - 110*

Lab Sample ID: LCSD 160-545838/2-A
Matrix: Water
Analysis Batch: 549232

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 545838

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			11.9	14.06		1.60	1.00	0.452	pCi/L	119	75 - 125	0.10	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*95.2*		*40 - 110*
Y Carrier	*84.5*		*40 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-545840/12-A
Matrix: Water
Analysis Batch: 547961

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545840

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.05652	U	0.219	0.219	3.00	0.380	pCi/L	01/11/22 13:52	01/24/22 17:00	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*87.7*		*40 - 110*	*01/11/22 13:52*	*01/24/22 17:00*	*1*
Y Carrier	*87.5*		*40 - 110*	*01/11/22 13:52*	*01/24/22 17:00*	*1*

Lab Sample ID: LCS 160-545840/1-A
Matrix: Water
Analysis Batch: 547796

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545840

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Strontium-90			7.56	7.927		0.876	3.00	0.353	pCi/L	105	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*85.2*		*40 - 110*
Y Carrier	*85.2*		*40 - 110*

Lab Sample ID: LCSD 160-545840/2-A
Matrix: Water
Analysis Batch: 547796

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 545840

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Strontium-90			7.56	7.865		0.875	3.00	0.407	pCi/L	104	75 - 125	0.04	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*81.5*		*40 - 110*
Y Carrier	*90.8*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-545833/1-A
Matrix: Water
Analysis Batch: 546736

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545833

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-85.59	U	210	210	500	394	pCi/L	01/11/22 12:29	01/14/22 14:05	1

Lab Sample ID: LCS 160-545833/2-A
Matrix: Water
Analysis Batch: 546736

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545833

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			2240	1986		398	500	399	pCi/L	89	75 - 125		

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 570-80746-1 MS
Matrix: Water
Analysis Batch: 546915

Client Sample ID: Outfall002_20220105_Comp
Prep Type: Total/NA
Prep Batch: 545833

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium	-49.5	U	2230	2171		350	500	292	pCi/L	97	60 - 140		

Lab Sample ID: 570-80749-Q-1-B DU
Matrix: Water
Analysis Batch: 546915

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 545833

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	-90.1	U		-132.9	U	155	500	290	pCi/L			0.12	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-545831/1-A
Matrix: Water
Analysis Batch: 546580

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545831

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.1253	U	0.1306	0.1308	1.00	0.154	pCi/L	01/11/22 11:42	01/16/22 16:25	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*83.7*		*30 - 110*	*01/11/22 11:42*	*01/16/22 16:25*	*1*

Lab Sample ID: LCS 160-545831/2-A
Matrix: Water
Analysis Batch: 546581

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545831

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Uranium-234			18.2	18.21		1.99	1.00	0.148	pCi/L	100	75 - 125		
Uranium-238			18.6	18.24		1.99	1.00	0.107	pCi/L	98	75 - 125		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*91.9*		*30 - 110*

Lab Sample ID: 570-80749-R-1-E DU
Matrix: Water
Analysis Batch: 546589

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 545831

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Total Uranium	0.0721	U		0.09260	U	0.09449	1.00	0.113	pCi/L			0.12	1

Tracer	*DU %Yield*	*DU Qualifier*	*Limits*
Uranium-232	*90.5*		*30 - 110*

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Prep Batch: 545831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	ExtChrom	
MB 160-545831/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-545831/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
570-80749-R-1-E DU	Duplicate	Total/NA	Water	ExtChrom	

Prep Batch: 545833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-545833/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-545833/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
570-80746-1 MS	Outfall002_20220105_Comp	Total/NA	Water	LSC_Dist_Susp	
570-80749-Q-1-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 545836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	PrecSep-21	
MB 160-545836/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-545836/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-545836/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 545838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	PrecSep_0	
MB 160-545838/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-545838/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-545838/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 545840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	PrecSep-7	
MB 160-545840/12-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-545840/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-545840/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Prep Batch: 546005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-546005/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-546005/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-80749-R-1-G DU	Duplicate	Total/NA	Water	Fill_Geo-0	

Prep Batch: 547126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	Evaporation	
MB 160-547126/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-547126/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-547126/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-80548-R-1-S MS	Matrix Spike	Total/NA	Water	Evaporation	
570-80548-R-1-T MSBT	Matrix Spike	Total/NA	Water	Evaporation	
570-80548-R-1-U DU	Duplicate	Total/NA	Water	Evaporation	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1
Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			150.02 mL	1.0 g	547126	01/19/22 09:35	KG	TAL SL
Total/NA	Analysis	900.0		1	1.0 mL	1.0 mL	547481	01/21/22 13:53	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	546005	01/12/22 09:57	SRE	TAL SL
Total/NA	Analysis	901.1		1			547972	01/25/22 13:52	JCB	TAL SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			750.78 mL	1.0 g	545836	01/11/22 12:38	LPS	TAL SL
Total/NA	Analysis	903.0		1			549569	02/07/22 11:43	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			750.78 mL	1.0 g	545838	01/11/22 13:24	LPS	TAL SL
Total/NA	Analysis	904.0		1			549231	02/05/22 12:34	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-7			500.47 mL	1.0 g	545840	01/11/22 13:52	LPS	TAL SL
Total/NA	Analysis	905		1			547796	01/24/22 16:56	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	LSC_Dist_Susp			100.18 mL	1.0 g	545833	01/11/22 12:29	BAL	TAL SL
Total/NA	Analysis	906.0		1			546915	01/17/22 16:02	JLP	TAL SL
	Instrument ID: LSCTEAL									
Total/NA	Prep	ExtChrom			500.11 mL	1.0 mL	545831	01/11/22 11:42	MLO	TAL SL
Total/NA	Analysis	A-01-R		1			546586	01/16/22 16:25	CLP	TAL SL
	Instrument ID: ALPHAVISION									

Laboratory References:
TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80746-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	TAL SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	TAL SL

Protocol References:

DOE = U.S. Department of Energy
EPA = US Environmental Protection Agency
None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80746-1	Outfall002_20220105_Comp	Water	01/05/22 09:00	01/05/22 18:25

80746

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80746 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2022 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: michelle dallalah	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	ANALYSIS REQUIRED R: Total Recoverable Metals. (E200.7) Zn (E200.8). Cu, Pb, Cd, Se	R: TCDD (and all congeners) (E1613B)	R: BOD5 (20 degrees C) (E405.1(SM5210B_BODCalc))	R: Surfactants (MBAS) (SM5540C/E425.1)	R: Cl- SO4, Nitrate-N Nitrite-N NO3+NO2-N Perchlorate (E300)	R: Turbidity TDS (SM2540C/E180.1)	R: TSS (160.2 (SM2540D))	R: Ammonia-N (350.2)	R: alpha-BHC (E608)	R: 2,4,6 TCP 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	R: Total Recoverable Metals Mercury (E245.1)	C: Total Recoverable Metals (E200.7) As, Mn Fe		Comments
Outfall 002	Outfall002_20220105_Comp	1/5/2022 0900	WM	500 mL Poly	1	HNO_3	90	No	X										X	X		~~Outfall 002 analyze for Fe~~ MD Outfall 002 analyze for Fe ~~Outfall 011 analyze for Fe, Mn and Fe~~ MD
			WM	1 L Glass Amber	2	None	110	No		X												
			WM	1L Poly	1	None	115	No			X											
			WM	500 mL Poly	2	None	120	No				X										
			WM	500 mL Poly	2	None	130	No					X									48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X								48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X						
			WM	1 L Glass Amber	2	None	170	No									X					
			WM	1 L Glass Amber	2	None	180	No										X				
			WM	1L Poly	1	None	185	No							X							
	Outfall002_20220105_Comp_Extra	1/5/2022 0900	WM	1 L Glass Amber	2	None	110	No		H												Hold
			WM	500 mL Poly	2	None	120	No				H										Hold
			WM	500 mL Poly	2	None	130	No					H									Hold
			WM	1 L Glass Amber	2	None	170	No									H					Hold
			WM	1 L Glass Amber	2	None	180	No										H				Hold

Legend: C=Conditional, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Michelle Dallalah	1/5/2022 1300	Haley & Aldrich		ECI 01/05/22 1300
	01/05/22	ECI 18:25		1/5/22 1825

Turn-around time (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements (Check)
No Level IV: _____ All Level IV: __X__

2 2|3 7, 1·8|3 3, 2·2|3.7 SCG

2/7/2022

2019-2020 Rainy Season
Version 4

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address.	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108	Boeing-SSFL NPDES Permit 2022 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: michelle dallalah	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	ANALYSIS REQUIRED: Total Dissolved Metals. (E200.7): Zn (E200.8): Cu, Pb, Cd, Se	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Total Dissolved Metals. Mercury (E245.1)	Total Dissolved Metals (E200.7) As, Mn, Fe	Comments
					R	R	R	R	C					
Outfall 002	Outfall002_20220105_Comp_F	1/5/2022 0900	WM	1L Poly	1	None	200	No	X				X	Filter and preserve w/in 24hrs of receipt at lab Outfall 002 analyze ~~or Fe~~ MD ~~Outfall 011 analyze for As, Mn~~ MD
			WM	borosilicate vials	1	None	320	No				X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall002_20220105_Comp	1/5/2022 0900	WM	500 mL Poly	1	NaOH	220	No		X				
			WM	2.5 Gal Cube	1	None	225	No			X			Unfiltered and unpreserved analysis. Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
				1 L Glass Amber	1	None	230	No						Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA. MD

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Michelle Dallalah	1/5/2022 1300	Haley & Aldrich		EA 01105/22 1300
	01105/22	EA 18:25		1/5/22 1525

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements. (Check)
No Level IV: _____ All Level IV: __X__

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149367 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80746-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/2/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	SSOW#:			
Site:				

Analysis Requested

Preservation Codes

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
				Preservation Code:											
Outfall002_20220105_Comp (570-80746-1)	1/5/22	09:00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 1/6/22 1540	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/7/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149377 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80746-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/21/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20220105_Comp (570-80746-1)	1/5/22	09:00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L, Use Boeing glassware
Outfall002_20220105_Extra (570-80746-2)	1/5/22	09:00 Pacific		Water				X	2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware.

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
1		1/6/22 1636				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149367.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80746-3
Address: 13715 Rider Trail North,	Due Date Requested: 2/2/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium							Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall002_20220105_Comp (570-80746-1)	1/5/22	09:00 Pacific		Water			X	X	X	X	X	X	X							2	Boeing SSFL; DO NOT FILTER; use prep date from preservation

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: [signature]	Date/Time: 1/6/22 1540	Company	Received by: FED EX	Date/Time:	Company
Relinquished by: FED EX	Date/Time:	Company	Received by: Sara Worthington	Date/Time: 1/10/22 0910	Company ESAST
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80746-3

Login Number: 80746
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80746-3

Login Number: 80746
List Number: 4
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 01/10/22 10:10 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-80746-4
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp
Revision: 1

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/24/2022 9:26:15 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@et.eurofinsus.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80746-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Qualifiers

Metals

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-80746-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Job ID: 570-80746-4

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80746-4

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 4/19/2022. The report (revision 1) is being revised due to: Due to a laboratory error, the analyte list has been revised to only include confirmation analytes requested on April 6, 2022..

Receipt
The samples were received on 1/5/2022 6:25 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.3º C, 3.7º C and 3.7º C.

Revision: Due to a laboratory error, the analyte list has been revised to only include confirmation analytes requested on April 6, 2022

RAD
Method 901.1: Gamma 160-558303

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall002_20220105_Comp (570-80746-1), (MB 160-558303/1-A), (570-80241-R-1-K) and (570-80241-R-1-L DU)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Potassium	2.8		0.10	0.017	mg/L	1		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1
Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	2.8		0.10	0.017	mg/L		04/07/22 14:09	04/07/22 17:29	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1
Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Potassium-40	143		106	107		101	pCi/L	04/01/22 18:20	04/01/22 21:46	1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 570-225082/1-A
Matrix: Water
Analysis Batch: 225142

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 225082

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.10	0.017	mg/L		04/07/22 14:09	04/07/22 17:10	1

Lab Sample ID: LCS 570-225082/2-A
Matrix: Water
Analysis Batch: 225142

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 225082

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Potassium	1.00	1.12		mg/L		112	80 - 120

Lab Sample ID: LCSD 570-225082/3-A
Matrix: Water
Analysis Batch: 225142

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 225082

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Potassium	1.00	1.09		mg/L		109	80 - 120	3	20

Lab Sample ID: 570-80241-C-1-M MS
Matrix: Water
Analysis Batch: 225142

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 225082

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Potassium	4.1		1.00	4.90	BB	mg/L		84	80 - 120

Lab Sample ID: 570-80241-C-1-N MSD
Matrix: Water
Analysis Batch: 225142

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 225082

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Potassium	4.1		1.00	5.05	BB	mg/L		99	80 - 120	3	20

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-558303/1-A
Matrix: Water
Analysis Batch: 558240

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 558303

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Potassium-40	-73.00	U	131	131		212	pCi/L	04/01/22 18:20	04/01/22 21:45	1

Lab Sample ID: LCS 160-558303/2-A
Matrix: Water
Analysis Batch: 558248

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 558303

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Americium-241	135000	139600		16600		455	pCi/L	103	75 - 125
Cesium-137	41800	43090		5140	20.0	107	pCi/L	103	75 - 125
Cobalt-60	20300	21110		2520		51.1	pCi/L	104	75 - 125

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS) (Continued)

Lab Sample ID: 570-80241-R-1-L DU
Matrix: Water
Analysis Batch: 558249

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 558303

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Potassium-40	-31.4	U		-47.92	U	109		166	pCi/L			0.07	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Metals

Prep Batch: 225082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total Recoverable	Water	3005A	
MB 570-225082/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 570-225082/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 570-225082/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
570-80241-C-1-M MS	Matrix Spike	Total Recoverable	Water	3005A	
570-80241-C-1-N MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 225142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total Recoverable	Water	6020	225082
MB 570-225082/1-A	Method Blank	Total Recoverable	Water	6020	225082
LCS 570-225082/2-A	Lab Control Sample	Total Recoverable	Water	6020	225082
LCSD 570-225082/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020	225082
570-80241-C-1-M MS	Matrix Spike	Total Recoverable	Water	6020	225082
570-80241-C-1-N MSD	Matrix Spike Duplicate	Total Recoverable	Water	6020	225082

Rad

Prep Batch: 558303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80746-1	Outfall002_20220105_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-558303/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-558303/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-80241-R-1-L DU	Duplicate	Total/NA	Water	Fill_Geo-0	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220105_Comp
Lab Sample ID: 570-80746-1

Date Collected: 01/05/22 09:00
Matrix: Water
Date Received: 01/05/22 18:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	225082	04/07/22 14:09	WL8G	ECL 4
Total Recoverable	Analysis	6020		1			225142	04/07/22 17:29	UFLE	ECL 4
	Instrument ID: ICPMS05									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	558303	04/01/22 18:20	ZTH	TAL SL
Total/NA	Analysis	901.1		1			558243	04/01/22 21:46	CAH	TAL SL
	Instrument ID: GAMMAVISION									

Laboratory References:

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-31-23
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	04-17-22
ANAB	Dept. of Defense ELAP	L2305	04-05-22
ANAB	Dept. of Energy	L2305.01	04-05-22
ANAB	ISO/IEC 17025	L2305	04-05-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	07-01-22
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-23
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	NELAP	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80746-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
West Virginia DEP	State	381	10-31-22

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80746-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	ECL 4
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	ECL 4
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Job ID: 570-80746-4

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80746-1	Outfall002_20220105_Comp	Water	01/05/22 09:00	01/05/22 18:25

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80746-4

Login Number: 80746
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80746-4

Login Number: 80746
List Number: 4
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 01/10/22 10:10 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-81133-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002
Revision: 1

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/28/2022 5:40:42 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-81133-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-81133-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-81133-1

Comments
No additional comments.

Receipt
The sample was received on 1/10/2022 1:50 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method 9223- Colilert 18 - E. Coli - level 4 required: This method was subcontracted to Enthalpy Analytical - Barkley. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-81133-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

Client Sample ID: Outfall002_20220110_Grab
Lab Sample ID: 570-81133-1

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-81133-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

Method	Method Description	Protocol	Laboratory
Subcontract	9223- Colilert 18 - E. Coli - level 4 required	None	Enthalpy

Protocol References:

None = None

Laboratory References:

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

Job ID: 570-81133-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-81133-1	Outfall002_20220110_Grab	Water	01/10/22 08:25	01/10/22 13:50

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 456591
Report Level: IV
Report Date: 01/28/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDES SSFL Outfall - Outfall 002, #570-81133

Authorized for release by:

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	Lab Job #: Project No: Location: Date Received:	456591 BOEING NPDES SSFL Boeing NPDES SSFL Outfall - Outfall 002, #570-81133 01/10/22

Sample ID	Lab ID	Collected	Matrix
OUTFALL002_20220110_GRAB (570-81133-1)	456591-001	01/10/22 08:25	Water

ENTHALPY ANALYTICAL

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience, Inc. 7440 Lincoln Way Garden Grove, CA 92841-1427 Virendra Patel	Lab Job Number:	456591
	Project No:	BOEING NPDES SSFL
	Location:	Boeing NPDES SSFL Outfall - Outfall 002, #570-81133
	Date Received:	01/10/22

This data package contains sample and QC results for one water sample, requested for the above referenced project on 01/10/22. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

456591

Chain of Custody Record

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Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-150079.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-81133-1
Address: 931 W. Barkley Ave, ,	Due Date Requested:			Preservation Codes:
City: Orange	TAT Requested (days): 10 days Standard TAT			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify) Other:
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002	Project #: 570-81133			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (9223- Colilert 18 - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
OF002 (570-81133-1)	1/10/22	08:25 Pacific		Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		01/10/22 1752	EC1		1/10/22 1752	EA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Calscience

Project: _____

Date Received: 1/10/22

Sampler's Name Present: ☑ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2)

Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 0.1 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 1.3 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓		
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	✓		
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?	✓		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✓
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 1/10/22

Enthalpy Analytical, a subsidiary of Montrose Environmental Group ,Inc.
931 W. Barkley Ave, Orange, CA 92868 • T: (714) 771-6900 • F: (714) 538-1209
www.enthalpy.com/socal

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

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eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-150079.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-81133-1
Address: 931 W. Barkley Ave, ,	Due Date Requested:			
City: Orange	TAT Requested (days): 10 days Standard TAT			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002	Project #: 570-81133			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (9223- Colilert 18 - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
OF002 (570-81133-1)	1/10/22	08:25 Pacific		Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

Outfall002_20220110_Grab - Virendra (ECI) 01/28/22

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 456591 **Project#:** BOEING NPDES SSFL

Client: Eurofins Calscience Tustin **Location:** Boeing NPDES SSFL Outfall - Outfal...

Field ID: OUTFALL002_20220110_GRAB (570-81133-1) **Batch#:** 281527 **Analyzed:** 01/11/22 13:45

Lab ID: 456591-001 **Sampled:** 01/10/22 08:25 **Prep:**

Matrix: Water **Received:** 01/10/22 **Analysis:** SM 9223Bb

DilN Fac: 1.000 **Prepared:** 01/10/22 18:06 **Analyst:** SZL

Analyte	Result	RL	Units	Qual
Coliform, E. Coli	**100**	1.0	MPN/100ml	H

Legend

H: Holding time was exceeded

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: [initials] Prep Date/Time: 1/10/22 1806 QC Batch ID: 281527 Batch Page 1 of 1

Read Analyst: SL Read Date/Time 1/11/22 1345

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: HT510 Pipette Lot #: A103931 & A103909

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 1/4/22 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: A Incubator In, Temp/Time: 34.7 1823 Incubator Out, Temp/Time: 34.7 1345

Fecal Coliform: Water Bath ID: N/A Water Bath In, Temp/Time: N/A Water Bath Out, Temp/Time: N/A

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN (SL 1/12/22)	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
Eurofins Calscience		456591-001	1x	49	48	>2419.6	>2400	41	10	104.3	100					EC-01
↓		-001	10x	49	22	387.3	~~3800~~ 3900	12	1	14.6	150					-01
		-001	100x	19	2	25.9	2600	0	0	<1	<100					-01
		456590-001	1x	49	46	1986.3	2000	1	0	1.0	1.0	SL 1/12/22				ECL-01
		-001	10x	45	5	116.2	1200	0	0	<1	<10					-01
		-001	100x	11	1	13.4	1300	0	0	<1	<100					-01

SL 1/12/22

Quality Control	Culture ID		TC Large Wells	TC Small Wells	MPN Table Value	Final Result, MPN	E. coli Large Wells	E. coli Small Wells	MPN Table Value	Final Result, MPN					
Positive +/+ (E. Coli)	1/9/22		49	48	>2419.6	>2400	49	48	>2419.6	>2400					
Positive +/- (K. Pneumonia)	↓		~~48~~ 49	48	>2419.6	>2400	0	0	<1	<1					
Negative -/- (P. Aeruginosa)	↓		0	0	<1	<1	0	0	<1	<1					

Data Entered By: SL 1/12/22 Data Reviewed By: SL 1/11/22

Page 17 of 19

1/28/2022

10 of 10

81133

Test America Version 7/19/2010 CHAIN OF CUSTODY FORM

Client Name/Address:
Haley & Aldrich, Inc.
5333 Mission Center Road, Suite 300
San Diego, CA 92108

Project:
Boeing-SSFL NPDES
Outfall 002

Sampler: ~~Neal Smith~~ MARK DOMINICK

Eurofins Contact. Virendra Patel
17461 Derian Ave Suite #100
Irvine CA 92614
Tel 949-260-3269
ECI #44024446

Project Manager: Katherine Miller
Phone Number:
(520) 289-8606, (520) 904-6944 (cell)
Field Manager: Mark Dominick
(978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I D	Sampling Date/Time	Preservative	Bottle #	E coli (SM9221)								Comments
OF002	W	125mL Sterile Poly	3	OF002_20220110	1/10/2022/0825	$Na_2S_2O_3$	10	X								Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Relinquished By Date/Time
1-10-2022/1350

Relinquished By Date/Time:
ECI 01/10/22 1350

Relinquished By Date/Time:
01/10/22 1845 Rcvd - EC 01/10/22 1845

Turn around Time (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal ___X___

Sample Integrity (check)
Intact _____ On Ice _____

Data Requirements: (check)
No Level IV ____ All Level IV ____
NPDES Level IV ____

570-81133 Chain of Custody

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-81133-1

Login Number: 81133
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-81516-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/25/2022 9:36:52 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-81516-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-81516-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

Job ID: 570-81516-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-81516-1

Comments
No additional comments.

Receipt
The sample was received on 1/13/2022 6:20 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method 9223- Colilert 18 - E. Coli - level 4 required: This method was subcontracted to Enthalpy Analytical - Barkley. The subcontract laboratory certification is different from that of the facility issuing the final report.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-81516-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

Method	Method Description	Protocol	Laboratory
Subcontract	9223- Colilert 18 - E. Coli - level 4 required	None	Enthalpy

Protocol References:

None = None

Laboratory References:

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-81516-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-81516-1	Outfall002_20220113_Grab	Water	01/13/22 08:00	01/13/22 18:20

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 456805
Report Level: IV
Report Date: 01/25/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDES SSFL Outfall - Outfall 002 - #570-81516

Authorized for release by:

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	Lab Job #: Project No: Location: Date Received:	456805 BOEING NPDES SSFL Boeing NPDES SSFL Outfall - Outfall 002 - #570-81516 01/13/22

Sample ID	Lab ID	Collected	Matrix
OUTFALL002_20220113_GRAB (570-81516-1)	456805-001	01/13/22 08:00	Water

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Virendra Patel	Lab Job Number:	456805
	Project No:	BOEING NPDES SSFL
	Location:	Boeing NPDES SSFL Outfall - Outfall 002 - #570-81516
	Date Received:	01/13/22

This data package contains sample and QC results for one water sample, requested for the above referenced project on 01/13/22. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

456805

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-150799.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-81516-1
Address: 931 W. Barkley Ave,	Due Date Requested: 1/26/2022			
City: Orange	TAT Requested (days): Standard TAT			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002	Project #: 570-81516			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - Di Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (9223- Colilert 18 - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall002_20220113_Grab (570-81516-1)	1/13/22	08:00 Pacific		Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		01/13/22 1732	EA		1/13/22 1732	EA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1-1 | 2-3

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Eurofins Calscience

Project: Boeing NPDES SSFL Outfall - Outfall 002

Date Received: 1/13/22

Sampler's Name Present: ☐ Yes ☑ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2)

Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 2.3 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 1.1 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓		
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	✓		
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?	✓		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✓
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 1/13/22

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 456805		**Project#:** BOEING NPDES SSFL	
Client: Eurofins Calscience Tustin		**Location:** Boeing NPDES SSFL Outfall - Outfa...	
Field ID: OUTFALL002_20220113_GRAB (570-81516-1)	**Batch#:** 281773	**Analyzed:** 01/14/22 12:00	
Lab ID: 456805-001	**Sampled:** 01/13/22 08:00	**Prep:**	
Matrix: Water	**Received:** 01/13/22	**Analysis:** SM 9223Bb	
DilN Fac: 1.000	**Prepared:** 01/13/22 17:45	**Analyst:** SMT	

Analyte	Result	RL	Units	Qual
Coliform, E. Coli	**12**	1.0	MPN/100ml	H

Legend

H: Holding time was exceeded

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: SL Prep Date/Time: 1/13/22 745 QC Batch ID: 281773 Batch Page 1 of 1

Read Analyst: ST Read Date/Time 01/14/22 1200

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: HT510 Pipette Lot #: A103097 & A103665

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 1/4/22 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: D Incubator In, Temp/Time: 35.0 1754 Incubator Out, Temp/Time: 34.5 1200

Fecal Coliform: Water Bath ID: N/A Water Bath In, Temp/Time: N/A Water Bath Out, Temp/Time: N/A

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
ECL		456805-001	1X	49	48	>2419.6	>2400	10	1	12.1	12.0					
			10X	49	17	290.9	~~2909~~ 2900	1	0	1	10					
			100X	12	4	18.1	~~1810~~ 1800	0	0	<1	<100					
Quality Control	Culture ID															
Positive +/+ (E. Coli)	1/9/22			49	48	>2419.6	>2400	49	48	>2419.6	>2400					
Positive +/- (K. Pneumonia)	1			49	48	>2419.6	>2400	0	0	<1	<1					
Negative -/- (P. Aeruginosa)				0	0	<1.0	<1	0	0	<1	<1					

1/17/22

Data Entered By: 1/17/22 Data Reviewed By:

Test America Version 7/19/2010

CHAIN OF CUSTODY FORM

Client Name/Address: Haley & Aldrich, Inc. 5333 Mission Center Road, Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Outfall 002 Adrian Mobeka
Eurofins Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3269 **ECI #44024446**	Project Manager: Katherine Miller Phone Number: (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	E. coli (SM9221)	Comments
OF002	W	125mL Sterile Poly	3	Outfall002_20220113_Grab	1/13/2022/0800	$Na_2S_2O_3$	10	X	Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Revised COC received from Michelle Dallalah (H&A) on 01/13/2022 at 11:31am.
- Virendra (ECI)

Relinquished By Date/Time:

Relinquished By Date/Time:

Relinquished By Date/Time:

Turn around Time: (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal ___X___

Sample Integrity: (check)
Intact _____ On Ice: _____

Data Requirements: (check)
No Level IV ____ All Level IV ____

NPDES Level IV ____

Test America Version 7/19/2010

CHAIN OF CUSTODY FORM

Client Name/Address	Project:
Haley & Aldrich, Inc. 5333 Mission Center Road, Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Outfall 002 Adrian Mobeka
Eurofins Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3269 **ECI #44024446**	Project Manager: Katherine Miller Phone Number: (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	E coli (SM9221)									Comments
OF002	W	125mL Sterile Poly	3	OF002_20220113	1/13/2022/0800	$Na_2S_2O_3$	10	X									Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Relinquished By Date/Time

1-13-2022 / 15:33

Relinquished By Date/Time:

01/13/22 15:33

Relinquished By Date/Time.

01/13/22 18:20

ECI 1-13-2022 18.20

Turn around Time (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal ___X___

Sample Integrity (check)
Intact _____ On Ice _____

Data Requirements: (check)
No Level IV ____ All Level IV ____

NPDES Level IV ____

570-81516 Chain of Custody

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-81928-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/30/2022 9:37:16 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-81928-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc.
Job ID: 570-81928-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Job ID: 570-81928-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-81928-1

Comments
No additional comments.

Receipt
The samples were received on 1/18/2022 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.3º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 2540F: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with analytical batch 570-208961.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method 9223- Colilert 18 - E. Coli - level 4 required: This method was subcontracted to Enthalpy Analytical - Barkley. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-81928-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Client Sample ID: Outfall002_20220118_Grab
Lab Sample ID: 570-81928-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C13-C28	0.038	J,DX	0.050	0.036	mg/L	1		8015B	Total/NA
Specific Conductance	840		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: TB-20220118
Lab Sample ID: 570-81928-3

No Detections.

This Detection Summary does not include radiochemical test results.

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall002_20220118_Grab
Lab Sample ID: 570-81928-1
Date Collected: 01/18/22 08:00
Matrix: Water
Date Received: 01/18/22 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/20/22 18:06	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/20/22 18:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			01/20/22 18:06	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/20/22 18:06	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/20/22 18:06	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/20/22 18:06	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	0.58	ug/L			01/20/22 18:06	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/20/22 18:06	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/20/22 18:06	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/20/22 18:06	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/20/22 18:06	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/20/22 18:06	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/20/22 18:06	1
Acrolein	ND		5.0	4.6	ug/L			01/20/22 18:06	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/20/22 18:06	1
Benzene	ND		0.50	0.28	ug/L			01/20/22 18:06	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/20/22 18:06	1
Bromoform	ND		1.0	0.25	ug/L			01/20/22 18:06	1
Bromomethane	ND		0.50	0.22	ug/L			01/20/22 18:06	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/20/22 18:06	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/20/22 18:06	1
Chloroethane	ND		1.0	0.29	ug/L			01/20/22 18:06	1
Chloroform	ND		0.50	0.19	ug/L			01/20/22 18:06	1
Chloromethane	ND		0.50	0.30	ug/L			01/20/22 18:06	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/20/22 18:06	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/20/22 18:06	1
Cyclohexane	ND		2.0	0.79	ug/L			01/20/22 18:06	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/20/22 18:06	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/20/22 18:06	1
m,p-Xylene	ND		1.0	0.17	ug/L			01/20/22 18:06	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/20/22 18:06	1
Naphthalene	ND		1.0	0.33	ug/L			01/20/22 18:06	1
o-Xylene	ND		0.50	0.15	ug/L			01/20/22 18:06	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/20/22 18:06	1
Toluene	ND		0.50	0.23	ug/L			01/20/22 18:06	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/20/22 18:06	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/20/22 18:06	1
Trichloroethene	ND		0.50	0.17	ug/L			01/20/22 18:06	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			01/20/22 18:06	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/20/22 18:06	1
Xylenes, Total	ND		1.0	0.17	ug/L			01/20/22 18:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*60 - 140*		*01/20/22 18:06*	*1*
Dibromofluoromethane (Surr)	*99*		*60 - 140*		*01/20/22 18:06*	*1*
Toluene-d8 (Surr)	*98*		*60 - 140*		*01/20/22 18:06*	*1*

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: TB-20220118
Date Collected: 01/18/22 08:00
Date Received: 01/18/22 18:00

Lab Sample ID: 570-81928-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/20/22 18:35	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/20/22 18:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			01/20/22 18:35	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/20/22 18:35	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/20/22 18:35	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/20/22 18:35	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	0.58	ug/L			01/20/22 18:35	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/20/22 18:35	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/20/22 18:35	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/20/22 18:35	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/20/22 18:35	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/20/22 18:35	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/20/22 18:35	1
Acrolein	ND		5.0	4.6	ug/L			01/20/22 18:35	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/20/22 18:35	1
Benzene	ND		0.50	0.28	ug/L			01/20/22 18:35	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/20/22 18:35	1
Bromoform	ND		1.0	0.25	ug/L			01/20/22 18:35	1
Bromomethane	ND		0.50	0.22	ug/L			01/20/22 18:35	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/20/22 18:35	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/20/22 18:35	1
Chloroethane	ND		1.0	0.29	ug/L			01/20/22 18:35	1
Chloroform	ND		0.50	0.19	ug/L			01/20/22 18:35	1
Chloromethane	ND		0.50	0.30	ug/L			01/20/22 18:35	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/20/22 18:35	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/20/22 18:35	1
Cyclohexane	ND		2.0	0.79	ug/L			01/20/22 18:35	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/20/22 18:35	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/20/22 18:35	1
m,p-Xylene	ND		1.0	0.17	ug/L			01/20/22 18:35	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/20/22 18:35	1
Naphthalene	ND		1.0	0.33	ug/L			01/20/22 18:35	1
o-Xylene	ND		0.50	0.15	ug/L			01/20/22 18:35	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/20/22 18:35	1
Toluene	ND		0.50	0.23	ug/L			01/20/22 18:35	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/20/22 18:35	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/20/22 18:35	1
Trichloroethene	ND		0.50	0.17	ug/L			01/20/22 18:35	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			01/20/22 18:35	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/20/22 18:35	1
Xylenes, Total	ND		1.0	0.17	ug/L			01/20/22 18:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*60 - 140*		*01/20/22 18:35*	*1*
Dibromofluoromethane (Surr)	*94*		*60 - 140*		*01/20/22 18:35*	*1*
Toluene-d8 (Surr)	*97*		*60 - 140*		*01/20/22 18:35*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-81928-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Method: 8015B - Gasoline Range Organics - (GC)

Client Sample ID: Outfall002_20220118_Grab
Lab Sample ID: 570-81928-1
Date Collected: 01/18/22 08:00
Matrix: Water
Date Received: 01/18/22 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		50	30	ug/L			01/20/22 19:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*20 - 144*		*01/20/22 19:05*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-81928-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Method: 8015B - Diesel Range Organics (DRO) (GC)

Client Sample ID: Outfall002_20220118_Grab
Lab Sample ID: 570-81928-1
Date Collected: 01/18/22 08:00
Matrix: Water
Date Received: 01/18/22 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C28	0.038	J,DX	0.050	0.036	mg/L		01/20/22 16:53	01/27/22 18:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*120*		*53 - 151*	*01/20/22 16:53*	*01/27/22 18:31*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-81928-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

General Chemistry

Client Sample ID: Outfall002_20220118_Grab
Lab Sample ID: 570-81928-1
Date Collected: 01/18/22 08:00
Matrix: Water
Date Received: 01/18/22 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	ND		1.0	0.53	mg/L		01/20/22 09:08	01/20/22 09:08	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	**840**		1.0	1.0	umhos/cm			01/20/22 11:31	1
Settleable Solids	ND		0.10	0.10	mL/L			01/19/22 09:30	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-81928-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(60-140)	(60-140)	(60-140)
570-81928-1	Outfall002_20220118_Grab	100	99	98
570-81928-1 MS	Outfall002_20220118_Grab	102	99	101
570-81928-1 MSD	Outfall002_20220118_Grab	107	98	96
570-81928-3	TB-20220118	99	94	97
LCS 440-664976/1002	Lab Control Sample	103	101	95
LCS 440-664976/1003	Lab Control Sample	97	106	110
MB 440-664976/4	Method Blank	93	112	107

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8015B - Gasoline Range Organics - (GC)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
		BFB1
Lab Sample ID	Client Sample ID	(20-144)
570-81928-1	Outfall002_20220118_Grab	93
570-81959-D-1 MS	Matrix Spike	102
570-81959-D-1 MSD	Matrix Spike Duplicate	96
LCS 570-208491/3	Lab Control Sample	99
LCSD 570-208491/4	Lab Control Sample Dup	99
MB 570-208491/5	Method Blank	70

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: 8015B - Diesel Range Organics (DRO) (GC)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
		OTCSN1
Lab Sample ID	Client Sample ID	(53-151)
570-81928-1	Outfall002_20220118_Grab	120
LCS 570-208574/2-A	Lab Control Sample	118
LCSD 570-208574/3-A	Lab Control Sample Dup	126
MB 570-208574/1-A	Method Blank	119

Surrogate Legend

OTCSN = n-Octacosane (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-664976/4
Matrix: Water
Analysis Batch: 664976

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/20/22 16:10	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/20/22 16:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			01/20/22 16:10	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/20/22 16:10	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/20/22 16:10	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/20/22 16:10	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	0.58	ug/L			01/20/22 16:10	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/20/22 16:10	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/20/22 16:10	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/20/22 16:10	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/20/22 16:10	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/20/22 16:10	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/20/22 16:10	1
Acrolein	ND		5.0	4.6	ug/L			01/20/22 16:10	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/20/22 16:10	1
Benzene	ND		0.50	0.28	ug/L			01/20/22 16:10	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/20/22 16:10	1
Bromoform	ND		1.0	0.25	ug/L			01/20/22 16:10	1
Bromomethane	ND		0.50	0.22	ug/L			01/20/22 16:10	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/20/22 16:10	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/20/22 16:10	1
Chloroethane	ND		1.0	0.29	ug/L			01/20/22 16:10	1
Chloroform	ND		0.50	0.19	ug/L			01/20/22 16:10	1
Chloromethane	ND		0.50	0.30	ug/L			01/20/22 16:10	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/20/22 16:10	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/20/22 16:10	1
Cyclohexane	ND		2.0	0.79	ug/L			01/20/22 16:10	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/20/22 16:10	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/20/22 16:10	1
m,p-Xylene	ND		1.0	0.17	ug/L			01/20/22 16:10	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/20/22 16:10	1
Naphthalene	ND		1.0	0.33	ug/L			01/20/22 16:10	1
o-Xylene	ND		0.50	0.15	ug/L			01/20/22 16:10	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/20/22 16:10	1
Toluene	ND		0.50	0.23	ug/L			01/20/22 16:10	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/20/22 16:10	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/20/22 16:10	1
Trichloroethene	ND		0.50	0.17	ug/L			01/20/22 16:10	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			01/20/22 16:10	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/20/22 16:10	1
Xylenes, Total	ND		1.0	0.17	ug/L			01/20/22 16:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*60 - 140*		*01/20/22 16:10*	*1*
Dibromofluoromethane (Surr)	*112*		*60 - 140*		*01/20/22 16:10*	*1*
Toluene-d8 (Surr)	*107*		*60 - 140*		*01/20/22 16:10*	*1*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-664976/1002
Matrix: Water
Analysis Batch: 664976

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	25.3		ug/L		101	69 - 151
1,1,2,2-Tetrachloroethane	25.0	25.5		ug/L		102	68 - 136
1,1,2-Trichloroethane	25.0	24.0		ug/L		96	75 - 136
1,1-Dichloroethane	25.0	25.9		ug/L		103	71 - 143
1,1-Dichloroethene	25.0	26.5		ug/L		106	19 - 212
1,2-Dichlorobenzene	25.0	24.7		ug/L		99	59 - 174
1,2-Dichloroethane	25.0	25.2		ug/L		101	72 - 137
1,2-Dichloropropane	25.0	26.5		ug/L		106	19 - 181
1,3-Dichlorobenzene	25.0	25.1		ug/L		100	75 - 144
1,4-Dichlorobenzene	25.0	24.4		ug/L		98	59 - 174
2-Chloroethyl vinyl ether	25.0	28.3		ug/L		113	10 - 252
Acrolein	24.7	26.0		ug/L		105	50 - 150
Acrylonitrile	250	252		ug/L		101	50 - 150
Benzene	25.0	25.2		ug/L		101	75 - 125
Bromodichloromethane	25.0	25.7		ug/L		103	50 - 140
Bromoform	25.0	24.3		ug/L		97	57 - 156
Bromomethane	25.0	28.6		ug/L		115	10 - 206
Carbon tetrachloride	25.0	25.9		ug/L		104	65 - 125
Chlorobenzene	25.0	25.2		ug/L		101	82 - 137
Chloroethane	25.0	26.4		ug/L		106	42 - 202
Chloroform	25.0	25.0		ug/L		100	68 - 121
Chloromethane	25.0	28.6		ug/L		114	10 - 230
cis-1,2-Dichloroethene	25.0	25.2		ug/L		101	60 - 140
cis-1,3-Dichloropropene	25.0	24.4		ug/L		98	5 - 195
Dibromochloromethane	25.0	24.8		ug/L		99	69 - 133
Ethylbenzene	25.0	23.3		ug/L		93	75 - 134
m,p-Xylene	25.0	22.2		ug/L		89	60 - 140
Methylene Chloride	25.0	25.8		ug/L		103	10 - 205
Naphthalene	25.0	25.0		ug/L		100	60 - 140
o-Xylene	25.0	24.0		ug/L		96	60 - 140
Tetrachloroethene	25.0	22.4		ug/L		90	70 - 130
Toluene	25.0	23.4		ug/L		94	75 - 134
trans-1,2-Dichloroethene	25.0	25.6		ug/L		102	70 - 130
trans-1,3-Dichloropropene	25.0	26.6		ug/L		106	38 - 162
Trichloroethene	25.0	23.7		ug/L		95	75 - 138
Trichlorofluoromethane	25.0	26.7		ug/L		107	45 - 158
Vinyl chloride	25.0	29.2		ug/L		117	10 - 218
Xylenes, Total	50.0	46.2		ug/L		92	

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*60 - 140*
Dibromofluoromethane (Surr)	*101*		*60 - 140*
Toluene-d8 (Surr)	*95*		*60 - 140*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-664976/1003
Matrix: Water
Analysis Batch: 664976

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2-Dichloro-1,1,2-trifluoroethane			25.0	25.2		ug/L		101	60 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*60 - 140*
Dibromofluoromethane (Surr)	*106*		*60 - 140*
Toluene-d8 (Surr)	*110*		*60 - 140*

Lab Sample ID: 570-81928-1 MS
Matrix: Water
Analysis Batch: 664976

Client Sample ID: Outfall002_20220118_Grab
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,1,1-Trichloroethane	ND		25.0	26.6		ug/L		106	52 - 162		
1,1,2,2-Tetrachloroethane	ND		25.0	26.9		ug/L		108	46 - 157		
1,1,2-Trichloroethane	ND		25.0	23.8		ug/L		95	52 - 150		
1,1-Dichloroethane	ND		25.0	26.2		ug/L		105	59 - 155		
1,1-Dichloroethene	ND		25.0	28.3		ug/L		113	10 - 234		
1,2-Dichloro-1,1,2-trifluoroethane	ND		25.0	23.7		ug/L		95	60 - 140		
1,2-Dichlorobenzene	ND		25.0	26.6		ug/L		107	18 - 190		
1,2-Dichloroethane	ND		25.0	25.1		ug/L		101	49 - 155		
1,2-Dichloropropane	ND		25.0	26.5		ug/L		106	10 - 210		
1,3-Dichlorobenzene	ND		25.0	26.8		ug/L		107	59 - 156		
1,4-Dichlorobenzene	ND		25.0	25.4		ug/L		102	18 - 190		
2-Chloroethyl vinyl ether	ND		25.0	24.9		ug/L		100	10 - 305		
Acrolein	ND		24.7	20.8		ug/L		84	40 - 160		
Acrylonitrile	ND		250	254		ug/L		102	40 - 160		
Benzene	ND		25.0	26.0		ug/L		104	37 - 151		
Bromodichloromethane	ND		25.0	25.1		ug/L		100	35 - 155		
Bromoform	ND		25.0	23.8		ug/L		95	45 - 169		
Bromomethane	ND		25.0	28.9		ug/L		116	10 - 242		
Carbon tetrachloride	ND		25.0	27.6		ug/L		111	70 - 140		
Chlorobenzene	ND		25.0	25.3		ug/L		101	37 - 160		
Chloroethane	ND		25.0	27.5		ug/L		110	14 - 230		
Chloroform	ND		25.0	24.8		ug/L		99	51 - 138		
Chloromethane	ND		25.0	29.8		ug/L		119	10 - 273		
cis-1,2-Dichloroethene	ND		25.0	25.0		ug/L		100	60 - 140		
cis-1,3-Dichloropropene	ND		25.0	25.4		ug/L		102	10 - 227		
Dibromochloromethane	ND		25.0	24.4		ug/L		98	53 - 149		
Ethylbenzene	ND		25.0	25.3		ug/L		101	37 - 162		
m,p-Xylene	ND		25.0	24.3		ug/L		97	60 - 140		
Methylene Chloride	ND		25.0	24.6		ug/L		99	10 - 221		
Naphthalene	ND		25.0	26.5		ug/L		106	60 - 140		
o-Xylene	ND		25.0	25.5		ug/L		102	60 - 140		
Tetrachloroethene	ND		25.0	26.5		ug/L		106	64 - 148		
Toluene	ND		25.0	26.2		ug/L		105	47 - 150		
trans-1,2-Dichloroethene	ND		25.0	25.4		ug/L		102	54 - 156		
trans-1,3-Dichloropropene	ND		25.0	23.9		ug/L		96	17 - 183		
Trichloroethene	ND		25.0	26.0		ug/L		104	70 - 157		

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-81928-1 MS **Client Sample ID: Outfall002_20220118_Grab**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 664976

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	ND		25.0	26.4		ug/L		105	17 - 181
Vinyl chloride	ND		25.0	32.0		ug/L		128	10 - 251
Xylenes, Total	ND		50.0	49.8		ug/L		100	

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*60 - 140*
Dibromofluoromethane (Surr)	*99*		*60 - 140*
Toluene-d8 (Surr)	*101*		*60 - 140*

Lab Sample ID: 570-81928-1 MSD **Client Sample ID: Outfall002_20220118_Grab**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 664976

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		25.0	25.5		ug/L		102	52 - 162	4	36
1,1,2,2-Tetrachloroethane	ND		25.0	26.0		ug/L		104	46 - 157	3	61
1,1,2-Trichloroethane	ND		25.0	23.9		ug/L		95	52 - 150	0	45
1,1-Dichloroethane	ND		25.0	25.9		ug/L		103	59 - 155	1	40
1,1-Dichloroethene	ND		25.0	28.2		ug/L		113	10 - 234	0	32
1,2-Dichloro-1,1,2-trifluoroethane	ND		25.0	26.4		ug/L		106	60 - 140	11	35
1,2-Dichlorobenzene	ND		25.0	25.5		ug/L		102	18 - 190	4	57
1,2-Dichloroethane	ND		25.0	25.0		ug/L		100	49 - 155	1	49
1,2-Dichloropropane	ND		25.0	26.1		ug/L		105	10 - 210	1	55
1,3-Dichlorobenzene	ND		25.0	26.7		ug/L		107	59 - 156	0	43
1,4-Dichlorobenzene	ND		25.0	25.5		ug/L		102	18 - 190	0	57
2-Chloroethyl vinyl ether	ND		25.0	27.3		ug/L		109	10 - 305	9	71
Acrolein	ND		24.7	18.7		ug/L		76	40 - 160	11	60
Acrylonitrile	ND		250	245		ug/L		98	40 - 160	4	60
Benzene	ND		25.0	25.5		ug/L		102	37 - 151	2	61
Bromodichloromethane	ND		25.0	24.7		ug/L		99	35 - 155	1	56
Bromoform	ND		25.0	23.3		ug/L		93	45 - 169	2	42
Bromomethane	ND		25.0	26.9		ug/L		108	10 - 242	7	61
Carbon tetrachloride	ND		25.0	26.9		ug/L		108	70 - 140	3	41
Chlorobenzene	ND		25.0	25.2		ug/L		101	37 - 160	1	53
Chloroethane	ND		25.0	25.8		ug/L		103	14 - 230	7	78
Chloroform	ND		25.0	24.5		ug/L		98	51 - 138	1	54
Chloromethane	ND		25.0	27.3		ug/L		109	10 - 273	9	60
cis-1,2-Dichloroethene	ND		25.0	25.0		ug/L		100	60 - 140	0	35
cis-1,3-Dichloropropene	ND		25.0	25.2		ug/L		101	10 - 227	1	58
Dibromochloromethane	ND		25.0	25.1		ug/L		100	53 - 149	3	50
Ethylbenzene	ND		25.0	24.0		ug/L		96	37 - 162	5	63
m,p-Xylene	ND		25.0	23.3		ug/L		93	60 - 140	4	35
Methylene Chloride	ND		25.0	23.7		ug/L		95	10 - 221	4	28
Naphthalene	ND		25.0	24.8		ug/L		99	60 - 140	6	35
o-Xylene	ND		25.0	24.2		ug/L		97	60 - 140	5	35
Tetrachloroethene	ND		25.0	25.6		ug/L		102	64 - 148	4	39
Toluene	ND		25.0	24.9		ug/L		100	47 - 150	5	41
trans-1,2-Dichloroethene	ND		25.0	25.2		ug/L		101	54 - 156	1	45

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-81928-1 MSD
Matrix: Water
Analysis Batch: 664976

Client Sample ID: Outfall002_20220118_Grab
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,3-Dichloropropene	ND		25.0	26.0		ug/L		104	17 - 183	8	86
Trichloroethene	ND		25.0	25.8		ug/L		103	70 - 157	1	48
Trichlorofluoromethane	ND		25.0	24.7		ug/L		99	17 - 181	7	84
Vinyl chloride	ND		25.0	30.0		ug/L		120	10 - 251	6	66
Xylenes, Total	ND		50.0	47.5		ug/L		95		5	

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*60 - 140*
Dibromofluoromethane (Surr)	*98*		*60 - 140*
Toluene-d8 (Surr)	*96*		*60 - 140*

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 570-208491/5
Matrix: Water
Analysis Batch: 208491

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		50	30	ug/L			01/20/22 13:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*70*		*20 - 144*		*01/20/22 13:45*	*1*

Lab Sample ID: LCS 570-208491/3
Matrix: Water
Analysis Batch: 208491

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (C4-C13)			1970	2020		ug/L		102	71 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*20 - 144*

Lab Sample ID: LCSD 570-208491/4
Matrix: Water
Analysis Batch: 208491

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)			1970	2030		ug/L		103	71 - 120	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*20 - 144*

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: 570-81959-D-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208491

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (C4-C13)	ND		1970	2000		ug/L		101	54 - 125		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*20 - 144*

Lab Sample ID: 570-81959-D-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208491

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	ND		1970	1930		ug/L		98	54 - 125	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*20 - 144*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 570-208574/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 209821 — **Prep Batch: 208574**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C28	ND		0.050	0.036	mg/L		01/20/22 16:53	01/27/22 15:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*119*		*53 - 151*	*01/20/22 16:53*	*01/27/22 15:24*	*1*

Lab Sample ID: LCS 570-208574/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 209821 — **Prep Batch: 208574**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C28			4.00	4.24		mg/L		106	70 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane (Surr)	*118*		*53 - 151*

Lab Sample ID: LCSD 570-208574/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 209821 — **Prep Batch: 208574**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28			4.00	4.78		mg/L		120	70 - 131	12	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane (Surr)	*126*		*53 - 151*

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-208430/1-A
Matrix: Water
Analysis Batch: 208529

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208430

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	ND		1.0	0.51	mg/L		01/20/22 09:08	01/20/22 09:08	1

Lab Sample ID: LCS 570-208430/2-A
Matrix: Water
Analysis Batch: 208529

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208430

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM: Oil and Grease	40.0	38.6		mg/L		97	78 - 114

Lab Sample ID: LCSD 570-208430/3-A
Matrix: Water
Analysis Batch: 208529

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208430

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM: Oil and Grease	40.0	36.5		mg/L		91	78 - 114	6	18

Lab Sample ID: 440-294401-A-1-A MS
Matrix: Water
Analysis Batch: 208529

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 208430

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM: Oil and Grease	2.6		39.7	40.5		mg/L		95	78 - 114

Lab Sample ID: 440-294401-B-1-A MSD
Matrix: Water
Analysis Batch: 208529

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 208430

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM: Oil and Grease	2.6		39.5	40.6		mg/L		96	78 - 114	0	18

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 440-664955/3
Matrix: Water
Analysis Batch: 664955

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			01/20/22 11:31	1

Lab Sample ID: LCS 440-664955/4
Matrix: Water
Analysis Batch: 664955

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	687	672		umhos/cm		98	90 - 110

Method: SM 2510B - Conductivity, Specific Conductance (Continued)

Lab Sample ID: 440-293917-A-13 DU
Matrix: Water
Analysis Batch: 664955

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Specific Conductance	1100			1070		umhos/cm				0	5

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-81928-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

GC/MS VOA

Analysis Batch: 664976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-81928-1	Outfall002_20220118_Grab	Total/NA	Water	624.1	
570-81928-3	TB-20220118	Total/NA	Water	624.1	
MB 440-664976/4	Method Blank	Total/NA	Water	624.1	
LCS 440-664976/1002	Lab Control Sample	Total/NA	Water	624.1	
LCS 440-664976/1003	Lab Control Sample	Total/NA	Water	624.1	
570-81928-1 MS	Outfall002_20220118_Grab	Total/NA	Water	624.1	
570-81928-1 MSD	Outfall002_20220118_Grab	Total/NA	Water	624.1	

GC VOA

Analysis Batch: 208491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-81928-1	Outfall002_20220118_Grab	Total/NA	Water	8015B	
MB 570-208491/5	Method Blank	Total/NA	Water	8015B	
LCS 570-208491/3	Lab Control Sample	Total/NA	Water	8015B	
LCSD 570-208491/4	Lab Control Sample Dup	Total/NA	Water	8015B	
570-81959-D-1 MS	Matrix Spike	Total/NA	Water	8015B	
570-81959-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B	

GC Semi VOA

Prep Batch: 208574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-81928-1	Outfall002_20220118_Grab	Total/NA	Water	3510C	
MB 570-208574/1-A	Method Blank	Total/NA	Water	3510C	
LCS 570-208574/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 570-208574/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 209821

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-81928-1	Outfall002_20220118_Grab	Total/NA	Water	8015B	208574
MB 570-208574/1-A	Method Blank	Total/NA	Water	8015B	208574
LCS 570-208574/2-A	Lab Control Sample	Total/NA	Water	8015B	208574
LCSD 570-208574/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	208574

General Chemistry

Prep Batch: 208430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-81928-1	Outfall002_20220118_Grab	Total/NA	Water	1664A	
MB 570-208430/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-208430/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-208430/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	
440-294401-A-1-A MS	Matrix Spike	Total/NA	Water	1664A	
440-294401-B-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1664A	

Analysis Batch: 208529

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-81928-1	Outfall002_20220118_Grab	Total/NA	Water	1664A	208430
MB 570-208430/1-A	Method Blank	Total/NA	Water	1664A	208430
LCS 570-208430/2-A	Lab Control Sample	Total/NA	Water	1664A	208430
LCSD 570-208430/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	208430

General Chemistry (Continued)

Analysis Batch: 208529 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-294401-A-1-A MS	Matrix Spike	Total/NA	Water	1664A	208430
440-294401-B-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1664A	208430

Analysis Batch: 208961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-81928-1	Outfall002_20220118_Grab	Total/NA	Water	SM 2540F	

Analysis Batch: 664955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-81928-1	Outfall002_20220118_Grab	Total/NA	Water	SM 2510B	
MB 440-664955/3	Method Blank	Total/NA	Water	SM 2510B	
LCS 440-664955/4	Lab Control Sample	Total/NA	Water	SM 2510B	
440-293917-A-13 DU	Duplicate	Total/NA	Water	SM 2510B	

Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 570-81928-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Client Sample ID: Outfall002_20220118_Grab
Lab Sample ID: 570-81928-1
Date Collected: 01/18/22 08:00
Matrix: Water
Date Received: 01/18/22 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	664976	01/20/22 18:06	N1A	IRV 2
	Instrument ID: GCMS13									
Total/NA	Analysis	8015B		1	5 mL	5 mL	208491	01/20/22 19:05	A9VE	ECL 2
	Instrument ID: GC1									
Total/NA	Prep	3510C			250.2 mL	2.5 mL	208574	01/20/22 16:53	UFLU	ECL 1
Total/NA	Analysis	8015B		1			209821	01/27/22 18:31	N5Y3	ECL 1
	Instrument ID: GC48									
Total/NA	Prep	1664A			957 mL	1000 mL	208430	01/20/22 09:08	UWEZ	ECL 1
Total/NA	Analysis	1664A		1			208529	01/20/22 09:08	L6IE	ECL 1
	Instrument ID: ICPMS05									
Total/NA	Analysis	SM 2510B		1			664955	01/20/22 11:31	VY3D	IRV 2
	Instrument ID: COND13									
Total/NA	Analysis	SM 2540F		1	1000 mL	1 L	208961	01/19/22 09:30	UAPD	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: TB-20220118
Lab Sample ID: 570-81928-3
Date Collected: 01/18/22 08:00
Matrix: Water
Date Received: 01/18/22 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	664976	01/20/22 18:35	N1A	IRV 2
	Instrument ID: GCMS13									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-81928-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
624.1		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
624.1		Water	1,2-Dichloro-1,1,2-trifluoroethane
624.1		Water	cis-1,2-Dichloroethene
624.1		Water	Cyclohexane
624.1		Water	Naphthalene
624.1		Water	Xylenes, Total

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-81928-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	IRV 2
8015B	Gasoline Range Organics - (GC)	SW846	ECL 2
8015B	Diesel Range Organics (DRO) (GC)	SW846	ECL 1
1664A	HEM and SGT-HEM	1664A	ECL 1
SM 2510B	Conductivity, Specific Conductance	SM	IRV 2
SM 2540F	Solids, Settleable	SM	ECL 1
Subcontract	9223- Colilert 18 - E. Coli - level 4 required	None	Enthalpy
1664A	HEM and SGT-HEM (Aqueous)	1664A	ECL 1
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ECL 1
5030C	Purge and Trap	SW846	ECL 2

Protocol References:

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Job ID: 570-81928-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-81928-1	Outfall002_20220118_Grab	Water	01/18/22 08:00	01/18/22 18:00
570-81928-3	TB-20220118	Water	01/18/22 08:00	01/18/22 18:00

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 456997
Report Level: IV
Report Date: 01/28/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Outfall 002 Grab #570-819288

Authorized for release by:

Quynhgiao Le

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel	Lab Job #:	456997
Eurofins Calscience Tustin	Project No:	BOEING NPDES SSFL
2841 Dow Avenue, Suite 100	Location:	Outfall 002 Grab #570-819288
Tustin, CA 92780	Date Received:	01/18/22

Sample ID	Lab ID	Collected	Matrix
OUTFALL002_20220118_GRAB (570-81928-1)	456997-001	01/18/22 08:00	Water

ENTHALPY ANALYTICAL

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience Tustin	Lab Job Number: 456997
2841 Dow Avenue, Suite 100	Project No: BOEING NPDES SSFL
Tustin, CA 92780	Location: Outfall 002 Grab #570-819288
Virendra Patel	Date Received: 01/18/22

This data package contains sample and QC results for one water sample, requested for the above referenced project on 01/19/22. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

456997

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

C570-81928

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-151844.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-81928-1
Address: 931 W. Barkley Ave,	Due Date Requested: 1/28/2022			
City: Orange	TAT Requested (days):			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Grab	Project #: 570-81928			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (9223- Colilert 18 - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall002_20220118_Grab (570-81928-1)	1/18/22	08:00 Pacific		Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4
									5.5/1.6

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1					01/18/22	EC
2		01/18/22	EC		1/18/22 1638	EA
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Calscience

Project: _____

Date Received: 1/18/22

Sampler's Name Present: ☐ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2)

Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 5.5 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 1.6 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓		
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	✓		
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?	✓		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✓
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____/_____

Project Manager's response:

Completed By: _____ Date: 1/18/22

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 456997 **Project#:** BOEING NPDES SSFL

Client: Eurofins Calscience Tustin **Location:** Outfall 002 Grab #570-819288

Field ID:	OUTFALL002_20220118_GRAB (570-81928-1)	**Batch#:**	282109	**Analyzed:**	01/19/22 11:55
Lab ID:	456997-001	**Sampled:**	01/18/22 08:00	**Prep:**	
Matrix:	Water	**Received:**	01/18/22	**Analysis:**	SM 9223Bb
DilN Fac:	1.000	**Prepared:**	01/18/22 17:20	**Analyst:**	SZL

Analyte	Result	RL	Units	Qual
Coliform, E. Coli	**3.1**	1.0	MPN/100ml	H

Legend

H: Holding time was exceeded

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: SL Prep Date/Time: 01/18/22 1720 QC Batch ID: 288209 Batch Page 1 of 1

Read Analyst: SL Read Date/Time 1/19/22 1155

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: HT510 Pipette Lot #: A103909

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 01/04/22 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: D Incubator In, Temp/Time: 34.6 1735 Incubator Out, Temp/Time: 35.2 1155

Fecal Coliform: Water Bath ID: n/a Water Bath In, Temp/Time: n/a Water Bath Out, Temp/Time: n/a

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts Large Wells	Total Coliform Counts Small Wells	MPN Table Value	Final Result, MPN	E. coli Counts Large Wells	E. coli Counts Small Wells	MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only) Large Wells	Fecal Coliform Counts (Colilert 18 only) Small Wells	MPN Table Value	Final Result, MPN	Comments
Eurofins Calscience		456997-001	1	49	37	920.8	920	3	0	3.1	3.1					CA-01 1X
↓		↓	10	41	5	90.6	910	0	0	<1	<10					-01 10X
			100	8	1	4.1	410	0	0	<1	<100					-01 100X
		456998-001	1	49	48	>2419.6	>2400	0	0	<1	<1					CL-01 1X
		↓	10	35	3	62.4	620	0	0	<1	<10					-01 10X
↓		↓	100	5	1	6.3	630	0	0	<1	<100					-01 100X

Quality Control	Culture ID										
Positive +/+ (E. Coli)	01/16/22		49	48	>2419.6	>2400	49	48	>2419.6	>2400	
Positive +/- (K. Pneumonia)	↓		49	48	>2419.6	>2400	0	0	<1	<1	
Negative -/- (P. Aeruginosa)	↓		0	0	<1	<1	0	0	<1	<1	

Data Entered By: 1/24/22 Data Reviewed By:

81928

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-81928 Chain of Custody

VLJOUVKT

Client Name/Address.	Project:	Field Readings	Meter serial #
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 002 Grab	Field Readings: (Include units) Time of Readings: 0805 DO 10.49 mg/L pH 6.61 pH unit Temp 56.3 °C/°F TRC 0.0 mg/L	
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218		Field readings QC Checked by: [signature] Date/Time: 1-18-2022/0805	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)		
Sampler: Adrian Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	ANALYSIS REQUIRED: MST-Bacteroidales, Human (SAM348-357) Source Molecular in Miami Lakes, FL	E. coli (SM9221) Enthalpy Analytical Orange CA	Settleable Solids (E160.5 (SM2540F))	Conductivity (SM2510B / E120.1)	Oil & Grease (E1664A-HEM)	VOCs + VOCs PP + xylenes, Freon 11 Freon 113, Freon 123A, Cyclohexane, cis-1 2-DCE (E624)	VOCs only A+A+2CVE (E624)	TPH: gas (GRO(C4-C12)) (SW8015B)	TPH diesel/jet fuel (DRO (C13-C28)) (SW8015B)				Comments
									A	A	R	R	R	R/Q/A	A	A	A				
Outfall 002	Outfall002_20220118_Grab	1/18/2022/0800 *	WM	125mL Sterile Poly	1	None	5	No	X												Deliver to lab ASAP 8 hr hold time
			WM	125mL Sterile Poly	3	$Na_2S_2O_3$	10	No		X											Deliver to lab ASAP 8 hr hold time, Need x, 10x, 100x dilutions
			WM	1 L Glass Amber	2	HCl	15	No					X								
			WM	40 mL VOA	3	HCl	45	No						X							
			WM	40 mL VOA	3	None	55	No							X						
			WM	40 mL VOA	3	HCl	60	No								X					
			WM	1 L Glass Amber	2	None	65	No									X				
			WM	1 L Poly	1	None	70	No			X										
			WM	500 mL Poly	1	None	75	No				X									
	Outfall002_20220118_Grab_Extra	1/18/2022/0800	WM	1 L Glass Amber	2	HCl	15	No					H								Hold
			WM	40 mL VOA	3	HCl	45	No						H							Hold
			WM	40 mL VOA	3	None	55	No							H						Hold
			WM	500 mL Poly	1	None	75	No				H									Hold
Trip Blanks	TB-20220118	1/18/2022/0800	WQ	40 mL VOA	2	HCl	45	No						X							
			WQ	40 mL VOA	2	None	55	No							X						

Legend: A=Annual, R=Routine, Q=Quarterly

Relinquished By	Date/Time:	Company	Received By	Date/Time:
[signature]	1-18-2022/1440	H. A	[signature]	ECI 01/18/22 1440
[signature]	01/18/22	18:00	[signature]	1/18/22 1800

Turn-around time: (Check)
24 Hour ____ 72 Hour ____ 10 Day ___X___
48 Hour ____ 5 Day ____ Normal: ____

Sample Integrity: (Check)
Intact: ____ On Ice: ____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: ____ All Level IV: ___X___

* Shipped seperately via FedEx → Source Molecular

1833 SCG

Eurofins Calscience
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-151899 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest		Accreditations Required (See note): State Program - California		Job #: 570-81928-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/28/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Grab	Project #: 44024446			
Site	SSOW#:			

Preservation Codes

A HCL	M Hexane
B - NaOH	N None
C Zn Acetate	O - AsNaO2
D Nitric Acid	P - Na2O4S
E NaHSO4	Q Na2SO3
F MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I Ice	U Acetone
J - DI Water	V - MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	624.1_LL/624_Prep_3D PP+xylr+fr113,11,123A+cyclohex+A+A+2CVE	2510B	Total Number of containers	Special Instructions/Note.
			Preservation Code:							
Outfall002_20220118_Grab (570-81928-1)	1/18/22	08 00 Pacific		Water			X	X	7	Analyze on "Closed System only"
TB-20220118 (570-81928-3)	1/18/22	08 00 Pacific		Water			X		2	Analyze on "Closed System only"

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 01/19/22	Company: ESI	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by: Olga Cinelas	Date/Time: 01/19/22 1230	Company: EAT
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: IR89 24/2.9

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-81928-1

Login Number: 81928
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-81928-1

Login Number: 81928
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 01/19/22 02:21 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

LUMINULTRA

15280 NW 79th Court, Suite 107 Miami Lakes, Florida 33016

ACCREDITED CERT # 4126.01

Fecal Host

Fecal Host Quantification ID Test Results Report

Detection and quantification of the fecal host associated gene biomarker by quantitative Polymerase Chain Reaction (qPCR) DNA analytical technology

ND: Not Det DNQ: Detected, Not Quantifiable ROQ: Detected, Quantifiable

Submitter: Haley and Aldrich
Report Generated: February 6, 2022

SM #	Sample ID	Date Collected	Time Collected	Analysis Requested	Ct, Rep1	Ct, Rep2	Marker Quantified	Results Qualifier	LOD (Limit of detection)	LOQ (Limit of Quantification)	Result Unit
SM22A21019	Outfall011_20220118_Grab	1/18/2022	12:50 PM	Human_HF183	ND	ND	0.00E+00	ND	1.50E+02	5.00E+02	copies per 100ml
SM22A21020	Outfall002_20220118_Grab	1/18/2022	8:00 AM	Human_HF183	ND	ND	0.00E+00	ND	1.50E+02	5.00E+02	copies per 100ml

Reported Results Authorized By: Anda Quintero, Quality Manager

Results reported herein apply only to the sample matrices as received.
Results reported herein relate to the genetic material extracted from the sample matrix processed and included in the analysis.

LUMINULTRA

15280 NW 79th Court, Suite 107 Miami Lakes, Florida 33016

ACCREDITED CERT#4126.01

Fecal Host Quantification ID Test Results Report

Sample Processing and Analysis Information

Submitter: Haley and Aldrich
Report Generated: February 6, 2022

SM #	Sample ID	Analysis Requested	Sample Type	Processed Date	Extraction Date	Analysis Date	Amount Processed	Amount Processed Unit	Extracted DNA/RNA Volume (ul)	PCR Input Volume (ul)	PCR Plate ID	Sample Comments
SM22A21019	Outfall011_20220118_Grab	Human_HF183	Water	1/21/2022	2/5/2022	2/5/2022	100	ml	100	2	20220205_q01	
SM22A21020	Outfall002_20220118_Grab	Human_HF183	Water	1/21/2022	2/5/2022	2/5/2022	100	ml	100	2	20220205_q01	

Reported Results Authorized By: Anda Quintero, Quality Manager

Results reported herein apply only to the sample matrices as received.
Results reported herein relate to the genetic material extracted from the sample matrix processed and included in the analysis.

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-82063-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/12/2022 9:13:41 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
BA	Relative percent difference out of control
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LR	LCS/LCSD recovery below method control limits

HPLC/IC

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
BU	Analyzed out of holding time
EY	Result exceeds normal dynamic range; reported as a min. est.
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Metals

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

General Chemistry

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LN	MS and/or MSD below acceptance limits. See Blank Spike (LCS)

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-82063-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-82063-1

Comments
No additional comments.

Receipt
The samples were received on 1/19/2022 6:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.3º C, 3.5º C and 3.6º C.

GC/MS VOA
Method 8260B SIM: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-210396.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method 625.1 SIM: The following analyte(s) recovered outside control limits for the LCS/ associated with preparation batch 570-209053 and analytical batch 570-209773: 2-Chloronaphthalene and 4,6-Dinitro-2-methylphenol. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method 625.1 SIM: The following analyte(s) recovered outside control limits for the LCSD associated with preparation batch 570-209053 and analytical batch 570-209773: 2-Chloronaphthalene. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method 625.1 SIM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 570-209053 and analytical batch 570-209773 recovered outside control limits for the following analytes: Hexachlorocyclopentadiene and Di-n-octyl phthalate.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method 218.6: The following sample(s) was received with less than 1 hour remaining on the holding time. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: Outfall002_20220119_Comp (570-82063-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method Filtration: The following samples were not filtered within 15 minutes of sample collection as required by the method: Outfall002_20220119_Comp_F (570-82063-3), (570-82063-A-3 MS) and (570-82063-C-3 MSD). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for 440-666079 contained Chromium above the method detection limit (MDL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed. (CCB 440-666079/21)

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall002_20220119_Comp_F (570-82063-3). These samples were filtered and preserved upon receipt to the laboratory.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 570-82063-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

General Chemistry
Method SM 5540C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 440-665021 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-208417. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 608.3 PEST/PCB

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-209053. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 625.1 Sim

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	32		10	5.0	mg/L	20		300.0	Total/NA
Nitrate as N	0.14		0.11	0.055	mg/L	1		300.0	Total/NA
Fluoride	0.27	J,DX	0.50	0.20	mg/L	1		300.0	Total/NA
Sulfate	200		10	5.0	mg/L	20		300.0	Total/NA
Nitrate Nitrite as N	0.14	J,DX	0.15	0.055	mg/L	1		NO3NO2 Calc	Total/NA
Arsenic	8.9	J,DX	20	8.9	ug/L	1		200.7 Rev 4.4	Total Recoverable
Barium	52		10	2.2	ug/L	1		200.7 Rev 4.4	Total Recoverable
Boron	110		50	25	ug/L	1		200.7 Rev 4.4	Total Recoverable
Copper	1.3	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Antimony	0.55	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Hardness, as CaCO3	300		0.91	0.17	mg/L	1		SM 2340B	Total Recoverable
Turbidity	0.15		0.10	0.05	NTU	1		180.1	Total/NA
Total Dissolved Solids	560		10	3.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	0.60	J,DX	1.0	0.50	mg/L	1		SM 2540D	Total/NA
Ammonia (as N)	0.147	J,DX	0.200	0.100	mg/L	1		SM 4500 NH3 G	Total/NA
Carbon, Total Organic	4.6		0.50	0.26	mg/L	1		SM 5310D	Total/NA
Methylene Blue Active Substances	0.12		0.10	0.050	mg/L	1		SM 5540C	Total/NA

Client Sample ID: Outfall002_20220119_Comp_F
Lab Sample ID: 570-82063-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13	J,DX	20	8.9	ug/L	1		200.7 Rev 4.4	Dissolved
Barium	50		10	2.2	ug/L	1		200.7 Rev 4.4	Dissolved
Boron	89		50	25	ug/L	1		200.7 Rev 4.4	Dissolved
Copper	3.0		2.0	0.50	ug/L	1		200.8	Dissolved
Antimony	0.52	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Selenium	0.51	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Hardness, as CaCO3	280		0.91	0.17	mg/L	1		SM 2340B	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.55	ug/L			01/31/22 17:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dichlorobutane (Surr)	*120*		*67 - 133*		*01/31/22 17:48*	*1*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: Outfall002_20220119_Comp **Lab Sample ID: 570-82063-1**
Date Collected: 01/19/22 08:30 **Matrix: Water**
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.19	0.12	ug/L		01/24/22 09:57	01/26/22 23:14	1
1,2-Dichlorobenzene	ND		0.19	0.12	ug/L		01/24/22 09:57	01/26/22 23:14	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.19	0.065	ug/L		01/24/22 09:57	01/26/22 23:14	1
1,3-Dichlorobenzene	ND		0.19	0.12	ug/L		01/24/22 09:57	01/26/22 23:14	1
1,4-Dichlorobenzene	ND		0.19	0.12	ug/L		01/24/22 09:57	01/26/22 23:14	1
2,4,6-Trichlorophenol	ND		0.94	0.15	ug/L		01/24/22 09:57	01/26/22 23:14	1
2,4-Dichlorophenol	ND		0.94	0.091	ug/L		01/24/22 09:57	01/26/22 23:14	1
2,4-Dimethylphenol	ND		0.19	0.12	ug/L		01/24/22 09:57	01/26/22 23:14	1
2,4-Dinitrophenol	ND		4.7	4.3	ug/L		01/24/22 09:57	01/26/22 23:14	1
2,4-Dinitrotoluene	ND		0.19	0.10	ug/L		01/24/22 09:57	01/26/22 23:14	1
2,6-Dinitrotoluene	ND		0.19	0.12	ug/L		01/24/22 09:57	01/26/22 23:14	1
2-Chloronaphthalene	ND	LR	0.19	0.13	ug/L		01/24/22 09:57	01/26/22 23:14	1
2-Chlorophenol	ND		0.19	0.078	ug/L		01/24/22 09:57	01/26/22 23:14	1
2-Nitrophenol	ND		4.7	3.9	ug/L		01/24/22 09:57	01/26/22 23:14	1
3,3'-Dichlorobenzidine	ND		4.7	1.5	ug/L		01/24/22 09:57	01/26/22 23:14	1
4,6-Dinitro-2-methylphenol	ND	LR	4.7	3.7	ug/L		01/24/22 09:57	01/26/22 23:14	1
4-Bromophenyl phenyl ether	ND		0.19	0.073	ug/L		01/24/22 09:57	01/26/22 23:14	1
4-Chloro-3-methylphenol	ND		0.94	0.11	ug/L		01/24/22 09:57	01/26/22 23:14	1
4-Chlorophenyl phenyl ether	ND		0.19	0.085	ug/L		01/24/22 09:57	01/26/22 23:14	1
4-Nitrophenol	ND		4.7	3.4	ug/L		01/24/22 09:57	01/26/22 23:14	1
Acenaphthene	ND		0.19	0.081	ug/L		01/24/22 09:57	01/26/22 23:14	1
Acenaphthylene	ND		0.19	0.080	ug/L		01/24/22 09:57	01/26/22 23:14	1
Anthracene	ND		0.19	0.068	ug/L		01/24/22 09:57	01/26/22 23:14	1
Benzidine	ND		4.7	2.1	ug/L		01/24/22 09:57	01/26/22 23:14	1
Benzo[a]anthracene	ND		0.19	0.066	ug/L		01/24/22 09:57	01/26/22 23:14	1
Benzo[a]pyrene	ND		0.19	0.19	ug/L		01/24/22 09:57	01/26/22 23:14	1
Benzo[b]fluoranthene	ND		0.19	0.097	ug/L		01/24/22 09:57	01/26/22 23:14	1
Benzo[g,h,i]perylene	ND		0.19	0.12	ug/L		01/24/22 09:57	01/26/22 23:14	1
Benzo[k]fluoranthene	ND		0.19	0.073	ug/L		01/24/22 09:57	01/26/22 23:14	1
bis (2-chloroisopropyl) ether	ND		0.19	0.087	ug/L		01/24/22 09:57	01/26/22 23:14	1
Bis(2-chloroethoxy)methane	ND		0.19	0.14	ug/L		01/24/22 09:57	01/26/22 23:14	1
Bis(2-chloroethyl)ether	ND		0.19	0.093	ug/L		01/24/22 09:57	01/26/22 23:14	1
Bis(2-ethylhexyl) phthalate	ND		4.7	1.7	ug/L		01/24/22 09:57	01/26/22 23:14	1
Butyl benzyl phthalate	ND		0.94	0.93	ug/L		01/24/22 09:57	01/26/22 23:14	1
Chrysene	ND		0.19	0.054	ug/L		01/24/22 09:57	01/26/22 23:14	1
Dibenz(a,h)anthracene	ND		0.19	0.13	ug/L		01/24/22 09:57	01/26/22 23:14	1
Diethyl phthalate	ND		1.9	0.13	ug/L		01/24/22 09:57	01/26/22 23:14	1
Dimethyl phthalate	ND		1.9	0.068	ug/L		01/24/22 09:57	01/26/22 23:14	1
Di-n-butyl phthalate	ND		1.9	1.8	ug/L		01/24/22 09:57	01/26/22 23:14	1
Di-n-octyl phthalate	ND	BA	2.8	0.61	ug/L		01/24/22 09:57	01/26/22 23:14	1
Fluoranthene	ND		0.19	0.091	ug/L		01/24/22 09:57	01/26/22 23:14	1
Fluorene	ND		0.19	0.076	ug/L		01/24/22 09:57	01/26/22 23:14	1
Hexachlorobenzene	ND		0.19	0.089	ug/L		01/24/22 09:57	01/26/22 23:14	1
Hexachlorobutadiene	ND		0.19	0.16	ug/L		01/24/22 09:57	01/26/22 23:14	1
Hexachlorocyclopentadiene	ND	BA	0.19	0.092	ug/L		01/24/22 09:57	01/26/22 23:14	1
Hexachloroethane	ND		0.19	0.14	ug/L		01/24/22 09:57	01/26/22 23:14	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.12	ug/L		01/24/22 09:57	01/26/22 23:14	1
Isophorone	ND		0.19	0.083	ug/L		01/24/22 09:57	01/26/22 23:14	1
Naphthalene	ND		0.19	0.093	ug/L		01/24/22 09:57	01/26/22 23:14	1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Client Sample ID: Outfall002_20220119_Comp **Lab Sample ID: 570-82063-1**
Date Collected: 01/19/22 08:30 **Matrix: Water**
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		0.19	0.092	ug/L		01/24/22 09:57	01/26/22 23:14	1
N-Nitrosodimethylamine	ND		0.19	0.13	ug/L		01/24/22 09:57	01/26/22 23:14	1
N-Nitrosodi-n-propylamine	ND		0.19	0.16	ug/L		01/24/22 09:57	01/26/22 23:14	1
N-Nitrosodiphenylamine	ND		0.19	0.090	ug/L		01/24/22 09:57	01/26/22 23:14	1
Pentachlorophenol	ND		0.94	0.10	ug/L		01/24/22 09:57	01/26/22 23:14	1
Phenanthrene	ND		0.19	0.070	ug/L		01/24/22 09:57	01/26/22 23:14	1
Phenol	ND		0.94	0.76	ug/L		01/24/22 09:57	01/26/22 23:14	1
Pyrene	ND		0.19	0.075	ug/L		01/24/22 09:57	01/26/22 23:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*65*		*28 - 127*	*01/24/22 09:57*	*01/26/22 23:14*	*1*
2-Fluorobiphenyl (Surr)	*46*		*31 - 120*	*01/24/22 09:57*	*01/26/22 23:14*	*1*
2-Fluorophenol	*33*		*17 - 120*	*01/24/22 09:57*	*01/26/22 23:14*	*1*
Nitrobenzene-d5	*53*		*27 - 120*	*01/24/22 09:57*	*01/26/22 23:14*	*1*
Phenol-d6 (Surr)	*21*		*10 - 120*	*01/24/22 09:57*	*01/26/22 23:14*	*1*
p-Terphenyl-d14 (Surr)	*58*		*45 - 120*	*01/24/22 09:57*	*01/26/22 23:14*	*1*

Method: 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall002_20220119_Comp
Date Collected: 01/19/22 08:30
Date Received: 01/19/22 18:20

Lab Sample ID: 570-82063-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 20:57	1
alpha-BHC	ND		0.0013	0.00080	ug/L		01/20/22 05:44	01/21/22 20:57	1
beta-BHC	ND		0.0020	0.0017	ug/L		01/20/22 05:44	01/21/22 20:57	1
delta-BHC	ND		0.0013	0.0011	ug/L		01/20/22 05:44	01/21/22 20:57	1
gamma-BHC (Lindane)	ND		0.0013	0.00090	ug/L		01/20/22 05:44	01/21/22 20:57	1
Chlordane (technical)	ND		0.010	0.0065	ug/L		01/20/22 05:44	01/21/22 20:57	1
4,4'-DDD	ND		0.0013	0.00080	ug/L		01/20/22 05:44	01/21/22 20:57	1
4,4'-DDE	ND		0.0013	0.00050	ug/L		01/20/22 05:44	01/21/22 20:57	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		01/20/22 05:44	01/21/22 20:57	1
Dieldrin	ND		0.0013	0.00050	ug/L		01/20/22 05:44	01/21/22 20:57	1
Endosulfan I	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 20:57	1
Endosulfan II	ND		0.0013	0.00050	ug/L		01/20/22 05:44	01/21/22 20:57	1
Endosulfan sulfate	ND		0.0013	0.00060	ug/L		01/20/22 05:44	01/21/22 20:57	1
Endrin	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 20:57	1
Endrin aldehyde	ND		0.010	0.0051	ug/L		01/20/22 05:44	01/21/22 20:57	1
Heptachlor	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 20:57	1
Heptachlor epoxide	ND		0.0013	0.00040	ug/L		01/20/22 05:44	01/21/22 20:57	1
Toxaphene	ND		0.10	0.013	ug/L		01/20/22 05:44	01/21/22 20:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*51*		*20 - 139*	*01/20/22 05:44*	*01/21/22 20:57*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 16:15	1
Aroclor 1221	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 16:15	1
Aroclor 1232	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 16:15	1
Aroclor 1242	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 16:15	1
Aroclor 1248	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 16:15	1
Aroclor 1254	ND		0.10	0.052	ug/L		01/20/22 05:44	01/21/22 16:15	1
Aroclor 1260	ND		0.10	0.052	ug/L		01/20/22 05:44	01/21/22 16:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*63*		*20 - 154*	*01/20/22 05:44*	*01/21/22 16:15*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND	BU	1.0	0.25	ug/L			01/20/22 08:31	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**32**		10	5.0	mg/L			01/20/22 16:27	20
Nitrate as N	**0.14**		0.11	0.055	mg/L			01/20/22 16:11	1
Fluoride	**0.27**	**J,DX**	0.50	0.20	mg/L			01/20/22 16:11	1
Nitrite as N	ND		0.15	0.024	mg/L			01/20/22 16:11	1
Sulfate	**200**		10	5.0	mg/L			01/20/22 16:27	20

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 314.0 - Perchlorate (IC)

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			01/21/22 06:28	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: NO3NO2 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.14	J,DX	0.15	0.055	mg/L			01/31/22 13:54	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**8.9**	**J,DX**	20	8.9	ug/L		01/31/22 12:12	02/01/22 13:53	1
Barium	**52**		10	2.2	ug/L		01/31/22 12:12	02/01/22 13:53	1
Beryllium	ND		2.0	0.44	ug/L		01/31/22 12:12	02/01/22 13:53	1
Boron	**110**		50	25	ug/L		01/31/22 12:12	02/01/22 13:53	1
Chromium	ND		5.0	2.5	ug/L		01/31/22 12:12	02/01/22 13:53	1
Cobalt	ND		10	2.8	ug/L		01/31/22 12:12	02/01/22 13:53	1
Iron	ND		100	50	ug/L		01/31/22 12:12	02/01/22 13:53	1
Manganese	ND		20	6.8	ug/L		01/31/22 12:12	02/01/22 13:53	1
Nickel	ND		10	5.0	ug/L		01/31/22 12:12	02/01/22 13:53	1
Vanadium	ND		10	2.1	ug/L		01/31/22 12:12	02/01/22 13:53	1
Zinc	ND		20	12	ug/L		01/31/22 12:12	02/01/22 13:53	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: Outfall002_20220119_Comp_F
Lab Sample ID: 570-82063-3
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**13**	**J,DX**	20	8.9	ug/L		01/26/22 17:34	01/27/22 13:32	1
Barium	**50**		10	2.2	ug/L		01/26/22 17:34	01/27/22 13:32	1
Beryllium	ND		2.0	0.44	ug/L		01/26/22 17:34	01/27/22 13:32	1
Boron	**89**		50	25	ug/L		01/26/22 17:34	01/27/22 13:32	1
Chromium	ND		5.0	2.5	ug/L		01/26/22 17:34	01/27/22 13:32	1
Cobalt	ND		10	2.8	ug/L		01/26/22 17:34	01/27/22 13:32	1
Iron	ND		100	50	ug/L		01/26/22 17:34	01/27/22 13:32	1
Manganese	ND		20	6.8	ug/L		01/26/22 17:34	01/27/22 13:32	1
Nickel	ND		10	5.0	ug/L		01/26/22 17:34	01/27/22 13:32	1
Vanadium	ND		10	2.1	ug/L		01/26/22 17:34	01/27/22 13:32	1
Zinc	ND		20	12	ug/L		01/26/22 17:34	01/27/22 13:32	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		02/01/22 05:52	02/01/22 12:38	1
Cadmium	ND		1.0	0.25	ug/L		02/01/22 05:52	02/01/22 12:38	1
Copper	**1.3**	**J,DX**	2.0	0.50	ug/L		02/01/22 05:52	02/01/22 12:38	1
Lead	ND		1.0	0.50	ug/L		02/01/22 05:52	02/01/22 12:38	1
Antimony	**0.55**	**J,DX**	2.0	0.50	ug/L		02/01/22 05:52	02/01/22 12:38	1
Selenium	ND		2.0	0.50	ug/L		02/01/22 05:52	02/01/22 12:38	1
Thallium	ND		1.0	0.20	ug/L		02/01/22 05:52	02/01/22 12:38	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall002_20220119_Comp_F
Lab Sample ID: 570-82063-3
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/26/22 15:00	01/27/22 11:54	1
Cadmium	ND		1.0	0.25	ug/L		01/26/22 15:00	01/27/22 11:54	1
Copper	**3.0**		2.0	0.50	ug/L		01/26/22 15:00	01/27/22 11:54	1
Lead	ND		1.0	0.50	ug/L		01/26/22 15:00	01/27/22 11:54	1
Antimony	**0.52**	**J,DX**	2.0	0.50	ug/L		01/26/22 15:00	01/27/22 11:54	1
Selenium	**0.51**	**J,DX**	2.0	0.50	ug/L		01/26/22 15:00	01/27/22 11:54	1
Thallium	ND		1.0	0.20	ug/L		01/26/22 15:00	01/27/22 11:54	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 245.1 - Mercury (CVAA)

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		02/01/22 10:46	02/01/22 15:25	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall002_20220119_Comp_F
Lab Sample ID: 570-82063-3
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.25	0.12	ug/L		01/28/22 14:30	01/31/22 18:11	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	300		0.91	0.17	mg/L			02/03/22 17:47	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Client Sample ID: Outfall002_20220119_Comp_F
Lab Sample ID: 570-82063-3
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	280		0.91	0.17	mg/L			02/01/22 17:48	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

General Chemistry

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	**0.15**		0.10	0.05	NTU			01/20/22 10:58	1
Cr (III)	ND		1.0	0.50	ug/L			02/03/22 10:24	1
Total Dissolved Solids	**560**		10	3.0	mg/L			01/21/22 13:33	1
Total Suspended Solids	**0.60**	**J,DX**	1.0	0.50	mg/L			01/25/22 15:21	1
Cyanide, Total	ND		5.0	2.5	ug/L		01/31/22 12:01	01/31/22 18:14	1
Ammonia (as N)	**0.147**	**J,DX**	0.200	0.100	mg/L			01/28/22 13:40	1
Carbon, Total Organic	**4.6**		0.50	0.26	mg/L			01/20/22 13:55	1
Methylene Blue Active Substances	**0.12**		0.10	0.050	mg/L			01/20/22 18:18	1
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			01/20/22 20:13	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	14DCBTN (67-133)
570-82063-1	Outfall002_20220119_Comp	120
LCS 570-210396/4	Lab Control Sample	124
LCSD 570-210396/5	Lab Control Sample Dup	123
MB 570-210396/8	Method Blank	117

Surrogate Legend

14DCBTN = 1,4-Dichlorobutane (Surr)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	TBP (28-127)	FBP (31-120)	2FP (17-120)	NBZ (27-120)	PHL6 (10-120)	TPHd14 (45-120)
570-82063-1	Outfall002_20220119_Comp	65	46	33	53	21	58
LCS 570-209053/2-A	Lab Control Sample	56	43	36	46	22	52
LCSD 570-209053/3-A	Lab Control Sample Dup	58	45	36	49	23	55
MB 570-209053/1-A	Method Blank	55	46	38	60	24	56

Surrogate Legend

TBP = 2,4,6-Tribromophenol
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL6 = Phenol-d6 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	TCX1 (20-139)
570-82063-1	Outfall002_20220119_Comp	51
LCS 570-208417/2-A	Lab Control Sample	64
LCSD 570-208417/3-A	Lab Control Sample Dup	58
MB 570-208417/1-A	Method Blank	55

Surrogate Legend

TCX = Tetrachloro-m-xylene

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	DCB1 (20-154)
570-82063-1	Outfall002_20220119_Comp	63
MB 570-208417/1-A	Method Blank	70

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-210396/8
Matrix: Water
Analysis Batch: 210396

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.55	ug/L			01/31/22 15:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dichlorobutane (Surr)	*117*		*67 - 133*		*01/31/22 15:37*	*1*

Lab Sample ID: LCS 570-210396/4
Matrix: Water
Analysis Batch: 210396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			20.0	21.8		ug/L		109	75 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dichlorobutane (Surr)	*124*		*67 - 133*

Lab Sample ID: LCSD 570-210396/5
Matrix: Water
Analysis Batch: 210396

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			20.0	23.1		ug/L		116	75 - 120	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dichlorobutane (Surr)	*123*		*67 - 133*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-209053/1-A
Matrix: Water
Analysis Batch: 209308

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209053

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
1,2-Dichlorobenzene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.20	0.069	ug/L		01/24/22 09:57	01/26/22 18:18	1
1,3-Dichlorobenzene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
1,4-Dichlorobenzene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
2,4,6-Trichlorophenol	ND		1.0	0.16	ug/L		01/24/22 09:57	01/26/22 18:18	1
2,4-Dichlorophenol	ND		1.0	0.097	ug/L		01/24/22 09:57	01/26/22 18:18	1
2,4-Dimethylphenol	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
2,4-Dinitrophenol	ND		5.0	4.6	ug/L		01/24/22 09:57	01/26/22 18:18	1
2,4-Dinitrotoluene	ND		0.20	0.11	ug/L		01/24/22 09:57	01/26/22 18:18	1
2,6-Dinitrotoluene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
2-Chloronaphthalene	ND		0.20	0.14	ug/L		01/24/22 09:57	01/26/22 18:18	1
2-Chlorophenol	ND		0.20	0.082	ug/L		01/24/22 09:57	01/26/22 18:18	1
2-Nitrophenol	ND		5.0	4.1	ug/L		01/24/22 09:57	01/26/22 18:18	1
3,3'-Dichlorobenzidine	ND		5.0	1.6	ug/L		01/24/22 09:57	01/26/22 18:18	1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: MB 570-209053/1-A
Matrix: Water
Analysis Batch: 209308

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209053

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		5.0	4.0	ug/L		01/24/22 09:57	01/26/22 18:18	1
4-Bromophenyl phenyl ether	ND		0.20	0.077	ug/L		01/24/22 09:57	01/26/22 18:18	1
4-Chloro-3-methylphenol	ND		1.0	0.12	ug/L		01/24/22 09:57	01/26/22 18:18	1
4-Chlorophenyl phenyl ether	ND		0.20	0.090	ug/L		01/24/22 09:57	01/26/22 18:18	1
4-Nitrophenol	ND		5.0	3.6	ug/L		01/24/22 09:57	01/26/22 18:18	1
Acenaphthene	ND		0.20	0.086	ug/L		01/24/22 09:57	01/26/22 18:18	1
Acenaphthylene	ND		0.20	0.084	ug/L		01/24/22 09:57	01/26/22 18:18	1
Anthracene	ND		0.20	0.072	ug/L		01/24/22 09:57	01/26/22 18:18	1
Benzidine	ND		5.0	2.3	ug/L		01/24/22 09:57	01/26/22 18:18	1
Benzo[a]anthracene	ND		0.20	0.070	ug/L		01/24/22 09:57	01/26/22 18:18	1
Benzo[a]pyrene	ND		0.20	0.20	ug/L		01/24/22 09:57	01/26/22 18:18	1
Benzo[b]fluoranthene	ND		0.20	0.10	ug/L		01/24/22 09:57	01/26/22 18:18	1
Benzo[g,h,i]perylene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
Benzo[k]fluoranthene	ND		0.20	0.077	ug/L		01/24/22 09:57	01/26/22 18:18	1
bis (2-chloroisopropyl) ether	ND		0.20	0.092	ug/L		01/24/22 09:57	01/26/22 18:18	1
Bis(2-chloroethoxy)methane	ND		0.20	0.15	ug/L		01/24/22 09:57	01/26/22 18:18	1
Bis(2-chloroethyl)ether	ND		0.20	0.098	ug/L		01/24/22 09:57	01/26/22 18:18	1
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		01/24/22 09:57	01/26/22 18:18	1
Butyl benzyl phthalate	ND		1.0	0.98	ug/L		01/24/22 09:57	01/26/22 18:18	1
Chrysene	ND		0.20	0.058	ug/L		01/24/22 09:57	01/26/22 18:18	1
Dibenz(a,h)anthracene	ND		0.20	0.14	ug/L		01/24/22 09:57	01/26/22 18:18	1
Diethyl phthalate	ND		2.0	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
Dimethyl phthalate	ND		2.0	0.072	ug/L		01/24/22 09:57	01/26/22 18:18	1
Di-n-butyl phthalate	ND		2.0	1.9	ug/L		01/24/22 09:57	01/26/22 18:18	1
Di-n-octyl phthalate	ND		3.0	0.64	ug/L		01/24/22 09:57	01/26/22 18:18	1
Fluoranthene	ND		0.20	0.096	ug/L		01/24/22 09:57	01/26/22 18:18	1
Fluorene	ND		0.20	0.080	ug/L		01/24/22 09:57	01/26/22 18:18	1
Hexachlorobenzene	ND		0.20	0.094	ug/L		01/24/22 09:57	01/26/22 18:18	1
Hexachlorobutadiene	ND		0.20	0.17	ug/L		01/24/22 09:57	01/26/22 18:18	1
Hexachlorocyclopentadiene	ND		0.20	0.098	ug/L		01/24/22 09:57	01/26/22 18:18	1
Hexachloroethane	ND		0.20	0.15	ug/L		01/24/22 09:57	01/26/22 18:18	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.12	ug/L		01/24/22 09:57	01/26/22 18:18	1
Isophorone	ND		0.20	0.088	ug/L		01/24/22 09:57	01/26/22 18:18	1
Naphthalene	ND		0.20	0.098	ug/L		01/24/22 09:57	01/26/22 18:18	1
Nitrobenzene	ND		0.20	0.097	ug/L		01/24/22 09:57	01/26/22 18:18	1
N-Nitrosodimethylamine	ND		0.20	0.14	ug/L		01/24/22 09:57	01/26/22 18:18	1
N-Nitrosodi-n-propylamine	ND		0.20	0.17	ug/L		01/24/22 09:57	01/26/22 18:18	1
N-Nitrosodiphenylamine	ND		0.20	0.096	ug/L		01/24/22 09:57	01/26/22 18:18	1
Pentachlorophenol	ND		1.0	0.11	ug/L		01/24/22 09:57	01/26/22 18:18	1
Phenanthrene	ND		0.20	0.074	ug/L		01/24/22 09:57	01/26/22 18:18	1
Phenol	ND		1.0	0.80	ug/L		01/24/22 09:57	01/26/22 18:18	1
Pyrene	ND		0.20	0.080	ug/L		01/24/22 09:57	01/26/22 18:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*55*		*28 - 127*	*01/24/22 09:57*	*01/26/22 18:18*	*1*
2-Fluorobiphenyl (Surr)	*46*		*31 - 120*	*01/24/22 09:57*	*01/26/22 18:18*	*1*
2-Fluorophenol	*38*		*17 - 120*	*01/24/22 09:57*	*01/26/22 18:18*	*1*
Nitrobenzene-d5	*60*		*27 - 120*	*01/24/22 09:57*	*01/26/22 18:18*	*1*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: MB 570-209053/1-A
Matrix: Water
Analysis Batch: 209308

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209053

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d6 (Surr)	24		10 - 120	01/24/22 09:57	01/26/22 18:18	1
p-Terphenyl-d14 (Surr)	56		45 - 120	01/24/22 09:57	01/26/22 18:18	1

Lab Sample ID: LCS 570-209053/2-A
Matrix: Water
Analysis Batch: 209773

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209053

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	20.0	13.1		ug/L		65	57 - 130
1,2-Dichlorobenzene	20.0	13.8		ug/L		69	41 - 100
1,2-Diphenylhydrazine(as Azobenzene)	20.0	12.5		ug/L		63	60 - 115
1,3-Dichlorobenzene	20.0	13.4		ug/L		67	39 - 100
1,4-Dichlorobenzene	20.0	13.5		ug/L		68	40 - 100
2,4,6-Trichlorophenol	20.0	14.9		ug/L		75	52 - 129
2,4-Dichlorophenol	20.0	14.3		ug/L		72	53 - 122
2,4-Dimethylphenol	20.0	13.9		ug/L		70	42 - 120
2,4-Dinitrophenol	20.0	11.6		ug/L		58	1 - 173
2,4-Dinitrotoluene	20.0	15.3		ug/L		77	48 - 127
2,6-Dinitrotoluene	20.0	15.6		ug/L		78	68 - 137
2-Chloronaphthalene	20.0	12.4	LR	ug/L		62	65 - 120
2-Chlorophenol	20.0	15.6		ug/L		78	36 - 120
2-Nitrophenol	20.0	14.6		ug/L		73	45 - 167
3,3'-Dichlorobenzidine	20.0	15.8		ug/L		79	8 - 213
4,6-Dinitro-2-methylphenol	20.0	8.57	LR	ug/L		43	53 - 130
4-Bromophenyl phenyl ether	20.0	13.3		ug/L		66	65 - 120
4-Chloro-3-methylphenol	20.0	13.9		ug/L		69	41 - 128
4-Chlorophenyl phenyl ether	20.0	14.3		ug/L		71	38 - 145
4-Nitrophenol	20.0	10.7		ug/L		54	13 - 129
Acenaphthene	20.0	13.5		ug/L		67	60 - 132
Acenaphthylene	20.0	15.4		ug/L		77	54 - 126
Anthracene	20.0	15.1		ug/L		75	43 - 120
Benzidine	20.0	6.14		ug/L		31	10 - 124
Benzo[a]anthracene	20.0	16.5		ug/L		82	42 - 133
Benzo[a]pyrene	20.0	18.7		ug/L		93	32 - 148
Benzo[b]fluoranthene	20.0	17.9		ug/L		89	42 - 140
Benzo[g,h,i]perylene	20.0	14.8		ug/L		74	1 - 195
Benzo[k]fluoranthene	20.0	14.0		ug/L		70	25 - 146
bis (2-chloroisopropyl) ether	20.0	15.5		ug/L		77	63 - 139
Bis(2-chloroethoxy)methane	20.0	12.4		ug/L		62	49 - 165
Bis(2-chloroethyl)ether	20.0	13.9		ug/L		70	43 - 126
Bis(2-ethylhexyl) phthalate	20.0	16.9		ug/L		84	29 - 137
Butyl benzyl phthalate	20.0	17.0		ug/L		85	1 - 140
Chrysene	20.0	14.2		ug/L		71	44 - 140
Dibenz(a,h)anthracene	20.0	15.2		ug/L		76	1 - 200
Diethyl phthalate	20.0	14.6		ug/L		73	1 - 120
Dimethyl phthalate	20.0	14.1		ug/L		70	1 - 120
Di-n-butyl phthalate	20.0	15.7		ug/L		79	8 - 120
Di-n-octyl phthalate	20.0	19.1		ug/L		96	19 - 132

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCS 570-209053/2-A
Matrix: Water
Analysis Batch: 209773

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209053

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoranthene			20.0	16.2		ug/L		81	43 - 121		
Fluorene			20.0	14.6		ug/L		73	70 - 120		
Hexachlorobenzene			20.0	13.7		ug/L		69	8 - 142		
Hexachlorobutadiene			20.0	12.4		ug/L		62	38 - 120		
Hexachlorocyclopentadiene			20.0	10.1		ug/L		51	20 - 137		
Hexachloroethane			20.0	13.1		ug/L		66	55 - 120		
Indeno[1,2,3-cd]pyrene			20.0	18.0		ug/L		90	1 - 151		
Isophorone			20.0	14.0		ug/L		70	47 - 180		
Naphthalene			20.0	12.4		ug/L		62	36 - 120		
Nitrobenzene			20.0	12.8		ug/L		64	54 - 158		
N-Nitrosodimethylamine			20.0	12.6		ug/L		63	30 - 100		
N-Nitrosodi-n-propylamine			20.0	15.4		ug/L		77	14 - 198		
N-Nitrosodiphenylamine			20.0	17.3		ug/L		87	75 - 135		
Pentachlorophenol			20.0	13.7		ug/L		68	38 - 152		
Phenanthrene			20.0	14.0		ug/L		70	65 - 120		
Phenol			20.0	8.73		ug/L		44	17 - 120		
Pyrene			20.0	14.5		ug/L		72	70 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*56*		*28 - 127*
2-Fluorobiphenyl (Surr)	*43*		*31 - 120*
2-Fluorophenol	*36*		*17 - 120*
Nitrobenzene-d5	*46*		*27 - 120*
Phenol-d6 (Surr)	*22*		*10 - 120*
p-Terphenyl-d14 (Surr)	*52*		*45 - 120*

Lab Sample ID: LCSD 570-209053/3-A
Matrix: Water
Analysis Batch: 209773

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 209053

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene			20.0	12.4		ug/L		62	57 - 130	5	30
1,2-Dichlorobenzene			20.0	13.8		ug/L		69	41 - 100	0	20
1,2-Diphenylhydrazine(as Azobenzene)			20.0	12.9		ug/L		64	60 - 115	3	30
1,3-Dichlorobenzene			20.0	13.2		ug/L		66	39 - 100	2	20
1,4-Dichlorobenzene			20.0	13.1		ug/L		65	40 - 100	3	20
2,4,6-Trichlorophenol			20.0	15.3		ug/L		77	52 - 129	2	35
2,4-Dichlorophenol			20.0	14.3		ug/L		71	53 - 122	0	30
2,4-Dimethylphenol			20.0	13.5		ug/L		67	42 - 120	3	35
2,4-Dinitrophenol			20.0	17.3		ug/L		87	1 - 173	40	79
2,4-Dinitrotoluene			20.0	15.1		ug/L		75	48 - 127	1	25
2,6-Dinitrotoluene			20.0	15.7		ug/L		79	68 - 137	1	29
2-Chloronaphthalene			20.0	12.7	LR	ug/L		64	65 - 120	2	15
2-Chlorophenol			20.0	15.1		ug/L		75	36 - 120	4	37
2-Nitrophenol			20.0	14.4		ug/L		72	45 - 167	1	33
3,3'-Dichlorobenzidine			20.0	14.9		ug/L		75	8 - 213	6	65
4,6-Dinitro-2-methylphenol			20.0	12.8		ug/L		64	53 - 130	40	122
4-Bromophenyl phenyl ether			20.0	13.7		ug/L		68	65 - 120	3	26

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-209053/3-A
Matrix: Water
Analysis Batch: 209773

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 209053

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Chloro-3-methylphenol			20.0	13.9		ug/L		69	41 - 128	0	44
4-Chlorophenyl phenyl ether			20.0	14.0		ug/L		70	38 - 145	2	36
4-Nitrophenol			20.0	9.47		ug/L		47	13 - 129	12	79
Acenaphthene			20.0	12.7		ug/L		64	60 - 132	6	29
Acenaphthylene			20.0	15.1		ug/L		76	54 - 126	2	45
Anthracene			20.0	15.1		ug/L		75	43 - 120	0	40
Benzidine			20.0	4.44	J,DX	ug/L		22	10 - 124	32	40
Benzo[a]anthracene			20.0	16.1		ug/L		80	42 - 133	2	32
Benzo[a]pyrene			20.0	16.0		ug/L		80	32 - 148	15	43
Benzo[b]fluoranthene			20.0	15.4		ug/L		77	42 - 140	15	43
Benzo[g,h,i]perylene			20.0	14.7		ug/L		73	1 - 195	1	61
Benzo[k]fluoranthene			20.0	13.8		ug/L		69	25 - 146	2	38
bis (2-chloroisopropyl) ether			20.0	15.8		ug/L		79	63 - 139	2	46
Bis(2-chloroethoxy)methane			20.0	12.8		ug/L		64	49 - 165	3	32
Bis(2-chloroethyl)ether			20.0	14.5		ug/L		72	43 - 126	4	65
Bis(2-ethylhexyl) phthalate			20.0	18.5		ug/L		92	29 - 137	9	50
Butyl benzyl phthalate			20.0	17.3		ug/L		87	1 - 140	2	36
Chrysene			20.0	14.0		ug/L		70	44 - 140	2	53
Dibenz(a,h)anthracene			20.0	15.1		ug/L		76	1 - 200	1	75
Diethyl phthalate			20.0	15.2		ug/L		76	1 - 120	4	60
Dimethyl phthalate			20.0	14.0		ug/L		70	1 - 120	1	110
Di-n-butyl phthalate			20.0	15.9		ug/L		79	8 - 120	1	28
Di-n-octyl phthalate			20.0	11.9	BA	ug/L		59	19 - 132	47	42
Fluoranthene			20.0	15.0		ug/L		75	43 - 121	7	40
Fluorene			20.0	14.0		ug/L		70	70 - 120	4	23
Hexachlorobenzene			20.0	13.7		ug/L		69	8 - 142	0	33
Hexachlorobutadiene			20.0	12.4		ug/L		62	38 - 120	1	38
Hexachlorocyclopentadiene			20.0	12.8	BA	ug/L		64	20 - 137	23	20
Hexachloroethane			20.0	14.2		ug/L		71	55 - 120	8	32
Indeno[1,2,3-cd]pyrene			20.0	13.9		ug/L		69	1 - 151	26	60
Isophorone			20.0	13.7		ug/L		69	47 - 180	2	56
Naphthalene			20.0	12.0		ug/L		60	36 - 120	3	39
Nitrobenzene			20.0	12.5		ug/L		63	54 - 158	2	37
N-Nitrosodimethylamine			20.0	12.5		ug/L		63	30 - 100	1	20
N-Nitrosodi-n-propylamine			20.0	15.8		ug/L		79	14 - 198	3	52
N-Nitrosodiphenylamine			20.0	17.6		ug/L		88	75 - 135	1	20
Pentachlorophenol			20.0	12.7		ug/L		63	38 - 152	8	52
Phenanthrene			20.0	13.8		ug/L		69	65 - 120	1	24
Phenol			20.0	8.40		ug/L		42	17 - 120	4	39
Pyrene			20.0	14.3		ug/L		72	70 - 120	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol	*58*		*28 - 127*
2-Fluorobiphenyl (Surr)	*45*		*31 - 120*
2-Fluorophenol	*36*		*17 - 120*
Nitrobenzene-d5	*49*		*27 - 120*
Phenol-d6 (Surr)	*23*		*10 - 120*
p-Terphenyl-d14 (Surr)	*55*		*45 - 120*

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-208417/1-A
Matrix: Water
Analysis Batch: 208660

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208417

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 10:46	1
alpha-BHC	ND		0.0013	0.00080	ug/L		01/20/22 05:44	01/21/22 10:46	1
beta-BHC	ND		0.0020	0.0017	ug/L		01/20/22 05:44	01/21/22 10:46	1
delta-BHC	ND		0.0013	0.0011	ug/L		01/20/22 05:44	01/21/22 10:46	1
gamma-BHC (Lindane)	ND		0.0013	0.00090	ug/L		01/20/22 05:44	01/21/22 10:46	1
Chlordane (technical)	ND		0.010	0.0065	ug/L		01/20/22 05:44	01/21/22 10:46	1
4,4'-DDD	ND		0.0013	0.00080	ug/L		01/20/22 05:44	01/21/22 10:46	1
4,4'-DDE	ND		0.0013	0.00050	ug/L		01/20/22 05:44	01/21/22 10:46	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		01/20/22 05:44	01/21/22 10:46	1
Dieldrin	ND		0.0013	0.00050	ug/L		01/20/22 05:44	01/21/22 10:46	1
Endosulfan I	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 10:46	1
Endosulfan II	ND		0.0013	0.00050	ug/L		01/20/22 05:44	01/21/22 10:46	1
Endosulfan sulfate	ND		0.0013	0.00060	ug/L		01/20/22 05:44	01/21/22 10:46	1
Endrin	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 10:46	1
Endrin aldehyde	ND		0.010	0.0051	ug/L		01/20/22 05:44	01/21/22 10:46	1
Heptachlor	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 10:46	1
Heptachlor epoxide	ND		0.0013	0.00040	ug/L		01/20/22 05:44	01/21/22 10:46	1
Toxaphene	ND		0.10	0.013	ug/L		01/20/22 05:44	01/21/22 10:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*55*		*20 - 139*	*01/20/22 05:44*	*01/21/22 10:46*	*1*

Lab Sample ID: LCS 570-208417/2-A
Matrix: Water
Analysis Batch: 208660

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208417

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.0333	0.0280		ug/L		84	42 - 140
alpha-BHC	0.0333	0.0278		ug/L		83	37 - 140
beta-BHC	0.0333	0.0276		ug/L		83	17 - 147
delta-BHC	0.0333	0.0297		ug/L		89	19 - 140
gamma-BHC (Lindane)	0.0333	0.0284		ug/L		85	32 - 140
4,4'-DDD	0.0333	0.0315		ug/L		94	31 - 141
4,4'-DDE	0.0333	0.0298		ug/L		89	30 - 145
4,4'-DDT	0.0333	0.0341		ug/L		102	25 - 160
Dieldrin	0.0333	0.0308		ug/L		92	36 - 146
Endosulfan I	0.0333	0.0286		ug/L		86	45 - 153
Endosulfan II	0.0333	0.0309		ug/L		93	1 - 202
Endosulfan sulfate	0.0333	0.0331		ug/L		99	26 - 144
Endrin	0.0333	0.0336		ug/L		101	30 - 147
Endrin aldehyde	0.0333	0.0399		ug/L		120	60 - 140
Heptachlor	0.0333	0.0287		ug/L		86	34 - 140
Heptachlor epoxide	0.0333	0.0289		ug/L		87	37 - 142

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*64*		*20 - 139*

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: LCSD 570-208417/3-A
Matrix: Water
Analysis Batch: 208660

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208417

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin			0.0333	0.0241		ug/L		72	42 - 140	15	35
alpha-BHC			0.0333	0.0248		ug/L		74	37 - 140	11	36
beta-BHC			0.0333	0.0235		ug/L		71	17 - 147	16	44
delta-BHC			0.0333	0.0251		ug/L		75	19 - 140	17	52
gamma-BHC (Lindane)			0.0333	0.0250		ug/L		75	32 - 140	13	39
4,4'-DDD			0.0333	0.0263		ug/L		79	31 - 141	18	39
4,4'-DDE			0.0333	0.0249		ug/L		75	30 - 145	18	35
4,4'-DDT			0.0333	0.0287		ug/L		86	25 - 160	17	42
Dieldrin			0.0333	0.0258		ug/L		77	36 - 146	18	49
Endosulfan I			0.0333	0.0241		ug/L		72	45 - 153	17	28
Endosulfan II			0.0333	0.0266		ug/L		80	1 - 202	15	53
Endosulfan sulfate			0.0333	0.0275		ug/L		82	26 - 144	19	38
Endrin			0.0333	0.0281		ug/L		84	30 - 147	18	48
Endrin aldehyde			0.0333	0.0341		ug/L		102	60 - 140	16	30
Heptachlor			0.0333	0.0250		ug/L		75	34 - 140	14	43
Heptachlor epoxide			0.0333	0.0245		ug/L		74	37 - 142	16	26

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*58*		*20 - 139*

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 570-208417/1-A
Matrix: Water
Analysis Batch: 208664

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208417

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:03	1
Aroclor 1221	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:03	1
Aroclor 1232	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:03	1
Aroclor 1242	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:03	1
Aroclor 1248	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:03	1
Aroclor 1254	ND		0.10	0.052	ug/L		01/20/22 05:44	01/21/22 15:03	1
Aroclor 1260	ND		0.10	0.052	ug/L		01/20/22 05:44	01/21/22 15:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*70*		*20 - 154*	*01/20/22 05:44*	*01/21/22 15:03*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-664905/6
Matrix: Water
Analysis Batch: 664905

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			01/20/22 04:06	1

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

Lab Sample ID: LCS 440-664905/5
Matrix: Water
Analysis Batch: 664905

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	49.4		ug/L		99	90 - 110

Lab Sample ID: MRL 440-664905/4
Matrix: Water
Analysis Batch: 664905

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	1.00	1.09		ug/L		109	50 - 150

Lab Sample ID: 570-82078-A-1 MS
Matrix: Water
Analysis Batch: 664905

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND		50.0	49.8		ug/L		100	90 - 110

Lab Sample ID: 570-82078-A-1 MSD
Matrix: Water
Analysis Batch: 664905

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND		50.0	49.8		ug/L		100	90 - 110	0	10

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-664932/6
Matrix: Water
Analysis Batch: 664932

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.11	0.055	mg/L			01/20/22 11:42	1
Nitrite as N	ND		0.15	0.024	mg/L			01/20/22 11:42	1

Lab Sample ID: LCS 440-664932/5
Matrix: Water
Analysis Batch: 664932

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	1.13	1.09		mg/L		97	90 - 110
Nitrite as N	1.52	1.49		mg/L		98	90 - 110

Lab Sample ID: 570-82068-I-1 MS
Matrix: Water
Analysis Batch: 664932

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	1.5		1.13	2.62		mg/L		98	80 - 120
Nitrite as N	ND		1.52	1.53		mg/L		100	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 570-82068-I-1 MSD
Matrix: Water
Analysis Batch: 664932

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	1.5		1.13	2.61		mg/L		98	80 - 120	0	20
Nitrite as N	ND		1.52	1.52		mg/L		100	80 - 120	1	20

Lab Sample ID: MB 440-664933/6
Matrix: Water
Analysis Batch: 664933

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			01/20/22 11:42	1
Fluoride	ND		0.50	0.20	mg/L			01/20/22 11:42	1
Sulfate	ND		0.50	0.25	mg/L			01/20/22 11:42	1

Lab Sample ID: LCS 440-664933/5
Matrix: Water
Analysis Batch: 664933

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.76		mg/L		95	90 - 110
Fluoride	5.00	4.78		mg/L		96	90 - 110
Sulfate	5.00	4.94		mg/L		99	90 - 110

Lab Sample ID: 570-82068-I-1 MS
Matrix: Water
Analysis Batch: 664933

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	32	EY	5.00	37.8	EY BB	mg/L		119	80 - 120
Fluoride	ND		5.00	4.93		mg/L		99	80 - 120
Sulfate	30		5.00	35.1	BB	mg/L		106	80 - 120

Lab Sample ID: 570-82068-I-1 MSD
Matrix: Water
Analysis Batch: 664933

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	32	EY	5.00	37.9	EY BB	mg/L		119	80 - 120	0	20
Fluoride	ND		5.00	4.89		mg/L		98	80 - 120	1	20
Sulfate	30		5.00	35.2	BB	mg/L		107	80 - 120	0	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-665039/6
Matrix: Water
Analysis Batch: 665039

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			01/21/22 05:15	1

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: LCS 440-665039/5
Matrix: Water
Analysis Batch: 665039

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	25.1		ug/L		100	85 - 115

Lab Sample ID: MRL 440-665039/4
Matrix: Water
Analysis Batch: 665039

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	2.00	1.89	J,DX	ug/L		94	75 - 125

Lab Sample ID: MRL 440-665039/7
Matrix: Water
Analysis Batch: 665039

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	ND		ug/L		95	75 - 125

Lab Sample ID: MRL 440-665039/9
Matrix: Water
Analysis Batch: 665039

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.80	J,DX	ug/L		95	75 - 125

Lab Sample ID: 570-82063-1 MS
Matrix: Water
Analysis Batch: 665039

Client Sample ID: Outfall002_20220119_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	ND		25.0	24.6		ug/L		98	80 - 120

Lab Sample ID: 570-82063-1 MSD
Matrix: Water
Analysis Batch: 665039

Client Sample ID: Outfall002_20220119_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		25.0	24.3		ug/L		97	80 - 120	1	15

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-665972/1-A
Matrix: Water
Analysis Batch: 666079

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 665972

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/31/22 12:12	02/01/22 13:17	1
Barium	ND		10	2.2	ug/L		01/31/22 12:12	02/01/22 13:17	1
Beryllium	ND		2.0	0.44	ug/L		01/31/22 12:12	02/01/22 13:17	1
Boron	ND		50	25	ug/L		01/31/22 12:12	02/01/22 13:17	1
Chromium	ND		5.0	2.5	ug/L		01/31/22 12:12	02/01/22 13:17	1
Cobalt	ND		10	2.8	ug/L		01/31/22 12:12	02/01/22 13:17	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 440-665972/1-A
Matrix: Water
Analysis Batch: 666079

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 665972

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		100	50	ug/L		01/31/22 12:12	02/01/22 13:17	1
Manganese	ND		20	6.8	ug/L		01/31/22 12:12	02/01/22 13:17	1
Nickel	ND		10	5.0	ug/L		01/31/22 12:12	02/01/22 13:17	1
Vanadium	ND		10	2.1	ug/L		01/31/22 12:12	02/01/22 13:17	1
Zinc	ND		20	12	ug/L		01/31/22 12:12	02/01/22 13:17	1

Lab Sample ID: LCS 440-665972/2-A
Matrix: Water
Analysis Batch: 666079

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 665972

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	504		ug/L		101	85 - 115
Barium	500	497		ug/L		99	85 - 115
Beryllium	500	507		ug/L		101	85 - 115
Boron	500	507		ug/L		101	85 - 115
Chromium	500	512		ug/L		102	85 - 115
Cobalt	500	499		ug/L		100	85 - 115
Iron	500	492		ug/L		98	85 - 115
Manganese	500	500		ug/L		100	85 - 115
Nickel	500	509		ug/L		102	85 - 115
Vanadium	500	497		ug/L		99	85 - 115
Zinc	500	520		ug/L		104	85 - 115

Lab Sample ID: 570-83035-D-2-B MS
Matrix: Water
Analysis Batch: 666079

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 665972

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	9.1	J,DX	500	549		ug/L		108	70 - 130
Barium	12		500	515		ug/L		101	70 - 130
Beryllium	0.90	J,DX	500	518		ug/L		103	70 - 130
Boron	1200		500	1780		ug/L		110	70 - 130
Chromium	2.6	J,DX	500	524		ug/L		104	70 - 130
Cobalt	ND		500	477		ug/L		95	70 - 130
Iron	130		500	623		ug/L		99	70 - 130
Manganese	9200		500	9620	BB	ug/L		86	70 - 130
Nickel	54		500	545		ug/L		98	70 - 130
Vanadium	ND		500	523		ug/L		105	70 - 130
Zinc	ND		500	471		ug/L		94	70 - 130

Lab Sample ID: 570-83035-D-2-C MSD
Matrix: Water
Analysis Batch: 666079

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 665972

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	9.1	J,DX	500	546		ug/L		107	70 - 130	1	20
Barium	12		500	508		ug/L		99	70 - 130	1	20
Beryllium	0.90	J,DX	500	510		ug/L		102	70 - 130	1	20
Boron	1200		500	1770		ug/L		109	70 - 130	0	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 570-83035-D-2-C MSD
Matrix: Water
Analysis Batch: 666079

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 665972

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	2.6	J,DX	500	517		ug/L		103	70 - 130	1	20
Cobalt	ND		500	470		ug/L		94	70 - 130	1	20
Iron	130		500	616		ug/L		98	70 - 130	1	20
Manganese	9200		500	9610	BB	ug/L		84	70 - 130	0	20
Nickel	54		500	540		ug/L		97	70 - 130	1	20
Vanadium	ND		500	515		ug/L		103	70 - 130	2	20
Zinc	ND		500	467		ug/L		93	70 - 130	1	20

Lab Sample ID: MB 440-665510/1-B
Matrix: Water
Analysis Batch: 665833

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 665547

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/26/22 17:34	01/27/22 13:20	1
Barium	ND		10	2.2	ug/L		01/26/22 17:34	01/27/22 13:20	1
Beryllium	ND		2.0	0.44	ug/L		01/26/22 17:34	01/27/22 13:20	1
Boron	ND		50	25	ug/L		01/26/22 17:34	01/27/22 13:20	1
Chromium	ND		5.0	2.5	ug/L		01/26/22 17:34	01/27/22 13:20	1
Cobalt	ND		10	2.8	ug/L		01/26/22 17:34	01/27/22 13:20	1
Iron	ND		100	50	ug/L		01/26/22 17:34	01/27/22 13:20	1
Manganese	ND		20	6.8	ug/L		01/26/22 17:34	01/27/22 13:20	1
Nickel	ND		10	5.0	ug/L		01/26/22 17:34	01/27/22 13:20	1
Vanadium	ND		10	2.1	ug/L		01/26/22 17:34	01/27/22 13:20	1
Zinc	ND		20	12	ug/L		01/26/22 17:34	01/27/22 13:20	1

Lab Sample ID: LCS 440-665510/2-B
Matrix: Water
Analysis Batch: 665833

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 665547

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	502		ug/L		100	85 - 115
Barium	500	496		ug/L		99	85 - 115
Beryllium	500	497		ug/L		99	85 - 115
Boron	500	493		ug/L		99	85 - 115
Chromium	500	524		ug/L		105	85 - 115
Cobalt	500	498		ug/L		100	85 - 115
Iron	500	477		ug/L		95	85 - 115
Manganese	500	501		ug/L		100	85 - 115
Nickel	500	512		ug/L		102	85 - 115
Vanadium	500	494		ug/L		99	85 - 115
Zinc	500	517		ug/L		103	85 - 115

Lab Sample ID: 570-82066-C-3-D MS
Matrix: Water
Analysis Batch: 665833

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 665547

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		500	495		ug/L		99	70 - 130
Barium	22		500	493		ug/L		94	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 570-82066-C-3-D MS
Matrix: Water
Analysis Batch: 665833

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 665547

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	ND		500	482		ug/L		96	70 - 130
Boron	94		500	574		ug/L		96	70 - 130
Chromium	ND		500	501		ug/L		100	70 - 130
Cobalt	ND		500	480		ug/L		96	70 - 130
Iron	ND		500	482		ug/L		96	70 - 130
Manganese	7.0	J,DX	500	483		ug/L		95	70 - 130
Nickel	ND		500	490		ug/L		98	70 - 130
Vanadium	ND		500	479		ug/L		96	70 - 130
Zinc	ND		500	504		ug/L		101	70 - 130

Lab Sample ID: 570-82066-C-3-E MSD
Matrix: Water
Analysis Batch: 665833

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 665547

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	505		ug/L		101	70 - 130	2	20
Barium	22		500	503		ug/L		96	70 - 130	2	20
Beryllium	ND		500	493		ug/L		99	70 - 130	2	20
Boron	94		500	584		ug/L		98	70 - 130	2	20
Chromium	ND		500	512		ug/L		102	70 - 130	2	20
Cobalt	ND		500	490		ug/L		98	70 - 130	2	20
Iron	ND		500	499		ug/L		100	70 - 130	3	20
Manganese	7.0	J,DX	500	494		ug/L		97	70 - 130	2	20
Nickel	ND		500	502		ug/L		100	70 - 130	2	20
Vanadium	ND		500	490		ug/L		98	70 - 130	2	20
Zinc	ND		500	517		ug/L		103	70 - 130	3	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-666021/1-A
Matrix: Water
Analysis Batch: 666063

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 666021

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		02/01/22 05:52	02/01/22 12:28	1
Cadmium	ND		1.0	0.25	ug/L		02/01/22 05:52	02/01/22 12:28	1
Copper	ND		2.0	0.50	ug/L		02/01/22 05:52	02/01/22 12:28	1
Lead	ND		1.0	0.50	ug/L		02/01/22 05:52	02/01/22 12:28	1
Antimony	ND		2.0	0.50	ug/L		02/01/22 05:52	02/01/22 12:28	1
Selenium	ND		2.0	0.50	ug/L		02/01/22 05:52	02/01/22 12:28	1
Thallium	ND		1.0	0.20	ug/L		02/01/22 05:52	02/01/22 12:28	1

Lab Sample ID: LCS 440-666021/2-A
Matrix: Water
Analysis Batch: 666063

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 666021

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	77.3		ug/L		97	85 - 115
Cadmium	80.0	79.9		ug/L		100	85 - 115
Copper	80.0	78.6		ug/L		98	85 - 115

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 440-666021/2-A
Matrix: Water
Analysis Batch: 666063

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 666021

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	80.0	80.5		ug/L		101	85 - 115
Antimony	80.0	82.5		ug/L		103	85 - 115
Selenium	80.0	79.5		ug/L		99	85 - 115
Thallium	80.0	77.6		ug/L		97	85 - 115

Lab Sample ID: 570-82063-1 MS
Matrix: Water
Analysis Batch: 666063

Client Sample ID: Outfall002_20220119_Comp
Prep Type: Total Recoverable
Prep Batch: 666021

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	76.4		ug/L		96	70 - 130
Cadmium	ND		80.0	79.1		ug/L		99	70 - 130
Copper	1.3	J,DX	80.0	80.2		ug/L		99	70 - 130
Lead	ND		80.0	80.3		ug/L		100	70 - 130
Antimony	0.55	J,DX	80.0	86.6		ug/L		108	70 - 130
Selenium	ND		80.0	77.8		ug/L		97	70 - 130
Thallium	ND		80.0	77.4		ug/L		97	70 - 130

Lab Sample ID: 570-82063-1 MSD
Matrix: Water
Analysis Batch: 666063

Client Sample ID: Outfall002_20220119_Comp
Prep Type: Total Recoverable
Prep Batch: 666021

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	75.7		ug/L		95	70 - 130	1	20
Cadmium	ND		80.0	78.8		ug/L		99	70 - 130	0	20
Copper	1.3	J,DX	80.0	78.8		ug/L		97	70 - 130	2	20
Lead	ND		80.0	80.5		ug/L		101	70 - 130	0	20
Antimony	0.55	J,DX	80.0	86.3		ug/L		107	70 - 130	0	20
Selenium	ND		80.0	78.7		ug/L		98	70 - 130	1	20
Thallium	ND		80.0	77.7		ug/L		97	70 - 130	0	20

Lab Sample ID: MB 440-665510/1-C
Matrix: Water
Analysis Batch: 665638

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 665552

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/26/22 15:00	01/27/22 11:50	1
Cadmium	ND		1.0	0.25	ug/L		01/26/22 15:00	01/27/22 11:50	1
Copper	ND		2.0	0.50	ug/L		01/26/22 15:00	01/27/22 11:50	1
Lead	ND		1.0	0.50	ug/L		01/26/22 15:00	01/27/22 11:50	1
Antimony	ND		2.0	0.50	ug/L		01/26/22 15:00	01/27/22 11:50	1
Selenium	ND		2.0	0.50	ug/L		01/26/22 15:00	01/27/22 11:50	1
Thallium	ND		1.0	0.20	ug/L		01/26/22 15:00	01/27/22 11:50	1

Lab Sample ID: LCS 440-665510/2-C
Matrix: Water
Analysis Batch: 665638

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 665552

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	72.2		ug/L		90	85 - 115

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 440-665510/2-C
Matrix: Water
Analysis Batch: 665638

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 665552

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	74.8		ug/L		93	85 - 115
Copper	80.0	72.1		ug/L		90	85 - 115
Lead	80.0	76.3		ug/L		95	85 - 115
Antimony	80.0	77.9		ug/L		97	85 - 115
Selenium	80.0	74.8		ug/L		94	85 - 115
Thallium	80.0	74.8		ug/L		93	85 - 115

Lab Sample ID: 570-82063-3 MS
Matrix: Water
Analysis Batch: 665638

Client Sample ID: Outfall002_20220119_Comp_F
Prep Type: Dissolved
Prep Batch: 665552

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	74.9		ug/L		94	70 - 130
Cadmium	ND		80.0	78.4		ug/L		98	70 - 130
Copper	3.0		80.0	78.5		ug/L		94	70 - 130
Lead	ND		80.0	80.0		ug/L		100	70 - 130
Antimony	0.52	J,DX	80.0	85.3		ug/L		106	70 - 130
Selenium	0.51	J,DX	80.0	80.9		ug/L		100	70 - 130
Thallium	ND		80.0	78.3		ug/L		98	70 - 130

Lab Sample ID: 570-82063-3 MSD
Matrix: Water
Analysis Batch: 665638

Client Sample ID: Outfall002_20220119_Comp_F
Prep Type: Dissolved
Prep Batch: 665552

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	75.3		ug/L		94	70 - 130	0	20
Cadmium	ND		80.0	79.2		ug/L		99	70 - 130	1	20
Copper	3.0		80.0	79.0		ug/L		95	70 - 130	1	20
Lead	ND		80.0	80.5		ug/L		101	70 - 130	1	20
Antimony	0.52	J,DX	80.0	87.2		ug/L		108	70 - 130	2	20
Selenium	0.51	J,DX	80.0	82.9		ug/L		103	70 - 130	2	20
Thallium	ND		80.0	79.4		ug/L		99	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-210564/1-A
Matrix: Water
Analysis Batch: 210669

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 210564

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		02/01/22 10:46	02/01/22 15:10	1

Lab Sample ID: LCS 570-210564/2-A
Matrix: Water
Analysis Batch: 210669

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 210564

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	10.5		ug/L		105	85 - 115

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 570-210564/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 210669
Prep Batch: 210564

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			10.0	10.4		ug/L		104	85 - 115	1	10

Lab Sample ID: 440-294471-A-1-D MS
Client Sample ID: Matrix Spike
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 210669
Prep Batch: 210564

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		10.0	10.2		ug/L		102	70 - 130

Lab Sample ID: 440-294471-A-1-E MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 210669
Prep Batch: 210564

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	10.2		ug/L		102	70 - 130	0	10

Lab Sample ID: MB 570-210140/1-B
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 210433
Prep Batch: 210150

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/28/22 14:30	01/31/22 18:06	1

Lab Sample ID: LCS 570-210140/2-B
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 210433
Prep Batch: 210150

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury			10.0	9.71		ug/L		97	85 - 115

Lab Sample ID: LCSD 570-210140/3-B
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 210433
Prep Batch: 210150

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			10.0	9.79		ug/L		98	85 - 115	1	10

Lab Sample ID: 570-82063-3 MS
Client Sample ID: Outfall002_20220119_Comp_F
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 210433
Prep Batch: 210150

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND	BU	10.0	9.86		ug/L		99	70 - 130

Lab Sample ID: 570-82063-3 MSD
Client Sample ID: Outfall002_20220119_Comp_F
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 210433
Prep Batch: 210150

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND	BU	10.0	9.64		ug/L		96	70 - 130	2	10

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 440-664948/6
Matrix: Water
Analysis Batch: 664948

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	ND		0.10	0.05	NTU			01/20/22 10:58	1

Lab Sample ID: MRL 440-664948/5
Matrix: Water
Analysis Batch: 664948

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Turbidity			0.100	0.10		NTU		90	50 - 150		

Lab Sample ID: 570-81864-G-1 DU
Matrix: Water
Analysis Batch: 664948

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Turbidity	4.7			4.9		NTU				3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-665096/1
Matrix: Water
Analysis Batch: 665096

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	3.0	mg/L			01/21/22 13:32	1

Lab Sample ID: LCS 440-665096/2
Matrix: Water
Analysis Batch: 665096

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	962		mg/L		96	90 - 110		

Lab Sample ID: 440-294471-C-1 DU
Matrix: Water
Analysis Batch: 665096

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	400			394		mg/L				1	5

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-665407/1
Matrix: Water
Analysis Batch: 665407

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			01/25/22 15:21	1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 440-665407/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665407

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			1000	943		mg/L		94	85 - 115		

Lab Sample ID: 440-294354-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665407

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	430			420		mg/L				2	5

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 440-665932/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665994 — **Prep Batch: 665932**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L		01/31/22 12:01	01/31/22 18:14	1

Lab Sample ID: LCS 440-665932/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665994 — **Prep Batch: 665932**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			100	93.8		ug/L		94	80 - 120		

Lab Sample ID: 570-82063-1 MS — **Client Sample ID: Outfall002_20220119_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665994 — **Prep Batch: 665932**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total	ND		100	93.7		ug/L		94	75 - 125		

Lab Sample ID: 570-82063-1 MSD — **Client Sample ID: Outfall002_20220119_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665994 — **Prep Batch: 665932**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		100	98.2		ug/L		98	75 - 125	5	20

Method: SM 4500 NH3 G - Ammonia

Lab Sample ID: MB 440-665813/10 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665813

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.200	0.100	mg/L			01/28/22 12:03	1

Method: SM 4500 NH3 G - Ammonia (Continued)

Lab Sample ID: LCS 440-665813/11
Matrix: Water
Analysis Batch: 665813

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	5.00	5.250		mg/L		105	90 - 110

Lab Sample ID: MRL 440-665813/9
Matrix: Water
Analysis Batch: 665813

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.200	0.1860	J,DX	mg/L		93	50 - 150

Lab Sample ID: 570-82097-Q-5 MS
Matrix: Water
Analysis Batch: 665813

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.1590		5.00	4.160	LN	mg/L		80	90 - 110

Lab Sample ID: 570-82097-Q-5 MSD
Matrix: Water
Analysis Batch: 665813

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.1590		5.00	4.150	LN	mg/L		80	90 - 110	0	15

Method: SM 5310D - Organic Carbon, Total (TOC)

Lab Sample ID: MB 570-208829/33
Matrix: Water
Analysis Batch: 208829

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon, Total Organic	ND		0.50	0.26	mg/L			01/20/22 11:41	1

Lab Sample ID: LCS 570-208829/34
Matrix: Water
Analysis Batch: 208829

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon, Total Organic	5.00	5.42		mg/L		108	85 - 115

Lab Sample ID: LCSD 570-208829/35
Matrix: Water
Analysis Batch: 208829

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon, Total Organic	5.00	5.43		mg/L		109	85 - 115	0	20

Method: SM 5310D - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 570-82066-Z-1 MS
Matrix: Water
Analysis Batch: 208829

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Carbon, Total Organic	10		5.00	15.4		mg/L		102	31 - 145		

Lab Sample ID: 570-82066-Z-1 MSD
Matrix: Water
Analysis Batch: 208829

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon, Total Organic	10		5.00	15.6		mg/L		105	31 - 145	1	20

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 440-665021/11
Matrix: Water
Analysis Batch: 665021

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Blue Active Substances	ND		0.10	0.050	mg/L			01/20/22 18:18	1

Lab Sample ID: LCS 440-665021/13
Matrix: Water
Analysis Batch: 665021

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Blue Active Substances	0.250	0.256		mg/L		102	90 - 110

Lab Sample ID: MRL 440-665021/10
Matrix: Water
Analysis Batch: 665021

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Blue Active Substances	0.100	0.113		mg/L		113	50 - 150

Lab Sample ID: 570-82068-K-1 MS
Matrix: Water
Analysis Batch: 665021

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Blue Active Substances	0.13		0.250	0.336		mg/L		81	75 - 125

Lab Sample ID: 570-82068-K-1 MSD
Matrix: Water
Analysis Batch: 665021

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylene Blue Active Substances	0.13		0.250	0.297	LN	mg/L		65	75 - 125	12	20

Method: SM5210B - BOD, 5 Day

Lab Sample ID: USB 440-665351/2
Matrix: Water
Analysis Batch: 665351

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			01/20/22 09:40	1

Lab Sample ID: LCS 440-665351/4
Matrix: Water
Analysis Batch: 665351

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Biochemical Oxygen Demand			199	197		mg/L		99	85 - 115		

Lab Sample ID: 570-82199-A-1 DU
Matrix: Water
Analysis Batch: 665351

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Biochemical Oxygen Demand	2000			1930		mg/L				3	20

GC/MS VOA

Analysis Batch: 210396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	8260B SIM	
MB 570-210396/8	Method Blank	Total/NA	Water	8260B SIM	
LCS 570-210396/4	Lab Control Sample	Total/NA	Water	8260B SIM	
LCSD 570-210396/5	Lab Control Sample Dup	Total/NA	Water	8260B SIM	

GC/MS Semi VOA

Prep Batch: 209053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	625	
MB 570-209053/1-A	Method Blank	Total/NA	Water	625	
LCS 570-209053/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-209053/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 209308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	625.1 SIM	209053
MB 570-209053/1-A	Method Blank	Total/NA	Water	625.1 SIM	209053

Analysis Batch: 209773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-209053/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	209053
LCSD 570-209053/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	209053

GC Semi VOA

Prep Batch: 208417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	608	
MB 570-208417/1-A	Method Blank	Total/NA	Water	608	
LCS 570-208417/2-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-208417/3-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 208660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	608.3	208417
MB 570-208417/1-A	Method Blank	Total/NA	Water	608.3	208417
LCS 570-208417/2-A	Lab Control Sample	Total/NA	Water	608.3	208417
LCSD 570-208417/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	208417

Analysis Batch: 208664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	608.3	208417
MB 570-208417/1-A	Method Blank	Total/NA	Water	608.3	208417

HPLC/IC

Analysis Batch: 664905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	218.6	
MB 440-664905/6	Method Blank	Total/NA	Water	218.6	
LCS 440-664905/5	Lab Control Sample	Total/NA	Water	218.6	

HPLC/IC (Continued)

Analysis Batch: 664905 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 440-664905/4	Lab Control Sample	Total/NA	Water	218.6	
570-82078-A-1 MS	Matrix Spike	Total/NA	Water	218.6	
570-82078-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	218.6	

Analysis Batch: 664932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	300.0	
MB 440-664932/6	Method Blank	Total/NA	Water	300.0	
LCS 440-664932/5	Lab Control Sample	Total/NA	Water	300.0	
570-82068-I-1 MS	Matrix Spike	Total/NA	Water	300.0	
570-82068-I-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 664933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	300.0	
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	300.0	
MB 440-664933/6	Method Blank	Total/NA	Water	300.0	
LCS 440-664933/5	Lab Control Sample	Total/NA	Water	300.0	
570-82068-I-1 MS	Matrix Spike	Total/NA	Water	300.0	
570-82068-I-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 665039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	314.0	
MB 440-665039/6	Method Blank	Total/NA	Water	314.0	
LCS 440-665039/5	Lab Control Sample	Total/NA	Water	314.0	
MRL 440-665039/4	Lab Control Sample	Total/NA	Water	314.0	
MRL 440-665039/7	Lab Control Sample	Total/NA	Water	314.0	
MRL 440-665039/9	Lab Control Sample	Total/NA	Water	314.0	
570-82063-1 MS	Outfall002_20220119_Comp	Total/NA	Water	314.0	
570-82063-1 MSD	Outfall002_20220119_Comp	Total/NA	Water	314.0	

Analysis Batch: 665958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	NO3NO2 Calc	

Metals

Filtration Batch: 210140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-3	Outfall002_20220119_Comp_F	Dissolved	Water	Filtration	
MB 570-210140/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-210140/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-210140/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-82063-3 MS	Outfall002_20220119_Comp_F	Dissolved	Water	Filtration	
570-82063-3 MSD	Outfall002_20220119_Comp_F	Dissolved	Water	Filtration	

Prep Batch: 210150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-3	Outfall002_20220119_Comp_F	Dissolved	Water	245.1	210140
MB 570-210140/1-B	Method Blank	Dissolved	Water	245.1	210140

Metals (Continued)

Prep Batch: 210150 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-210140/2-B	Lab Control Sample	Dissolved	Water	245.1	210140
LCSD 570-210140/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	210140
570-82063-3 MS	Outfall002_20220119_Comp_F	Dissolved	Water	245.1	210140
570-82063-3 MSD	Outfall002_20220119_Comp_F	Dissolved	Water	245.1	210140

Analysis Batch: 210433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-3	Outfall002_20220119_Comp_F	Dissolved	Water	245.1	210150
MB 570-210140/1-B	Method Blank	Dissolved	Water	245.1	210150
LCS 570-210140/2-B	Lab Control Sample	Dissolved	Water	245.1	210150
LCSD 570-210140/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	210150
570-82063-3 MS	Outfall002_20220119_Comp_F	Dissolved	Water	245.1	210150
570-82063-3 MSD	Outfall002_20220119_Comp_F	Dissolved	Water	245.1	210150

Prep Batch: 210564

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	245.1	
MB 570-210564/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-210564/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-210564/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
440-294471-A-1-D MS	Matrix Spike	Total/NA	Water	245.1	
440-294471-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 210669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	245.1	210564
MB 570-210564/1-A	Method Blank	Total/NA	Water	245.1	210564
LCS 570-210564/2-A	Lab Control Sample	Total/NA	Water	245.1	210564
LCSD 570-210564/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	210564
440-294471-A-1-D MS	Matrix Spike	Total/NA	Water	245.1	210564
440-294471-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	210564

Analysis Batch: 665281

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total Recoverable	Water	SM 2340B	

Analysis Batch: 665282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-3	Outfall002_20220119_Comp_F	Dissolved	Water	SM 2340B	

Filtration Batch: 665510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-3	Outfall002_20220119_Comp_F	Dissolved	Water	FILTRATION	
MB 440-665510/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-665510/1-C	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-665510/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-665510/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
570-82063-3 MS	Outfall002_20220119_Comp_F	Dissolved	Water	FILTRATION	
570-82063-3 MSD	Outfall002_20220119_Comp_F	Dissolved	Water	FILTRATION	
570-82066-C-3-D MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-82066-C-3-E MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Metals

Prep Batch: 665547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-3	Outfall002_20220119_Comp_F	Dissolved	Water	200.2	665510
MB 440-665510/1-B	Method Blank	Dissolved	Water	200.2	665510
LCS 440-665510/2-B	Lab Control Sample	Dissolved	Water	200.2	665510
570-82066-C-3-D MS	Matrix Spike	Dissolved	Water	200.2	665510
570-82066-C-3-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	665510

Prep Batch: 665552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-3	Outfall002_20220119_Comp_F	Dissolved	Water	200.2	665510
MB 440-665510/1-C	Method Blank	Dissolved	Water	200.2	665510
LCS 440-665510/2-C	Lab Control Sample	Dissolved	Water	200.2	665510
570-82063-3 MS	Outfall002_20220119_Comp_F	Dissolved	Water	200.2	665510
570-82063-3 MSD	Outfall002_20220119_Comp_F	Dissolved	Water	200.2	665510

Analysis Batch: 665638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-3	Outfall002_20220119_Comp_F	Dissolved	Water	200.8	665552
MB 440-665510/1-C	Method Blank	Dissolved	Water	200.8	665552
LCS 440-665510/2-C	Lab Control Sample	Dissolved	Water	200.8	665552
570-82063-3 MS	Outfall002_20220119_Comp_F	Dissolved	Water	200.8	665552
570-82063-3 MSD	Outfall002_20220119_Comp_F	Dissolved	Water	200.8	665552

Analysis Batch: 665833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-3	Outfall002_20220119_Comp_F	Dissolved	Water	200.7 Rev 4.4	665547
MB 440-665510/1-B	Method Blank	Dissolved	Water	200.7 Rev 4.4	665547
LCS 440-665510/2-B	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	665547
570-82066-C-3-D MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	665547
570-82066-C-3-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	665547

Prep Batch: 665972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total Recoverable	Water	200.2	
MB 440-665972/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-665972/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-83035-D-2-B MS	Matrix Spike	Total Recoverable	Water	200.2	
570-83035-D-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Prep Batch: 666021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total Recoverable	Water	200.2	
MB 440-666021/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-666021/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-82063-1 MS	Outfall002_20220119_Comp	Total Recoverable	Water	200.2	
570-82063-1 MSD	Outfall002_20220119_Comp	Total Recoverable	Water	200.2	

Analysis Batch: 666063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total Recoverable	Water	200.8	666021
MB 440-666021/1-A	Method Blank	Total Recoverable	Water	200.8	666021
LCS 440-666021/2-A	Lab Control Sample	Total Recoverable	Water	200.8	666021

Metals (Continued)

Analysis Batch: 666063 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1 MS	Outfall002_20220119_Comp	Total Recoverable	Water	200.8	666021
570-82063-1 MSD	Outfall002_20220119_Comp	Total Recoverable	Water	200.8	666021

Analysis Batch: 666079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total Recoverable	Water	200.7 Rev 4.4	665972
MB 440-665972/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	665972
LCS 440-665972/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	665972
570-83035-D-2-B MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	665972
570-83035-D-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	665972

General Chemistry

Analysis Batch: 208829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	SM 5310D	
MB 570-208829/33	Method Blank	Total/NA	Water	SM 5310D	
LCS 570-208829/34	Lab Control Sample	Total/NA	Water	SM 5310D	
LCSD 570-208829/35	Lab Control Sample Dup	Total/NA	Water	SM 5310D	
570-82066-Z-1 MS	Matrix Spike	Total/NA	Water	SM 5310D	
570-82066-Z-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310D	

Analysis Batch: 664948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	180.1	
MB 440-664948/6	Method Blank	Total/NA	Water	180.1	
MRL 440-664948/5	Lab Control Sample	Total/NA	Water	180.1	
570-81864-G-1 DU	Duplicate	Total/NA	Water	180.1	

Analysis Batch: 665021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	SM 5540C	
MB 440-665021/11	Method Blank	Total/NA	Water	SM 5540C	
LCS 440-665021/13	Lab Control Sample	Total/NA	Water	SM 5540C	
MRL 440-665021/10	Lab Control Sample	Total/NA	Water	SM 5540C	
570-82068-K-1 MS	Matrix Spike	Total/NA	Water	SM 5540C	
570-82068-K-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5540C	

Analysis Batch: 665096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	SM 2540C	
MB 440-665096/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-665096/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-294471-C-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 665351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	SM5210B	
USB 440-665351/2	Method Blank	Total/NA	Water	SM5210B	
LCS 440-665351/4	Lab Control Sample	Total/NA	Water	SM5210B	
570-82199-A-1 DU	Duplicate	Total/NA	Water	SM5210B	

General Chemistry

Analysis Batch: 665407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	SM 2540D	
MB 440-665407/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-665407/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-294354-B-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Analysis Batch: 665813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	SM 4500 NH3 G	
MB 440-665813/10	Method Blank	Total/NA	Water	SM 4500 NH3 G	
LCS 440-665813/11	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
MRL 440-665813/9	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
570-82097-Q-5 MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 G	
570-82097-Q-5 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 G	

Prep Batch: 665932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	Distill/CN	
MB 440-665932/1-A	Method Blank	Total/NA	Water	Distill/CN	
LCS 440-665932/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
570-82063-1 MS	Outfall002_20220119_Comp	Total/NA	Water	Distill/CN	
570-82063-1 MSD	Outfall002_20220119_Comp	Total/NA	Water	Distill/CN	

Analysis Batch: 665994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	SM 4500 CN E	665932
MB 440-665932/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	665932
LCS 440-665932/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	665932
570-82063-1 MS	Outfall002_20220119_Comp	Total/NA	Water	SM 4500 CN E	665932
570-82063-1 MSD	Outfall002_20220119_Comp	Total/NA	Water	SM 4500 CN E	665932

Analysis Batch: 666262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	218.6 CR3	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	25 mL	25 mL	210396	01/31/22 17:48	AH8S	ECL 2
	Instrument ID: GCMSFFF									
Total/NA	Prep	625			1058.4 mL	2 mL	209053	01/24/22 09:57	H1SH	ECL 1
Total/NA	Analysis	625.1 SIM		1			209308	01/26/22 23:14	ULLI	ECL 1
	Instrument ID: GCMSJJJ									
Total/NA	Prep	608			1500 mL	1 mL	208417	01/20/22 05:44	H1SH	ECL 1
Total/NA	Analysis	608.3		1			208660	01/21/22 20:57	UHHN	ECL 1
	Instrument ID: GC44									
Total/NA	Prep	608			1500 mL	1 mL	208417	01/20/22 05:44	H1SH	ECL 1
Total/NA	Analysis	608.3		1			208664	01/21/22 16:15	UHHN	ECL 1
	Instrument ID: GC58									
Total/NA	Analysis	218.6		1			664905	01/20/22 08:31	YO8L	IRV 2
	Instrument ID: IC-33									
Total/NA	Analysis	300.0		1	5 mL	1.0 mL	664932	01/20/22 16:11	NIH3	IRV 2
	Instrument ID: IC-27									
Total/NA	Analysis	300.0		1	5 mL	1.0 mL	664933	01/20/22 16:11	NIH3	IRV 2
	Instrument ID: IC-27									
Total/NA	Analysis	300.0		20	5 mL	1.0 mL	664933	01/20/22 16:27	NIH3	IRV 2
	Instrument ID: IC-27									
Total/NA	Analysis	314.0		1			665039	01/21/22 06:28	YO8L	IRV 2
	Instrument ID: IC-24									
Total/NA	Analysis	NO3NO2 Calc		1			665958	01/31/22 13:54	PN8W	IRV 2
	Instrument ID: NOEQUIP									
Total Recoverable	Prep	200.2			25 mL	25 mL	665972	01/31/22 12:12		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			666079	02/01/22 13:53	P1R	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	666021	02/01/22 05:52		IRV 2
Total Recoverable	Analysis	200.8		1			666063	02/01/22 12:38	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total/NA	Prep	245.1			50 mL	100 mL	210564	02/01/22 10:46	VWJ7	ECL 4
Total/NA	Analysis	245.1		1			210669	02/01/22 15:25	VWJ7	ECL 1
	Instrument ID: HG7									
Total Recoverable	Analysis	SM 2340B		1			665281	02/03/22 17:47	P1R	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	180.1		1			664948	01/20/22 10:58	W1BQ	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	218.6 CR3		1			666262	02/03/22 10:24	PN8W	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	665096	01/21/22 13:33	VY3D	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	665407	01/25/22 15:21	HBR9	IRV 2
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Distill/CN			50 mL	50 mL	665932	01/31/22 12:01	GG0B	IRV 2
Total/NA	Analysis	SM 4500 CN E		1			665994	01/31/22 18:14	GG0B	IRV 2
	Instrument ID: Genesys30-5									
Total/NA	Analysis	SM 4500 NH3 G		1	0.8 mL	8.0 mL	665813	01/28/22 13:40	GG0B	IRV 2
	Instrument ID: LACHAT01									
Total/NA	Analysis	SM 5310D		1	40 mL	40 mL	208829	01/20/22 13:55	CY2M	ECL 4
	Instrument ID: TOC12									
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	665021	01/20/22 18:18	GG0B	IRV 2
	Instrument ID: Genesys30-5									
Total/NA	Analysis	SM5210B		1			665351	01/20/22 20:13	VY3D	IRV 2
	Instrument ID: BOD 10									

Client Sample ID: Outfall002_20220119_Comp_F
Lab Sample ID: 570-82063-3
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			250 mL	250 mL	665510	01/26/22 14:34	C0YH	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	665547	01/26/22 17:34	C0YH	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			665833	01/27/22 13:32	P1R	IRV 2
	Instrument ID: ICP10									
Dissolved	Filtration	FILTRATION			250 mL	250 mL	665510	01/26/22 14:34	C0YH	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	665552	01/26/22 15:00	C0YH	IRV 2
Dissolved	Analysis	200.8		1			665638	01/27/22 11:54	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	210140	01/26/22 15:10	UIAS	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	210150	01/28/22 14:30	VWJ7	ECL 4
Dissolved	Analysis	245.1		1			210433	01/31/22 18:11	VWJ7	ECL 1
	Instrument ID: HG7									
Dissolved	Analysis	SM 2340B		1			665282	02/01/22 17:48	P1R	IRV 2
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-31-23
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
218.6 CR3		Water	Cr (III)
314.0		Water	Perchlorate

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method	Method Description	Protocol	Laboratory
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	ECL 2
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	40CFR136A	ECL 1
608.3	Organochlorine Pesticides in Water	40CFR136A	ECL 1
608.3	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	ECL 1
218.6	Chromium, Hexavalent (Ion Chromatography)	EPA	IRV 2
300.0	Anions, Ion Chromatography	MCAWW	IRV 2
314.0	Perchlorate (IC)	EPA	IRV 2
NO3NO2 Calc	Nitrogen, Nitrate-Nitrite	EPA	IRV 2
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	ECL 1
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	IRV 2
180.1	Turbidity, Nephelometric	MCAWW	IRV 2
218.6 CR3	Chromium, Trivalent (Calculation)	EPA	IRV 2
SM 2540C	Solids, Total Dissolved (TDS)	SM	IRV 2
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 2
SM 4500 CN E	Cyanide, Total (Low Level)	SM	IRV 2
SM 4500 NH3 G	Ammonia	SM	IRV 2
SM 5310D	Organic Carbon, Total (TOC)	SM	ECL 4
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	IRV 2
SM5210B	BOD, 5 Day	SM	IRV 2
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	ECL 4
5030C	Purge and Trap	SW846	ECL 2
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	ECL 1
625	Liquid-Liquid Extraction	40CFR136A	ECL 1
Distill/CN	Distillation, Cyanide	None	IRV 2
Filtration	Sample Filtration	None	ECL 4
FILTRATION	Sample Filtration	None	IRV 2

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-82063-1	Outfall002_20220119_Comp	Water	01/19/22 08:30	01/19/22 18:20
570-82063-3	Outfall002_20220119_Comp_F	Water	01/19/22 08:30	01/19/22 18:20

82063

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-82063 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218	**Project Manager:** Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	**Field Manager:** Mark Dominick 978.234.5033, 818.599.0702 (cell)
Sampler: Adrian Mobeka	

									R/A	R	R	R	R/A	R	R	R	A	A	R					
									ANALYSIS REQUIRED															
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl-, F-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals: Mercury (E245.1)					Comments
Outfall 002	Outfall002_20220119_Comp	1/19/2022 0830	WM	500 mL Poly	1	HNO_3	80	No	X										X					
			WM	1 L Glass Amber	2	None	110	No		X														
			WM	1 L Poly	1	None	115	No			X													
			WM	500 mL Poly	2	None	120	No				X												
			WM	500 mL Poly	2	None	125	No					X											48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X										48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X								
			WM	1 L Glass Amber	2	None	250	No									X							
			WM	1 L Glass Amber	2	None	175	No										X						
			WM	1 L Poly	1	None	185	No							X									
	Outfall002_20220119_Comp_Extra	1/19/2022 0830	WM	1 L Glass Amber	2	None	110	No		H														Hold
			WM	500 mL Poly	2	None	120	No				H												Hold
			WM	500 mL Poly	2	None	125	No					H											Hold
			WM	1 L Glass Amber	2	None	250	No										H						Hold
			WM	1 L Glass Amber	2	None	175	No											H					Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	1-19-2022 / 1400	H&A		ECI 01119/22 1400
	01119/22	18:20 ECI		1/19/22 1820

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

20|3.5, 1.8|33, 21|36 SCG

2/12/2022
2019-2020 Rainy Season
Version 5

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:	R/A	R	R	R	A	A	A	A	R	QRSW	ANALYSIS REQUIRED	
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 002 Comp	Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V, Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)		Comments
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218													
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)												
Sampler: Adrian Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)												

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD												
Outfall 002	Outfall002_20220119_Comp_F	1/19/2022 0830	WM	1 L Poly	1	None	190	No	X											Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	2	None	320	No										X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall002_20220119_Comp	1/19/2022 0830 *	WM	500 mL Poly	1	NaOH	220	No		X										
			WM	2.5 Gal Cube	1	None	225	No		\	X									Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No					X							
			WM	1 Gal Cube	6	None	235	No						X						Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No							X					
			WM	1 L Glass Amber	1	HCl	245	No								X				
			WM	8 oz. glass amber	1	H_2SO_4	255	No									X			
			WM	500 mL Poly	1	None	260	No										X		
			WM	1L Glass Amber	2	None	275	No												
	Outfall002_20220119_Comp_Extra	1/19/2022 0830	WM	40 mL VOA	3	HCl	240	No							H					Hold
			WM	1 L Glass Amber	not filled	None	255	No									H			Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022/1400	H:A	[signature] EQ	1119/22 1400
[signature]	01/19/22 1820	EQ	[signature]	1/19/22 1820

Turn-around time. (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements. (Check)
No Level IV: _____ All Level IV: ___X___

* Hand-delivered to ABC Labs in Ventura by H:A

Eurofins Calscience
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s).	COC No: 570-152165 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82063-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/16/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	SSOW#:			
Site:				

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B NaOH	N None
C - Zn Acetate	O - AsNaO2
D Nitric Acid	P Na2O4S
E NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note.
			Preservation Code:												
Outfall002_20220119_Comp (570-82063-1)	1/19/22	08 30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	1/20/22 1304				
Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

2/12/2022

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM. Patel Virendra	Carrier Tracking No(s)	COC No 570-152240 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin. California	Page Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-82063-2
Address: 880 Riverside Parkway, ,	Due Date Requested. 2/4/2022			
City: West Sacramento	TAT Requested (days)			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20220119_Comp (570-82063-1)	1/19/22	08:30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware
Outfall002_20220119_Comp_Extra (570-82063-2)	1/19/22	08 30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/20/22 1520	Company	Received by:	Date/Time.	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/12/2022

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM. Patel, Virendra	Carrier Tracking No(s)	COC No 570-152284 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note) State Program - California		Job #: 570-82063-2
Address: 14859 E Clark Avenue, ,	Due Date Requested 2/9/2022			
City: City of Industry	TAT Requested (days).			
State, Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note.
			Preservation Code:							
Outfall002_20220119_Comp (570-82063-1)	1/19/22	08:30 Pacific		Water			X		1	Level IV needed
Outfall002_20220119_Comp_Extra (570-82063-2)	1/19/22	08:30 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/20/22 1637	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

2/12/2022

Eurofins Calscience
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-152108 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-82063-1
Address: 2841 Dow Avenue	Due Date Requested: 1/31/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA 92780	PO #:			
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	WO #			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	SSOW#:			
Site				

Preservation Codes

A HCL	M - Hexane
B NaOH	N None
C Zn Acetate	O AsNaO2
D Nitric Acid	P Na2O4S
E NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 200 7 Outfall 001/002/011 Totals List	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	SM5210B_BODCalc/ BOD, 5 Day	5540C/ Methylene Blue Active Substances (MBAS)	300_ORGFM_28D/ Chloride,Suifate, Fluoride	300_ORGFMS/ (MOD) Nitrate + Nitrite as N	NO2NO3_Calc	314.0/ Perchlorate	180.1/ Turbidity	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall002_20220119_Comp (570-82063-1)	1/19/22	08 30 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X	X	X	11	run low level matrix spike when baseline is elevated, confirm hit w/spike 2X-5X hit
Outfall002_20220119_F (570-82063-3)	1/19/22	08 30 Pacific		Water																3	Filter w/in 24 hours, Filter within 24 hours

Note Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 01/20/22 0927	Company: EETSW	Received by:	Date/Time: 1/20/22 0827	Company: EET
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 1.5 / 1.1 / 1.8 9

Ver 06 08 2021

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2/12/2022

Eurofins Calscience
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-152108 2
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-82068-1
Address: 2841 Dow Avenue	Due Date Requested: 1/31/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	4500_CN_E_LL/Distill_CN	218.6_ORGFM/ Chromium, Hexavalent	218.6_CR3	200.7/FILTRATION 200.7 Outfall 001/002/011 Diss List	200.7/200.2 200.7 Outfall 001/002/011 Diss List	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	200.8/200.2 (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Filtration_AC Diss hardness	Total Number of containers	Special Instructions/Note:
			Preservation Code:													
Outfall011_20220119_Comp (570-82068-1)	1/19/22	09 00 Pacific		Water			X	X	X						11	, run low level matrix spike when baseline is elevated, confirm hit w/spike 2X-5X hit
Outfall011_20220119_F (570-82068-3)	1/19/22	09 00 Pacific		Water						X	X	X	X	X	1	Filter w/in 24 hours, Filter within 24 hours

Preservation Codes: A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I Ice, J DI Water, K - EDTA, L EDA, M - Hexane, N None, O AsNaO2, P Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify). Other:

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	01/20/22 0827	ECW	[signature]	1/20/22 0827	ECT
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No | Cooler Temperature(s) °C and Other Remarks: 15/15 1/11

Ver 06/08/2021

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2/11/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82063-1

Login Number: 82063
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82063-1

Login Number: 82063
List Number: 2
Creator: Skinner, Alma D

List Source: Eurofins Calscience Tustin
List Creation: 01/20/22 08:27 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-82063-2
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/8/2022 10:21:21 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-82063-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-82063-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-82063-2

Comments
No additional comments.

Receipt
The samples were received on 1/19/2022 6:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.3º C, 3.5º C and 3.6º C.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method Chronic-Selenestrum: This method was subcontracted to Aquatic Bioassay & Consulting. The subcontract laboratory certification is different from that of the facility issuing the final report.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method	Method Description	Protocol	Laboratory
EPA	Bioassay	EPA	Aquatic

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

Aquatic = Aquatic Bioassay & Consulting, 29 North Olive Street, Ventura, CA 93001

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-82063-1	Outfall002_20220119_Comp	Water	01/19/22 08:30	01/19/22 18:20

aquatic bioassay & consulting laboratories, inc

February 4, 2022

Mr. Virendra Patel
Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841-1432

Dear Mr. Patel:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013.* Results were as follows:

CLIENT:	Eurofins Calscience
SAMPLE I.D.:	Outfall 002
DATE RECEIVED:	19 Jan - 2022
ABC LAB. NO.:	CSE0122.089

CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY

IWC = 100.00 %

TST RESULT

GROWTH = PASS % EFFECT = -28.74 %

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	02-6750-7492	**Test Type:**	Cell Growth	**Analyst:**	Beth Maturino	
Start Date:	20 Jan-22 09:26	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water	
Ending Date:	24 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable	
Test Length:	4d 3h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:** 7d

Sample ID:	18-5313-8441	**Code:**	CSE0122.089	**Project:**	Boeing-SSFL NPDES
Sample Date:	19 Jan-22 08:30	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	19 Jan-22 15:55	**CAS (PC):**		**Station:**	Outfall 002
Sample Age:	25h (3 °C)	**Client:**	Eurofins Calscience		

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result	S
06-0437-4856	Cell Density	TST-Welch's t Test	<1.0E-05	100% passed cell density	1

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
06-0437-4856	Cell Density	Control CV	0.03656	<<	0.2	Yes	Passes Criteria
06-0437-4856	Cell Density	Control Resp	1.81E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	8	1.811E+6	1.755E+6	1.866E+6	1.663E+6	1.864E+6	2.340E+4	6.620E+4	3.66%	0.00%
100		8	2.331E+6	2.237E+6	2.426E+6	2.234E+6	2.570E+6	3.990E+4	1.128E+5	4.84%	-28.74%

Cell Density Detail — MD5: BE27C0176A3704505DF434C1A30B7A4B

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.864E+6	1.779E+6	1.803E+6	1.830E+6	1.850E+6	1.663E+6	1.858E+6	1.839E+6
100		2.375E+6	2.234E+6	2.242E+6	2.570E+6	2.395E+6	2.266E+6	2.287E+6	2.281E+6

CETIS Analytical Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	06-0437-4856	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	01 Feb-22 9:38	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:	31 Jan-22 9:31	**MD5 Hash:**	B6202A9A53EA09D07E9F540DDBBDEA6	**Editor ID:**	004-190-922-1
Batch ID:	02-6750-7492	**Test Type:**	Cell Growth	**Analyst:**	Beth Maturino
Start Date:	20 Jan-22 09:26	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	24 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	4d 3h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 7d
Sample ID:	18-5313-8441	**Code:**	CSE0122.089	**Project:**	Boeing-SSFL NPDES
Sample Date:	19 Jan-22 08:30	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	19 Jan-22 15:55	**CAS (PC):**		**Station:**	Outfall 002
Sample Age:	25h (3 °C)	**Client:**	Eurofins Calscience		

Data Transform	Alt Hyp	TST_b	Comparison Result
Untransformed	C*b < T	0.75	100% passed cell density endpoint

TST-Welch's t Test

Control	vs	Conc-%	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:25%)
Negative Control		100*	22.33	0.7027	9	CDF	<1.0E-05	Non-Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.03656	<<	0.2	Yes	Passes Criteria
Control Resp	1.81E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	1.084E+12	1.084E+12	1	126.6	<1.0E-05	Significant Effect
Error	1.198E+11	8.559E+09	14			
Total	1.204E+12		15			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Levene Equality of Variance Test	2.09	8.862	0.1703	Equal Variances
	Mod Levene Equality of Variance Test	0.762	8.862	0.3974	Equal Variances
	Variance Ratio F Test	2.906	8.885	0.1826	Equal Variances
Distribution	Anderson-Darling A2 Test	0.5126	3.878	0.1981	Normal Distribution
	D'Agostino Skewness Test	1.694	2.576	0.0903	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1753	0.2471	0.2131	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9211	0.8408	0.1756	Normal Distribution

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	8	1.811E+6	1.755E+6	1.866E+6	1.834E+6	1.663E+6	1.864E+6	2.340E+4	3.66%	0.00%
100		8	2.331E+6	2.237E+6	2.426E+6	2.284E+6	2.234E+6	2.570E+6	3.990E+4	4.84%	-28.74%

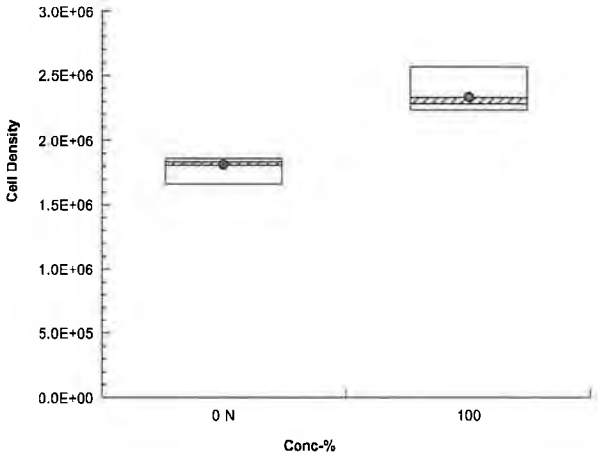
Cell Density Detail

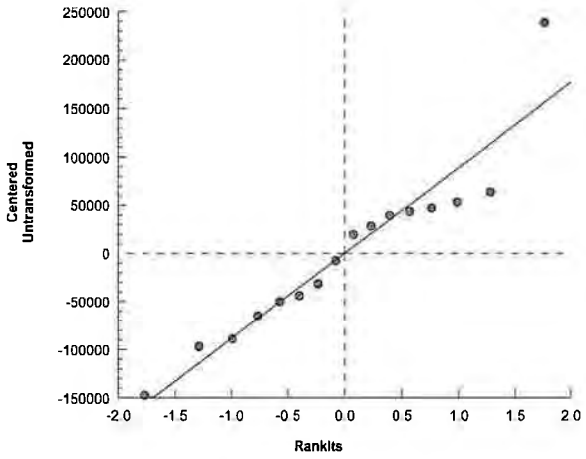
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.864E+6	1.779E+6	1.803E+6	1.830E+6	1.850E+6	1.663E+6	1.858E+6	1.839E+6
100		2.375E+6	2.234E+6	2.242E+6	2.570E+6	2.395E+6	2.266E+6	2.287E+6	2.281E+6

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	06-0437-4856	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	01 Feb-22 9:38	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:	31 Jan-22 9:31	**MD5 Hash:**	B6202A9A53EA09D07E9F540DDBBDEA6	**Editor ID:**	004-190-922-1

Graphics





Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	02-6750-7492	**Test Type:**	Cell Growth	**Analyst:**	Beth Maturino	
Start Date:	20 Jan-22 09:26	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water	
Ending Date:	24 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable	
Test Length:	4d 3h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:** 7d

Sample ID:	18-5313-8441	**Code:**	CSE0122.089	**Project:**	Boeing-SSFL NPDES	
Sample Date:	19 Jan-22 08:30	**Material:**	Sample Water	**Source:**	Bioassay Report	
Receipt Date:	19 Jan-22 15:55	**CAS (PC):**		**Station:**	Outfall 002	
Sample Age:	25h (3 °C)	**Client:**	Eurofins Calscience			

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	63	---	---	63	63	---	0	---	0
100		1	197	---	---	197	197	---	0	---	0
Overall		2	130	-721.3	981.3	63	197	67	94.75	72.89%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	495.6	484.5	506.7	483	507	1.792	8.961	1.81%	0
100		5	865	469.4	1261	295	1010	63.73	318.6	36.84%	0
Overall		10	680.3	474.1	886.5	295	1010	91.14	288.2	42.37%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	110	---	---	110	110	---	0	---	0
100		1	985	---	---	985	985	---	0	---	0
Overall		2	547.5	-5011	6106	110	985	437.5	618.7	113.00%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.94	7.829	8.051	7.8	8	0.01789	0.08944	1.13%	0
100		5	7.92	7.784	8.056	7.8	8.1	0.02191	0.1095	1.38%	0
Overall		10	7.93	7.862	7.998	7.8	8.1	0.03	0.09487	1.20%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.96	25.85	26.07	25.8	26	0.01789	0.08943	0.34%	0
100		5	25.96	25.85	26.07	25.8	26	0.01789	0.08943	0.34%	0
Overall		10	25.96	25.9	26.02	25.8	26	0.02667	0.08433	0.32%	0 (0%)

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		63					
100				197					

Conductivity-µmhos

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		483					
100				295					
0	N	2		507					
100				1007					
0	N	3		496					
100				1006					
0	N	4		492					
100				1007					
0	N	5		500					
100				1010					

Hardness (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		110					
100				985					

pH-Units

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.8					
100				7.8					
0	N	2		8					
100				7.9					
0	N	3		7.9					
100				7.9					
0	N	4		8					
100				7.9					
0	N	5		8					
100				8.1					

Temperature-°C

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		26					
100				26					
0	N	2		26					
100				26					
0	N	3		26					
100				26					
0	N	4		26					
100				26					
0	N	5		25.8					
100				25.8					

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

-089

Temp. deg. C = 3.0 °C

Chlorine (mg/L) = <0.1

2/8/2022

Client Name/Address:	Project:	ANALYSIS REQUIRED																
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 002 Comp	R/A	R	R	R	A	A	A	A	R	QRSW							
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	Project Manager: Katherine Miller 520.289.8608, 520.904.6944 (cell)																	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement## 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)																	
Sampler: Adrian Mobeka																		

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DI-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals: Mercury (E245.1)		Comments
Outfall 002	Outfall002_20220119_Comp_F	1/19/2022/0830	WM	1 L Poly	1	None	190	No	X									Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate viale	2	None	320	No								X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall002_20220119_Comp	1/19/2022/0830	WM	500 mL Poly	1	NaOH	220	No		X								
			WM	2.5 Gal Cube	1	None	225	No		\	X							Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No										Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA
			WM	1 Gal Cube	6	None	235	No				X						
			WM	40 mL VOA	3	HCl	240	No					X					
			WM	1 L Glass Amber	1	HCl	245	No						X				
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X			
			WM	500 mL Poly	1	None	260	No								X		
			WM	1L Glass Amber	2	None	275	No										
	Outfall002_20220119_Comp_Extra	1/19/2022/0830	WM	40 mL VOA	3	HCl	240	No					H					Hold
			WM	1 L Glass Amber	2	None	255	No							H			Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1.19.2022/1555	H.A	[signature]	1/19/22 1555
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Relinquished By	Date/Time:	Company:	Received By	Date/Time:

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

* Hand delivered to ABC Labs in Ventura by H.A

aquatic bioassay & consulting laboratories, inc

CHRONIC SELENASTRUM GROWTH BIOASSAY

DATE: 6 January - 2021

STANDARD TOXICANT: Cadmium Chloride

NOEC = 20.00 ug/l

IC25 = 66.20 ug/l
IC50 = 136.00 ug/l

Yours very truly,

Scott Johnson
Laboratory Director

29 north olive st. ventura, ca 93001 (805) 643 5621 aquabio.org

CETIS Summary Report

Report Date: 25 Jan-22 15:49 (p 1 of 1)
Test Code/ID: SEL010622 / 19-6068-6059

Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Batch ID:	04-0871-6453	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	06 Jan-22 11:04	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	10 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	4d 1h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	7d
Sample ID:	05-8955-1529	**Code:**	SEL010622	**Project:**	REF TOX		
Sample Date:	06 Jan-22 11:04	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant		
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX		
Sample Age:	---	**Client:**	Internal Lab				

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	S
17-9444-3655	Cell Density	Dunnett Multiple Comparison Test		20	40	28.28	11.4%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	µg/L	95% LCL	95% UCL	S
11-8061-4337	Cell Density	Linear Interpolation (ICPIN)		IC10	32.99	26.76	53.2	1
				IC15	39.48	30.44	64.2	
				IC20	52.55	29.97	73.88	
				IC25	66.2	42.73	89.41	
				IC40	107.9	89.09	123.8	
				IC50	136	120.6	153.4	

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
11-8061-4337	Cell Density	Control CV	0.04156	<<	0.2	Yes	Passes Criteria
17-9444-3655	Cell Density	Control CV	0.04156	<<	0.2	Yes	Passes Criteria
11-8061-4337	Cell Density	Control Resp	1.76E+6	1000000	>>	Yes	Passes Criteria
17-9444-3655	Cell Density	Control Resp	1.76E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.762E+6	1.645E+6	1.879E+6	1.667E+6	1.845E+6	3.661E+4	7.322E+4	4.16%	0.00%
20		4	1.885E+6	1.579E+6	2.191E+6	1.656E+6	2.068E+6	9.618E+4	1.924E+5	10.20%	-6.99%
40		4	1.543E+6	1.325E+6	1.760E+6	1.419E+6	1.737E+6	6.832E+4	1.366E+5	8.86%	12.44%
80		4	1.276E+6	1.115E+6	1.436E+6	1.177E+6	1.391E+6	5.052E+4	1.010E+5	7.92%	27.61%
140		4	8.855E+5	7.462E+5	1.025E+6	7.730E+5	9.700E+5	4.378E+4	8.756E+4	9.89%	49.74%
180		4	6.262E+5	5.237E+5	7.288E+5	5.490E+5	6.930E+5	3.223E+4	6.445E+4	10.29%	64.46%

Cell Density Detail — MD5: 5D32D8382C52FB4CF0B1C96FCCD75F44

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.761E+6	1.667E+6	1.845E+6	1.775E+6
20		2.018E+6	2.068E+6	1.656E+6	1.799E+6
40		1.737E+6	1.419E+6	1.523E+6	1.492E+6
80		1.328E+6	1.206E+6	1.391E+6	1.177E+6
140		7.730E+5	9.370E+5	9.700E+5	8.620E+5
180		6.930E+5	6.630E+5	6.000E+5	5.490E+5

CETIS Analytical Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	17-9444-3655	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:58	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1
Edit Date:	23 Jan-22 16:55	**MD5 Hash:**	4FF39683B6F639A44296592E1864B33C	**Editor ID:**	000-189-126-0
Batch ID:	04-0871-6453	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	06 Jan-22 11:04	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	10 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	4d 1h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 7d
Sample ID:	05-8955-1529	**Code:**	SEL010622	**Project:**	REF TOX
Sample Date:	06 Jan-22 11:04	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	20	40	28.28	---	200300	11.37%

Dunnett Multiple Comparison Test

Control	vs	Conc-µg/L	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		20	-1.481	2.407	2E+05	6	CDF	0.9956	Non-Significant Effect
		40*	2.635	2.407	2E+05	6	CDF	0.0322	Significant Effect
		80*	5.847	2.407	2E+05	6	CDF	6.1E-05	Significant Effect
		140*	10.53	2.407	2E+05	6	CDF	2.7E-05	Significant Effect
		180*	13.65	2.407	2E+05	6	CDF	2.7E-05	Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.04156	<<	0.2	Yes	Passes Criteria
Control Resp	1.76E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	4.944E+12	9.888E+11	5	71.42	<1.0E-05	Significant Effect
Error	2.492E+11	1.384E+10	18			
Total	5.193E+12		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	4.689	15.09	0.4549	Equal Variances
	Levene Equality of Variance Test	2.608	4.248	0.0607	Equal Variances
	Mod Levene Equality of Variance Test	1.896	4.248	0.1452	Equal Variances
Distribution	Anderson-Darling A2 Test	0.2084	3.878	0.9044	Normal Distribution
	D'Agostino Kurtosis Test	0.08814	2.576	0.9298	Normal Distribution
	D'Agostino Skewness Test	0.03132	2.576	0.9750	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	0.008749	9.21	0.9956	Normal Distribution
	Kolmogorov-Smirnov D Test	0.08117	0.2056	1.0000	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9814	0.884	0.9200	Normal Distribution

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.762E+6	1.645E+6	1.879E+6	1.768E+6	1.667E+6	1.845E+6	3.661E+4	4.16%	0.00%
20		4	1.885E+6	1.579E+6	2.191E+6	1.908E+6	1.656E+6	2.068E+6	9.618E+4	10.20%	-6.99%
40		4	1.543E+6	1.325E+6	1.760E+6	1.508E+6	1.419E+6	1.737E+6	6.832E+4	8.86%	12.44%
80		4	1.276E+6	1.115E+6	1.436E+6	1.267E+6	1.177E+6	1.391E+6	5.052E+4	7.92%	27.61%
140		4	8.855E+5	7.462E+5	1.025E+6	8.995E+5	7.730E+5	9.700E+5	4.378E+4	9.89%	49.74%
180		4	6.262E+5	5.237E+5	7.288E+5	6.315E+5	5.490E+5	6.930E+5	3.223E+4	10.29%	64.46%

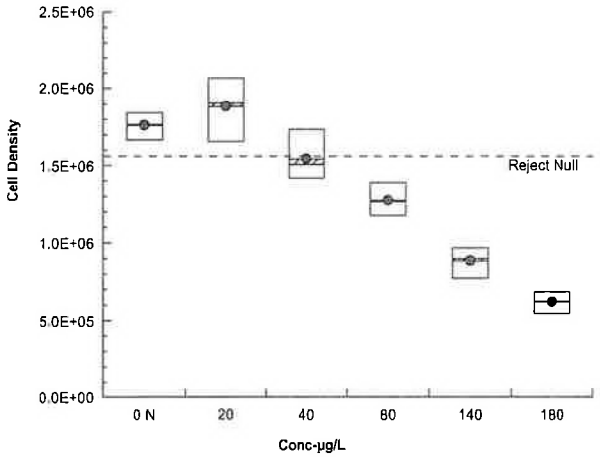
Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

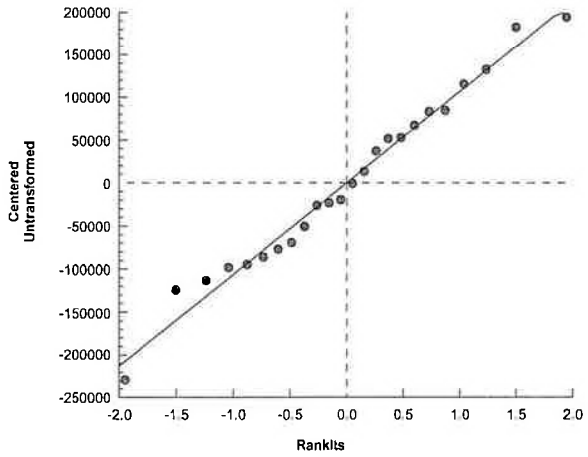
Analysis ID:	17-9444-3655	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:58	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1
Edit Date:	23 Jan-22 16:55	**MD5 Hash:**	4FF39683B6F639A44296592E1864B33C	**Editor ID:**	000-189-126-0

Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.761E+6	1.667E+6	1.845E+6	1.775E+6
20		2.018E+6	2.068E+6	1.656E+6	1.799E+6
40		1.737E+6	1.419E+6	1.523E+6	1.492E+6
80		1.328E+6	1.206E+6	1.391E+6	1.177E+6
140		7.730E+5	9.370E+5	9.700E+5	8.620E+5
180		6.930E+5	6.630E+5	6.000E+5	5.490E+5

Graphics





CETIS Analytical Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	11-8061-4337	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:58	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	23 Jan-22 16:55	**MD5 Hash:**	4FF39683B6F639A44296592E1864B33C	**Editor ID:**	000-189-126-0
Batch ID:	04-0871-6453	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	06 Jan-22 11:04	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	10 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	4d 1h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 7d
Sample ID:	05-8955-1529	**Code:**	SEL010622	**Project:**	REF TOX
Sample Date:	06 Jan-22 11:04	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.04156	<<	0.2	Yes	Passes Criteria
Control Resp	1.76E+6	1000000	>>	Yes	Passes Criteria

Point Estimates

Level	µg/L	95% LCL	95% UCL
IC10	32.99	26.76	53.2
IC15	39.48	30.44	64.2
IC20	52.55	29.97	73.88
IC25	66.2	42.73	89.41
IC40	107.9	89.09	123.8
IC50	136	120.6	153.4

Cell Density Summary

			Calculated Variate						Isotonic Variate	
Conc-µg/L	**Code**	**Count**	**Mean**	**Median**	**Min**	**Max**	**CV%**	**%Effect**	**Mean**	**%Effect**
0	N	4	1.762E+6	1.768E+6	1.667E+6	1.845E+6	4.16%	0.00%	1.824E+6	0.00%
20		4	1.885E+6	1.908E+6	1.656E+6	2.068E+6	10.20%	-6.99%	1.824E+6	0.00%
40		4	1.543E+6	1.508E+6	1.419E+6	1.737E+6	8.86%	12.44%	1.543E+6	15.40%
80		4	1.276E+6	1.267E+6	1.177E+6	1.391E+6	7.92%	27.61%	1.276E+6	30.06%
140		4	8.855E+5	8.995E+5	7.730E+5	9.700E+5	9.89%	49.74%	8.855E+5	51.44%
180		4	6.262E+5	6.315E+5	5.490E+5	6.930E+5	10.29%	64.46%	6.262E+5	65.66%

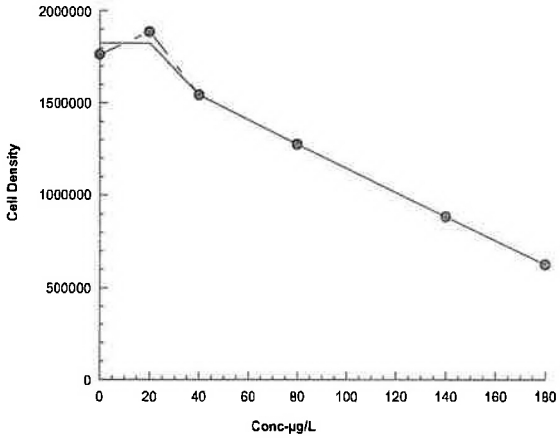
Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.761E+6	1.667E+6	1.845E+6	1.775E+6
20		2.018E+6	2.068E+6	1.656E+6	1.799E+6
40		1.737E+6	1.419E+6	1.523E+6	1.492E+6
80		1.328E+6	1.206E+6	1.391E+6	1.177E+6
140		7.730E+5	9.370E+5	9.700E+5	8.620E+5
180		6.930E+5	6.630E+5	6.000E+5	5.490E+5

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	11-8061-4337	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:58	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	23 Jan-22 16:55	**MD5 Hash:**	4FF39683B6F639A44296592E1864B33C	**Editor ID:**	000-189-126-0

Graphics



Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	04-0871-6453	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	06 Jan-22 11:04	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	10 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	4d 1h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	7d

Sample ID:	05-8955-1529	**Code:**	SEL010622	**Project:**	REF TOX
Sample Date:	06 Jan-22 11:04	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	57	---	---	57	57	---	0	---	0
20		1	57	---	---	57	57	---	0	---	0
40		1	57	---	---	57	57	---	0	---	0
80		1	60	---	---	60	60	---	0	---	0
140		1	49	---	---	49	49	---	0	---	0
180		1	51	---	---	51	51	---	0	---	0
Overall		6	55.17	50.74	59.59	49	60	1.721	4.215	7.64%	0 (0%)

Conductivity-µmhos

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	469.2	458.2	480.2	460	484	1.774	8.871	1.89%	0
20		5	481	466.3	495.7	474	502	2.362	11.81	2.46%	0
40		5	465.4	462.5	468.3	462	468	0.4604	2.302	0.49%	0
80		5	445.8	439.3	452.3	440	453	1.053	5.263	1.18%	0
140		5	431.4	427	435.8	426	435	0.7014	3.507	0.81%	0
180		5	397.8	388.9	406.7	391	409	1.438	7.19	1.81%	0
Overall		30	448.4	437.6	459.3	391	502	5.303	29.04	6.48%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	109	---	---	109	109	---	0	---	0
20		1	122	---	---	122	122	---	0	---	0
40		1	137	---	---	137	137	---	0	---	0
80		1	141	---	---	141	141	---	0	---	0
140		1	126	---	---	126	126	---	0	---	0
180		1	125	---	---	125	125	---	0	---	0
Overall		6	126.7	114.7	138.6	109	141	4.652	11.4	9.00%	0 (0%)

pH-Units

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.9	7.812	7.988	7.8	8	0.01414	0.0707	0.89%	0
20		5	7.82	7.658	7.982	7.7	8	0.02608	0.1304	1.67%	0
40		5	7.8	7.648	7.952	7.7	8	0.0245	0.1225	1.57%	0
80		5	7.78	7.618	7.942	7.7	8	0.02608	0.1304	1.68%	0
140		5	7.76	7.593	7.927	7.7	8	0.02683	0.1342	1.73%	0
180		5	7.76	7.593	7.927	7.7	8	0.02683	0.1342	1.73%	0
Overall		30	7.803	7.758	7.849	7.7	8	0.02222	0.1217	1.56%	0 (0%)

Temperature-°C

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
20		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
40		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
80		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
140		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
180		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
Overall		30	25.8	25.65	25.95	25	26	0.07428	0.4068	1.58%	0 (0%)

Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		57					
20				57					
40				57					
80				60					
140				49					
180				51					

Conductivity-µmhos

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		460					
20				477					
40				467					
80				449					
140				426					
180				391					
0	N	2		467					
20				477					
40				462					
80				440					
140				430					
180				392					
0	N	3		468					
20				475					
40				465					
80				442					
140				433					
180				399					
0	N	4		467					
20				474					
40				465					
80				445					
140				435					
180				398					
0	N	5		484					
20				502					
40				468					
80				453					
140				433					
180				409					

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		109					
20				122					
40				137					
80				141					
140				126					
180				125					

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

pH-Units

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.8					
20				7.7					
40				7.7					
80				7.7					
140				7.7					
180				7.7					
0	N	2		7.9					
20				7.7					
40				7.7					
80				7.7					
140				7.7					
180				7.7					
0	N	3		7.9					
20				7.8					
40				7.8					
80				7.7					
140				7.7					
180				7.7					
0	N	4		7.9					
20				7.9					
40				7.8					
80				7.8					
140				7.7					
180				7.7					
0	N	5		8					
20				8					
40				8					
80				8					
140				8					
180				8					

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Temperature-°C

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		26					
20				26					
40				26					
80				26					
140				26					
180				26					
0	N	2		26					
20				26					
40				26					
80				26					
140				26					
180				26					
0	N	3		26					
20				26					
40				26					
80				26					
140				26					
180				26					
0	N	4		26					
20				26					
40				26					
80				26					
140				26					
180				26					
0	N	5		25					
20				25					
40				25					
80				25					
140				25					
180				25					

82063

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-82063 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Adrian Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R/A Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu Pb, Sb, Se, Tl	R TCDD (and all congeners) (E1613B)	R BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	R Surfactants (MBAS) (SM5540C/E425.1)	R/A Cl-, F-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	R Turbidity TDS (SM2540C/E180.1)	R TSS (160.2 (SM2540D))	R Ammonia-N (E350.2)	A Priority Pollutants-Pesticides+PCBs (E608)	A Priority Pollutants-SVOCs (E625)	R Total Recoverable Metals: Mercury (E245.1)	Comments
Outfall 002	Outfall002_20220119_Comp	1/19/2022 0830	WM	500 mL Poly	1	HNO_3	80	No	X										X	
			WM	1 L Glass Amber	2	None	110	No		X										
			WM	1 L Poly	1	None	115	No			X									
			WM	500 mL Poly	2	None	120	No				X								
			WM	500 mL Poly	2	None	125	No					X							48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X						48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X				
			WM	1 L Glass Amber	2	None	250	No									X			
			WM	1 L Glass Amber	2	None	175	No										X		
			WM	1 L Poly	1	None	185	No							X					
	Outfall002_20220119_Comp_Extra	1/19/2022 0830	WM	1 L Glass Amber	2	None	110	No		H										Hold
			WM	500 mL Poly	2	None	120	No				H								Hold
			WM	500 mL Poly	2	None	125	No					H							Hold
			WM	1 L Glass Amber	2	None	250	No									H			Hold
			WM	1 L Glass Amber	2	None	175	No										H		Hold

ANALYSIS REQUIRED

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	1-19-2022 / 1400	H&A		ECI 01119/22 1400
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	01119/22 18:20	ECI		1/19/22 1820
Relinquished By	Date/Time:	Company:	Received By	Date/Time:

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day __X__
48 Hour _____ 5 Day _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

20|3.5, 1.8|33, 21|36 SCG

2/8/2022
2019-2020 Rainy Season
Version 5

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:	R/A	R	R	R	A	A	A	A	R	QRSW	ANALYSIS REQUIRED	
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 002 Comp	Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V, Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)		Comments
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)												
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)												
Sampler: Adrian Mobeka													

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD														
Outfall 002	Outfall002_20220119_Comp_F	1/19/2022 / 0830	WM	1 L Poly	1	None	190	No	X													Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	2	None	320	No												X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall002_20220119_Comp	1/19/2022 / 0830 *	WM	500 mL Poly	1	NaOH	220	No		X												
			WM	2.5 Gal Cube	1	None	225	No		\	X											Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No					X									Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	1 Gal Cube	6	None	235	No						X								
			WM	40 mL VOA	3	HCl	240	No							X							
			WM	1 L Glass Amber	1	HCl	245	No								X						
			WM	8 oz. glass amber	1	H_2SO_4	255	No									X					
			WM	500 mL Poly	1	None	260	No										X				
			WM	1L Glass Amber	2	None	275	No											X			
	Outfall002_20220119_Comp_Extra	1/19/2022 / 0830	WM	40 mL VOA	3	HCl	240	No							H							Hold
			WM	1 L Glass Amber	MS 1	None	255	No									H					Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-19-2022/1400	H:A	[signature] EQ	1119/22 1400
[signature]	01/19/22 1820	EQ	[signature]	1/19/22 1820

Turn-around time. (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV: _____ All Level IV: ___X___

* Hand-delivered to ABC Labs in Ventura by H:A

Eurofins Calscience
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s).	COC No: 570-152165 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82063-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/16/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B NaOH	N None
C - Zn Acetate	O - AsNaO2
D Nitric Acid	P Na2O4S
E NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note.
			Preservation Code:												
Outfall002_20220119_Comp (570-82063-1)	1/19/22	08 30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
[signature]	1/20/22 1304				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

2/8/2022

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM. Patel Virendra	Carrier Tracking No(s)	COC No 570-152240 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin. California	Page Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-82063-2
Address: 880 Riverside Parkway, ,	Due Date Requested. 2/4/2022			
City: West Sacramento	TAT Requested (days)			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20220119_Comp (570-82063-1)	1/19/22	08:30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware
Outfall002_20220119_Comp_Extra (570-82063-2)	1/19/22	08 30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/20/22 1520	Company	Received by:	Date/Time.	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM. Patel, Virendra	Carrier Tracking No(s)	COC No 570-152284 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note) State Program - California		Job #: 570-82063-2
Address: 14859 E Clark Avenue, ,	Due Date Requested 2/9/2022			
City: City of Industry	TAT Requested (days).			
State, Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note.
			Preservation Code:							
Outfall002_20220119_Comp (570-82063-1)	1/19/22	08:30 Pacific		Water			X		1	Level IV needed
Outfall002_20220119_Comp_Extra (570-82063-2)	1/19/22	08:30 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/20/22 1637	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

2/8/2022

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152240.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-82063-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 2/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20220119_Comp (570-82063-1)	1/19/22	08:30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall002_20220119_Comp_Extra (570-82063-2)	1/19/22	08:30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Level 1 radioactive, Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/20/22 1520			01/21/2022 10:35	LEI SoC
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☒ Yes ☐ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3°C OK

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82063-2

Login Number: 82063
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-82063-3
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/15/2022 3:55:24 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-82063-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Qualifiers

Rad

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-82063-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-82063-3

Comments
No additional comments.

Receipt
The samples were received on 1/19/2022 6:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.3º C, 3.5º C and 3.6º C.

RAD
Method 900.0: Gross alpha beta batch 547784
The gross alpha laboratory control sample (LCS) recovery is outside the upper QC limit indicating a potential positive bias for that analyte. This analyte was not observed above the RL in the associated samples; therefore the sample data is not adversely affected by this excursion. The data have been reported with this narrative.

(LCS 160-547784/2-A)

Method 900.0: Gross alpha beta batch 547784
The detection goal was not met for the following sample due to a reduction of the sample size attributed to high residual mass: Outfall002_20220119_Comp (570-82063-1). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross alpha beta batch 547784
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall002_20220119_Comp (570-82063-1), (LCS 160-547784/2-A), (LCSB 160-547784/3-A), (MB 160-547784/1-A), (570-82066-A-1-A), (570-82066-A-1-D DU), (570-82066-A-1-B MS) and (570-82066-A-1-C MSBT)

Method 901.1: Gamma Prep Batch 160-547763
Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228

Job ID: 570-82063-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall002_20220119_Comp (570-82063-1), (570-82068-AE-1-A) and (570-82068-AE-1-B DU)

Method 903.0: Radium 226 batch 547785
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall002_20220119_Comp (570-82063-1), (LCS 160-547785/1-A), (LCSD 160-547785/2-A) and (MB 160-547785/9-A)

Method 904.0: Radium 228 batch 547792
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall002_20220119_Comp (570-82063-1), (LCS 160-547792/1-A), (LCSD 160-547792/2-A) and (MB 160-547792/9-A)

Method 905: Strontium 90 Batch 160-548204:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall002_20220119_Comp (570-82063-1), (LCS 160-548204/1-A), (LCSD 160-548204/2-A) and (MB 160-548204/12-A)

Method 906.0: Tritium in liquid batch 160-548411
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
Outfall002_20220119_Comp (570-82063-1), (LCS 160-548411/2-A), (MB 160-548411/1-A), (570-82063-AD-1-B MS), (570-82926-T-2-A) and (570-82926-T-2-B DU)

Methods A-01-R, U-02-RC: Isotopic Uranium Batch 160-548205:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall002_20220119_Comp (570-82063-1), (LCS 160-548205/2-A), (MB 160-548205/1-A) and (570-82063-AE-1-F DU)

Job ID: 570-82063-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Method Evaporation: Gross Alpha/Beta preparation batch 160-547784

The following samples had a final mass above the 100 mg limit: Outfall002_20220119_Comp (570-82063-1). A dilution was performed and is reflected in the initial amount used.

Method PrecSep_0: Radium-228 Prep Batch 160-547792

The following samples were prepared at a reduced aliquot due to Matrix: Outfall002_20220119_Comp (570-82063-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-547785

The following samples were prepared at a reduced aliquot due to Matrix: Outfall002_20220119_Comp (570-82063-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-548204

The following samples were prepared at a reduced aliquot due to Matrix: Outfall002_20220119_Comp (570-82063-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall002_20220119_Comp
Date Collected: 01/19/22 08:30
Date Received: 01/19/22 18:20

Lab Sample ID: 570-82063-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-2.01	U G *	4.18	4.18	3.00	8.17	pCi/L	01/24/22 10:54	01/27/22 07:49	1
Gross Beta	**3.43**		1.56	1.59	4.00	2.30	pCi/L	01/24/22 10:54	01/27/22 07:49	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall002_20220119_Comp
Date Collected: 01/19/22 08:30
Date Received: 01/19/22 18:20

Lab Sample ID: 570-82063-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	**10.4**		7.33	7.43	20.0	7.72	pCi/L	01/24/22 07:18	01/28/22 19:17	1
Potassium-40	-31.8	U	72.2	72.3		150	pCi/L	01/24/22 07:18	01/28/22 19:17	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall002_20220119_Comp
Date Collected: 01/19/22 08:30
Date Received: 01/19/22 18:20

Lab Sample ID: 570-82063-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.176	U	0.151	0.152	1.00	0.227	pCi/L	01/24/22 10:55	02/15/22 08:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.9*		*40 - 110*	*01/24/22 10:55*	*02/15/22 08:11*	*1*

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall002_20220119_Comp
Date Collected: 01/19/22 08:30
Date Received: 01/19/22 18:20

Lab Sample ID: 570-82063-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.219	U	0.323	0.323	1.00	0.542	pCi/L	01/24/22 11:14	02/11/22 12:03	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.9*		*40 - 110*	*01/24/22 11:14*	*02/11/22 12:03*	*1*
Y Carrier	*81.9*		*40 - 110*	*01/24/22 11:14*	*02/11/22 12:03*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall002_20220119_Comp
Date Collected: 01/19/22 08:30
Date Received: 01/19/22 18:20

Lab Sample ID: 570-82063-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.0456	U	0.367	0.367	3.00	0.640	pCi/L	01/26/22 12:42	02/07/22 17:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*51.0*		*40 - 110*	*01/26/22 12:42*	*02/07/22 17:48*	*1*
Y Carrier	*73.6*		*40 - 110*	*01/26/22 12:42*	*02/07/22 17:48*	*1*

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall002_20220119_Comp **Lab Sample ID: 570-82063-1**
Date Collected: 01/19/22 08:30 **Matrix: Water**
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	22.5	U	196	196	500	346	pCi/L	01/27/22 11:07	02/07/22 16:15	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall002_20220119_Comp **Lab Sample ID: 570-82063-1**
Date Collected: 01/19/22 08:30 **Matrix: Water**
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	2.58		0.415	0.443	1.00	0.141	pCi/L	01/26/22 13:01	02/01/22 20:54	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*87.0*		*30 - 110*	*01/26/22 13:01*	*02/01/22 20:54*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
570-82063-1	Outfall002_20220119_Comp	88.9
LCS 160-547785/1-A	Lab Control Sample	91.9
LCSD 160-547785/2-A	Lab Control Sample Dup	94.7
MB 160-547785/9-A	Method Blank	96.5

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-82063-1	Outfall002_20220119_Comp	88.9	81.9
LCS 160-547792/1-A	Lab Control Sample	91.9	80.7
LCSD 160-547792/2-A	Lab Control Sample Dup	94.7	81.1
MB 160-547792/9-A	Method Blank	96.5	85.6

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Sr	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-82063-1	Outfall002_20220119_Comp	51.0	73.6
LCS 160-548204/1-A	Lab Control Sample	83.4	74.0
LCSD 160-548204/2-A	Lab Control Sample Dup	80.3	78.1
MB 160-548204/12-A	Method Blank	80.5	83.0

Tracer/Carrier Legend

Sr = Sr Carrier
Y = Y Carrier

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		U-232
Lab Sample ID	Client Sample ID	(30-110)
570-82063-1	Outfall002_20220119_Comp	87.0
570-82063-1 DU	Outfall002_20220119_Comp	100
LCS 160-548205/2-A	Lab Control Sample	77.7
MB 160-548205/1-A	Method Blank	77.5

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-547784/1-A
Matrix: Water
Analysis Batch: 548200

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 547784

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.1946	U	0.661	0.662	3.00	1.20	pCi/L	01/24/22 10:54	01/26/22 12:58	1
Gross Beta	0.5967	U	0.540	0.543	4.00	0.862	pCi/L	01/24/22 10:54	01/26/22 12:58	1

Lab Sample ID: LCS 160-547784/2-A
Matrix: Water
Analysis Batch: 548980

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547784

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	66.30	*	9.33	3.00	2.31	pCi/L	131	75 - 125

Lab Sample ID: LCSB 160-547784/3-A
Matrix: Water
Analysis Batch: 548200

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547784

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.6	76.99		8.23	4.00	0.877	pCi/L	102	75 - 125

Lab Sample ID: 570-82066-A-1-B MS
Matrix: Water
Analysis Batch: 548373

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 547784

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	0.304	U *	50.6	48.03		7.09	3.00	2.14	pCi/L	94	60 - 140

Lab Sample ID: 570-82066-A-1-C MSBT
Matrix: Water
Analysis Batch: 548373

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 547784

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	3.69		75.5	75.74		8.11	4.00	1.18	pCi/L	95	60 - 140

Lab Sample ID: 570-82066-A-1-D DU
Matrix: Water
Analysis Batch: 548373

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 547784

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	0.304	U *	0.2032	U *	1.24	3.00	2.28	pCi/L	0.04	1
Gross Beta	3.69		3.074		0.826	4.00	0.919	pCi/L	0.35	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-547763/1-A
Matrix: Water
Analysis Batch: 548903

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 547763

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-2.826	U	12.0	12.0	20.0	15.0	pCi/L	01/24/22 07:18	01/28/22 19:17	1
Potassium-40	60.57	U	89.4	89.7		142	pCi/L	01/24/22 07:18	01/28/22 19:17	1

Lab Sample ID: LCS 160-547763/2-A
Matrix: Water
Analysis Batch: 548448

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547763

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium-241	135000	142500		17000		455	pCi/L	105	75 - 125
Cesium-137	42000	43220		5150	20.0	96.4	pCi/L	103	75 - 125
Cobalt-60	20700	21620		2580		44.4	pCi/L	104	75 - 125

Lab Sample ID: 570-82068-AE-1-B DU
Matrix: Water
Analysis Batch: 548454

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 547763

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Cesium-137	-2.33	U	2.568	U	9.11	20.0	11.0	pCi/L	0.24	1
Potassium-40	19.6	U	52.26	U	93.4		98.4	pCi/L	0.15	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-547785/9-A
Matrix: Water
Analysis Batch: 550642

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 547785

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.1043	U	0.110	0.111	1.00	0.261	pCi/L	01/24/22 10:55	02/15/22 08:12	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.5*		*40 - 110*	*01/24/22 10:55*	*02/15/22 08:12*	*1*

Lab Sample ID: LCS 160-547785/1-A
Matrix: Water
Analysis Batch: 550642

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547785

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.1	14.66		1.60	1.00	0.250	pCi/L	97	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.9*		*40 - 110*

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-547785/2-A
Matrix: Water
Analysis Batch: 550642

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 547785

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	13.82		1.51	1.00	0.213	pCi/L	91	75 - 125	0.27	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*94.7*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-547792/9-A
Matrix: Water
Analysis Batch: 550058

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 547792

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.1594	U	0.269	0.269	1.00	0.510	pCi/L	01/24/22 11:14	02/11/22 12:04	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.5*		*40 - 110*	*01/24/22 11:14*	*02/11/22 12:04*	*1*
Y Carrier	*85.6*		*40 - 110*	*01/24/22 11:14*	*02/11/22 12:04*	*1*

Lab Sample ID: LCS 160-547792/1-A
Matrix: Water
Analysis Batch: 550030

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547792

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			11.8	14.28		1.63	1.00	0.443	pCi/L	121	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.9*		*40 - 110*
Y Carrier	*80.7*		*40 - 110*

Lab Sample ID: LCSD 160-547792/2-A
Matrix: Water
Analysis Batch: 550030

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 547792

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			11.8	14.82		1.67	1.00	0.472	pCi/L	125	75 - 125	0.16	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*94.7*		*40 - 110*
Y Carrier	*81.1*		*40 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-548204/12-A
Matrix: Water
Analysis Batch: 549596

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 548204

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.1820	U	0.202	0.202	3.00	0.331	pCi/L	01/26/22 12:42	02/07/22 17:49	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*80.5*		*40 - 110*	*01/26/22 12:42*	*02/07/22 17:49*	*1*
Y Carrier	*83.0*		*40 - 110*	*01/26/22 12:42*	*02/07/22 17:49*	*1*

Lab Sample ID: LCS 160-548204/1-A
Matrix: Water
Analysis Batch: 549596

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 548204

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Strontium-90			7.55	7.201		0.814	3.00	0.351	pCi/L	95	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*83.4*		*40 - 110*
Y Carrier	*74.0*		*40 - 110*

Lab Sample ID: LCSD 160-548204/2-A
Matrix: Water
Analysis Batch: 549596

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 548204

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Strontium-90			7.55	7.467		0.833	3.00	0.352	pCi/L	99	75 - 125	0.16	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*80.3*		*40 - 110*
Y Carrier	*78.1*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-548411/1-A
Matrix: Water
Analysis Batch: 549743

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 548411

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-77.93	U	182	182	500	338	pCi/L	01/27/22 11:07	02/07/22 14:22	1

Lab Sample ID: LCS 160-548411/2-A
Matrix: Water
Analysis Batch: 549743

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 548411

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			2230	2063		385	500	346	pCi/L	92	75 - 125		

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 570-82063-1 MS
Matrix: Water
Analysis Batch: 549743

Client Sample ID: Outfall002_20220119_Comp
Prep Type: Total/NA
Prep Batch: 548411

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Tritium	22.5	U	2220	2153		397	500	352	pCi/L	96	60 - 140

Lab Sample ID: 570-82926-T-2-B DU
Matrix: Water
Analysis Batch: 549743

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 548411

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Tritium	-212	U	-36.04	U	192	500	351	pCi/L	0.49	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-548205/1-A
Matrix: Water
Analysis Batch: 549064

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 548205

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.01715	U	0.06677	0.06677	1.00	0.132	pCi/L	01/26/22 13:01	02/01/22 20:54	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*77.5*		*30 - 110*	*01/26/22 13:01*	*02/01/22 20:54*	*1*

Lab Sample ID: LCS 160-548205/2-A
Matrix: Water
Analysis Batch: 549065

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 548205

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Uranium-234	12.7	12.72		1.42	1.00	0.121	pCi/L	100	75 - 125
Uranium-238	13.0	13.44		1.48	1.00	0.128	pCi/L	103	75 - 125

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*77.7*		*30 - 110*

Lab Sample ID: 570-82063-1 DU
Matrix: Water
Analysis Batch: 549072

Client Sample ID: Outfall002_20220119_Comp
Prep Type: Total/NA
Prep Batch: 548205

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Total Uranium	2.58		2.827		0.465	1.00	0.161	pCi/L	0.27	1

Tracer	*DU %Yield*	*DU Qualifier*	*Limits*
Uranium-232	*100*		*30 - 110*

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Prep Batch: 547763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-547763/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-547763/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-82068-AE-1-B DU	Duplicate	Total/NA	Water	Fill_Geo-0	

Prep Batch: 547784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	Evaporation	
MB 160-547784/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-547784/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-547784/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-82066-A-1-B MS	Matrix Spike	Total/NA	Water	Evaporation	
570-82066-A-1-C MSBT	Matrix Spike	Total/NA	Water	Evaporation	
570-82066-A-1-D DU	Duplicate	Total/NA	Water	Evaporation	

Prep Batch: 547785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	PrecSep-21	
MB 160-547785/9-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-547785/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-547785/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 547792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	PrecSep_0	
MB 160-547792/9-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-547792/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-547792/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 548204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	PrecSep-7	
MB 160-548204/12-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-548204/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-548204/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Prep Batch: 548205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	ExtChrom	
MB 160-548205/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-548205/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
570-82063-1 DU	Outfall002_20220119_Comp	Total/NA	Water	ExtChrom	

Prep Batch: 548411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-548411/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-548411/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
570-82063-1 MS	Outfall002_20220119_Comp	Total/NA	Water	LSC_Dist_Susp	
570-82926-T-2-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			100.025 mL	1.0 g	547784	01/24/22 10:54	ASG	TAL SL
Total/NA	Analysis	900.0		1	1.0 mL	1.0 mL	548373	01/27/22 07:49	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	547763	01/24/22 07:18	LTC	TAL SL
Total/NA	Analysis	901.1		1			548447	01/28/22 19:17	CAH	TAL SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			750.21 mL	1.0 g	547785	01/24/22 10:55	LPS	TAL SL
Total/NA	Analysis	903.0		1			550642	02/15/22 08:11	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			750.21 mL	1.0 g	547792	01/24/22 11:14	LPS	TAL SL
Total/NA	Analysis	904.0		1			550058	02/11/22 12:03	FLC	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep-7			749.82 mL	1.0 g	548204	01/26/22 12:42	HRT	TAL SL
Total/NA	Analysis	905		1			549596	02/07/22 17:48	FLC	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	LSC_Dist_Susp			100.11 mL	1.0 g	548411	01/27/22 11:07	BAL	TAL SL
Total/NA	Analysis	906.0		1			549743	02/07/22 16:15	JLP	TAL SL
	Instrument ID: LSC3180									
Total/NA	Prep	ExtChrom			499.75 mL	1.0 mL	548205	01/26/22 13:01	MLO	TAL SL
Total/NA	Analysis	A-01-R		1			549069	02/01/22 20:54	CLP	TAL SL
	Instrument ID: ALPHAVISION									

Laboratory References:
TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-82063-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	TAL SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	TAL SL

Protocol References:

DOE = U.S. Department of Energy
EPA = US Environmental Protection Agency
None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-82063-1	Outfall002_20220119_Comp	Water	01/19/22 08:30	01/19/22 18:20

82063

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-82063 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218	**Project Manager:** Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	**Field Manager:** Mark Dominick 978.234.5033, 818.599.0702 (cell)
Sampler: Adrian Mobeka	

									R/A	R	R	R	R/A	R	R	R	A	A	R					
									ANALYSIS REQUIRED															
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl-, F-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals: Mercury (E245.1)					Comments
Outfall 002	Outfall002_20220119_Comp	1/19/2022 0830	WM	500 mL Poly	1	HNO_3	80	No	X										X					
			WM	1 L Glass Amber	2	None	110	No		X														
			WM	1 L Poly	1	None	115	No			X													
			WM	500 mL Poly	2	None	120	No				X												
			WM	500 mL Poly	2	None	125	No					X											48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X										48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X								
			WM	1 L Glass Amber	2	None	250	No									X							
			WM	1 L Glass Amber	2	None	175	No										X						
			WM	1 L Poly	1	None	185	No							X									
	Outfall002_20220119_Comp_Extra	1/19/2022 0830	WM	1 L Glass Amber	2	None	110	No		H														Hold
			WM	500 mL Poly	2	None	120	No				H												Hold
			WM	500 mL Poly	2	None	125	No					H											Hold
			WM	1 L Glass Amber	2	None	250	No										H						Hold
			WM	1 L Glass Amber	2	None	175	No											H					Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	1-19-2022 / 1400	H:A		ECI 01119/22 1400
	01119/22	18:20 ECI		1/19/22 1820

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

20|3.5, 1.8|33, 21|36 SCG

2/15/2022
2019-2020 Rainy Season
Version 5

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:	R/A	R	R	R	A	A	A	A	R	QRSW	
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 002 Comp	ANALYSIS REQUIRED										
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218		Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V, Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)		Comments
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)											
Sampler: Adrian Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)											
Outfall002_20220119_Comp_F	1/19/2022/0830	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
		WM	borosilicate vials	2	None	320	No								X			Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
Outfall002_20220119_Comp	1/19/2022/0830 *	WM	500 mL Poly	1	NaOH	220	No		X									
		WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
		WM	1 L Glass Amber	1	None	230	No											
		WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
		WM	40 mL VOA	3	HCl	240	No					X						
		WM	1 L Glass Amber	1	HCl	245	No						X					
		WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
		WM	500 mL Poly	1	None	260	No								X			
		WM	1L Glass Amber	2	None	275	No											
Outfall002_20220119_Comp_Extra	1/19/2022/0830	WM	40 mL VOA	3	HCl	240	No					H						Hold
		WM	1 L Glass Amber	MS/MSD	None	255	No							H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	1-19-2022/1400	H:A		1119/22 1400
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	01/19/22 1820	EQ		1/19/22 1820
Relinquished By	Date/Time:	Company:	Received By	Date/Time:

Turn-around time. (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements. (Check)
No Level IV: _____ All Level IV: ___X___

* Hand-delivered to ABC Labs in Ventura by H:A

Eurofins Calscience
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s).	COC No: 570-152165 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82063-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/16/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B NaOH	N None
C - Zn Acetate	O - AsNaO2
D Nitric Acid	P Na2O4S
E NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note.
			Preservation Code:												
Outfall002_20220119_Comp (570-82063-1)	1/19/22	08 30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time: 1/20/22 1304	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

2/15/2022

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-152240 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-82063-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 2/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20220119_Comp (570-82063-1)	1/19/22	08:30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware
Outfall002_20220119_Comp_Extra (570-82063-2)	1/19/22	08 30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/20/22 1520	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/15/2022

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM. Patel, Virendra	Carrier Tracking No(s)	COC No 570-152284 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note) State Program - California		Job #: 570-82063-2
Address: 14859 E Clark Avenue, ,	Due Date Requested 2/9/2022			
City: City of Industry	TAT Requested (days).			
State, Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note.
			Preservation Code:							
Outfall002_20220119_Comp (570-82063-1)	1/19/22	08:30 Pacific		Water			X		1	Level IV needed
Outfall002_20220119_Comp_Extra (570-82063-2)	1/19/22	08:30 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/20/22 1637	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

2/15/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82063-3

Login Number: 82063
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82063-3

Login Number: 82063
List Number: 3
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 01/21/22 02:18 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-82063-4
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/22/2022 6:28:24 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-82063-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-82063-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Job ID: 570-82063-4

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-82063-4

Comments
No additional comments.

Receipt
The samples were received on 1/19/2022 6:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.3º C, 3.5º C and 3.6º C.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument DFS 1 exceeded this criteria: Outfall002_20220119_Comp (570-82063-1), (CCV 320-565138/31), (LCS 320-560219/2-A), (LCSD 320-560219/3-A) and (MB 320-560219/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000038	J,DX MB	0.000047	0.00000058	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000021	J,DX q MB	0.000047	0.00000074	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000022	J,DX MB	0.000047	0.00000063	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000024	J,DX MB	0.000047	0.00000047	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000017	J,DX q MB	0.000047	0.00000055	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000038	J,DX MB	0.000047	0.00000053	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000020	J,DX q MB	0.000047	0.00000053	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000055	J,DX MB	0.000047	0.00000036	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000060	J,DX MB	0.000047	0.00000063	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000026	J,DX MB	0.000047	0.00000056	ug/L	1		1613B	Total/NA
OCDD	0.000024	J,DX MB	0.000094	0.00000087	ug/L	1		1613B	Total/NA
OCDF	0.0000063	J,DX MB	0.000094	0.00000061	ug/L	1		1613B	Total/NA
Total TCDF	0.0000024	J,DX q MB	0.0000094	0.00000056	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000053	J,DX MB	0.000047	0.00000095	ug/L	1		1613B	Total/NA
Total HxCDD	0.000013	J,DX q MB	0.000047	0.00000058	ug/L	1		1613B	Total/NA
Total HxCDF	0.000011	J,DX q MB	0.000047	0.00000047	ug/L	1		1613B	Total/NA
Total HpCDD	0.0000098	J,DX MB	0.000047	0.00000036	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000086	J,DX MB	0.000047	0.00000056	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000094	0.0000010	ug/L		01/24/22 14:10	02/13/22 12:45	1
1,2,3,7,8-PeCDD	ND		0.000047	0.0000009 5	ug/L		01/24/22 14:10	02/13/22 12:45	1
1,2,3,7,8-PeCDF	ND		0.000047	0.0000007 6	ug/L		01/24/22 14:10	02/13/22 12:45	1
2,3,4,7,8-PeCDF	ND		0.000047	0.0000007 2	ug/L		01/24/22 14:10	02/13/22 12:45	1
1,2,3,4,7,8-HxCDD	**0.0000038**	**J,DX MB**	0.000047	0.0000005 8	ug/L		01/24/22 14:10	02/13/22 12:45	1
1,2,3,6,7,8-HxCDD	**0.0000021**	**J,DX q MB**	0.000047	0.0000007 4	ug/L		01/24/22 14:10	02/13/22 12:45	1
1,2,3,7,8,9-HxCDD	**0.0000022**	**J,DX MB**	0.000047	0.0000006 3	ug/L		01/24/22 14:10	02/13/22 12:45	1
1,2,3,4,7,8-HxCDF	**0.0000024**	**J,DX MB**	0.000047	0.0000004 7	ug/L		01/24/22 14:10	02/13/22 12:45	1
1,2,3,6,7,8-HxCDF	**0.0000017**	**J,DX q MB**	0.000047	0.0000005 5	ug/L		01/24/22 14:10	02/13/22 12:45	1
1,2,3,7,8,9-HxCDF	**0.0000038**	**J,DX MB**	0.000047	0.0000005 3	ug/L		01/24/22 14:10	02/13/22 12:45	1
2,3,4,6,7,8-HxCDF	**0.0000020**	**J,DX q MB**	0.000047	0.0000005 3	ug/L		01/24/22 14:10	02/13/22 12:45	1
1,2,3,4,6,7,8-HpCDD	**0.0000055**	**J,DX MB**	0.000047	0.0000003 6	ug/L		01/24/22 14:10	02/13/22 12:45	1
1,2,3,4,6,7,8-HpCDF	**0.0000060**	**J,DX MB**	0.000047	0.0000006 3	ug/L		01/24/22 14:10	02/13/22 12:45	1
1,2,3,4,7,8,9-HpCDF	**0.0000026**	**J,DX MB**	0.000047	0.0000005 6	ug/L		01/24/22 14:10	02/13/22 12:45	1
OCDD	**0.000024**	**J,DX MB**	0.000094	0.0000008 7	ug/L		01/24/22 14:10	02/13/22 12:45	1
OCDF	**0.0000063**	**J,DX MB**	0.000094	0.0000006 1	ug/L		01/24/22 14:10	02/13/22 12:45	1
Total TCDD	ND		0.0000094	0.0000010	ug/L		01/24/22 14:10	02/13/22 12:45	1
Total TCDF	**0.0000024**	**J,DX q MB**	0.0000094	0.0000005 6	ug/L		01/24/22 14:10	02/13/22 12:45	1
Total PeCDD	**0.0000053**	**J,DX MB**	0.000047	0.0000009 5	ug/L		01/24/22 14:10	02/13/22 12:45	1
Total PeCDF	ND		0.000047	0.0000007 2	ug/L		01/24/22 14:10	02/13/22 12:45	1
Total HxCDD	**0.000013**	**J,DX q MB**	0.000047	0.0000005 8	ug/L		01/24/22 14:10	02/13/22 12:45	1
Total HxCDF	**0.000011**	**J,DX q MB**	0.000047	0.0000004 7	ug/L		01/24/22 14:10	02/13/22 12:45	1
Total HpCDD	**0.0000098**	**J,DX MB**	0.000047	0.0000003 6	ug/L		01/24/22 14:10	02/13/22 12:45	1
Total HpCDF	**0.0000086**	**J,DX MB**	0.000047	0.0000005 6	ug/L		01/24/22 14:10	02/13/22 12:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*79*		*25 - 164*	*01/24/22 14:10*	*02/13/22 12:45*	*1*
13C-2,3,7,8-TCDF	*86*		*24 - 169*	*01/24/22 14:10*	*02/13/22 12:45*	*1*
13C-1,2,3,7,8-PeCDD	*90*		*25 - 181*	*01/24/22 14:10*	*02/13/22 12:45*	*1*
13C-1,2,3,7,8-PeCDF	*86*		*24 - 185*	*01/24/22 14:10*	*02/13/22 12:45*	*1*
13C-2,3,4,7,8-PeCDF	*103*		*21 - 178*	*01/24/22 14:10*	*02/13/22 12:45*	*1*
13C-1,2,3,4,7,8-HxCDD	*102*		*32 - 141*	*01/24/22 14:10*	*02/13/22 12:45*	*1*
13C-1,2,3,6,7,8-HxCDD	*73*		*28 - 130*	*01/24/22 14:10*	*02/13/22 12:45*	*1*
13C-1,2,3,4,7,8-HxCDF	*101*		*26 - 152*	*01/24/22 14:10*	*02/13/22 12:45*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall002_20220119_Comp **Lab Sample ID: 570-82063-1**
Date Collected: 01/19/22 08:30 **Matrix: Water**
Date Received: 01/19/22 18:20

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDF	79		26 - 123	01/24/22 14:10	02/13/22 12:45	1
13C-1,2,3,7,8,9-HxCDF	83		29 - 147	01/24/22 14:10	02/13/22 12:45	1
13C-2,3,4,6,7,8-HxCDF	80		28 - 136	01/24/22 14:10	02/13/22 12:45	1
13C-1,2,3,4,6,7,8-HpCDD	88		23 - 140	01/24/22 14:10	02/13/22 12:45	1
13C-1,2,3,4,6,7,8-HpCDF	85		28 - 143	01/24/22 14:10	02/13/22 12:45	1
13C-1,2,3,4,7,8,9-HpCDF	104		26 - 138	01/24/22 14:10	02/13/22 12:45	1
13C-OCDD	90		17 - 157	01/24/22 14:10	02/13/22 12:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	100		35 - 197	01/24/22 14:10	02/13/22 12:45	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: Outfall002_20220119_Comp **Lab Sample ID: 570-82063-1**
Date Collected: 01/19/22 08:30 **Matrix: Water**
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.0000094	0.00000038	ug/L		01/24/22 14:10	02/17/22 10:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*94*		*24 - 169*	*01/24/22 14:10*	*02/17/22 10:50*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*99*		*35 - 197*	*01/24/22 14:10*	*02/17/22 10:50*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	**Client Sample ID**	**37TCDD (35-197)**
570-82063-1	Outfall002_20220119_Comp	100
570-82063-1 - RA	Outfall002_20220119_Comp	99
MB 320-560219/1-A	Method Blank	105
MB 320-560219/1-A - RA	Method Blank	102

Surrogate Legend
37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	**Client Sample ID**	**37TCDD (31-191)**
LCS 320-560219/2-A	Lab Control Sample	97
LCSD 320-560219/3-A	Lab Control Sample Dup	99

Surrogate Legend
37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc. Job ID: 570-82063-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-82063-1	Outfall002_20220119_Comp	79	86	90	86	103	102	73	101
570-82063-1 - RA	Outfall002_20220119_Comp		94						
MB 320-560219/1-A	Method Blank	66	70	73	73	84	85	61	86
MB 320-560219/1-A - RA	Method Blank		81						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-82063-1	Outfall002_20220119_Comp	79	83	80	88	85	104	90
570-82063-1 - RA	Outfall002_20220119_Comp							
MB 320-560219/1-A	Method Blank	67	73	69	76	73	88	77
MB 320-560219/1-A - RA	Method Blank							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-560219/2-A	Lab Control Sample	66	69	74	71	84	96	73	100
LCSD 320-560219/3-A	Lab Control Sample Dup	74	77	88	83	101	104	74	103

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-560219/2-A	Lab Control Sample	81	74	81	79	83	89	70
LCSD 320-560219/3-A	Lab Control Sample Dup	81	86	83	91	89	106	90

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-560219/1-A
Matrix: Water
Analysis Batch: 565138

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 560219

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000013	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,7,8-PeCDD	ND		0.000050	0.0000012	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,7,8-PeCDF	0.00000442	J,DX	0.000050	0.0000010	ug/L		01/24/22 14:10	02/13/22 10:22	1
2,3,4,7,8-PeCDF	0.00000287	J,DX	0.000050	0.0000010	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,4,7,8-HxCDD	0.00000330	J,DX	0.000050	0.00000081	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,6,7,8-HxCDD	0.00000323	J,DX	0.000050	0.0000011	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,7,8,9-HxCDD	0.00000258	J,DX q	0.000050	0.00000089	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,4,7,8-HxCDF	0.00000671	J,DX	0.000050	0.00000085	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,6,7,8-HxCDF	0.00000500	J,DX	0.000050	0.00000093	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,7,8,9-HxCDF	0.00000523	J,DX	0.000050	0.00000087	ug/L		01/24/22 14:10	02/13/22 10:22	1
2,3,4,6,7,8-HxCDF	0.00000230	J,DX	0.000050	0.00000088	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,4,6,7,8-HpCDD	0.00000638	J,DX	0.000050	0.00000047	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,4,6,7,8-HpCDF	0.0000184	J,DX	0.000050	0.00000076	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,4,7,8,9-HpCDF	0.00000763	J,DX	0.000050	0.00000071	ug/L		01/24/22 14:10	02/13/22 10:22	1
OCDD	0.0000232	J,DX	0.00010	0.0000013	ug/L		01/24/22 14:10	02/13/22 10:22	1
OCDF	0.0000399	J,DX	0.00010	0.00000079	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total TCDD	ND		0.000010	0.0000013	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total TCDF	0.00000620	J,DX q	0.000010	0.00000093	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total PeCDD	0.00000506	J,DX	0.000050	0.0000012	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total PeCDF	0.00000729	J,DX	0.000050	0.0000010	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total HxCDD	0.00000911	J,DX q	0.000050	0.00000081	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total HxCDF	0.0000229	J,DX q	0.000050	0.00000085	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total HpCDD	0.0000114	J,DX	0.000050	0.00000047	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total HpCDF	0.0000311	J,DX	0.000050	0.00000071	ug/L		01/24/22 14:10	02/13/22 10:22	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*66*		*25 - 164*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-2,3,7,8-TCDF	*70*		*24 - 169*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-1,2,3,7,8-PeCDD	*73*		*25 - 181*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-1,2,3,7,8-PeCDF	*73*		*24 - 185*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-2,3,4,7,8-PeCDF	*84*		*21 - 178*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-1,2,3,4,7,8-HxCDD	*85*		*32 - 141*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-1,2,3,6,7,8-HxCDD	*61*		*28 - 130*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-1,2,3,4,7,8-HxCDF	*86*		*26 - 152*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-1,2,3,6,7,8-HxCDF	*67*		*26 - 123*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-1,2,3,7,8,9-HxCDF	*73*		*29 - 147*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-2,3,4,6,7,8-HxCDF	*69*		*28 - 136*	*01/24/22 14:10*	*02/13/22 10:22*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-560219/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 565138 **Prep Batch: 560219**

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	76		23 - 140	01/24/22 14:10	02/13/22 10:22	1
13C-1,2,3,4,6,7,8-HpCDF	73		28 - 143	01/24/22 14:10	02/13/22 10:22	1
13C-1,2,3,4,7,8,9-HpCDF	88		26 - 138	01/24/22 14:10	02/13/22 10:22	1
13C-OCDD	77		17 - 157	01/24/22 14:10	02/13/22 10:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	105		35 - 197	01/24/22 14:10	02/13/22 10:22	1

Lab Sample ID: LCS 320-560219/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 565138 **Prep Batch: 560219**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD			0.000200	0.000239		ug/L		120	67 - 158		
2,3,7,8-TCDF			0.000200	0.000240	MB	ug/L		120	75 - 158		
1,2,3,7,8-PeCDD			0.00100	0.00118		ug/L		118	70 - 142		
1,2,3,7,8-PeCDF			0.00100	0.00116	MB	ug/L		116	80 - 134		
2,3,4,7,8-PeCDF			0.00100	0.000979	MB	ug/L		98	68 - 160		
1,2,3,4,7,8-HxCDD			0.00100	0.000940	MB	ug/L		94	70 - 164		
1,2,3,6,7,8-HxCDD			0.00100	0.00112	MB	ug/L		112	76 - 134		
1,2,3,7,8,9-HxCDD			0.00100	0.00107	MB	ug/L		107	64 - 162		
1,2,3,4,7,8-HxCDF			0.00100	0.00101	MB	ug/L		101	72 - 134		
1,2,3,6,7,8-HxCDF			0.00100	0.00112	MB	ug/L		112	84 - 130		
1,2,3,7,8,9-HxCDF			0.00100	0.00110	MB	ug/L		110	78 - 130		
2,3,4,6,7,8-HxCDF			0.00100	0.00112	MB	ug/L		112	70 - 156		
1,2,3,4,6,7,8-HpCDD			0.00100	0.00108	MB	ug/L		108	70 - 140		
1,2,3,4,6,7,8-HpCDF			0.00100	0.00113	MB	ug/L		113	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000899	MB	ug/L		90	78 - 138		
OCDD			0.00200	0.00207	MB	ug/L		103	78 - 144		
OCDF			0.00200	0.00210	MB	ug/L		105	63 - 170		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	66		20 - 175
13C-2,3,7,8-TCDF	69		22 - 152
13C-1,2,3,7,8-PeCDD	74		21 - 227
13C-1,2,3,7,8-PeCDF	71		21 - 192
13C-2,3,4,7,8-PeCDF	84		13 - 328
13C-1,2,3,4,7,8-HxCDD	96		21 - 193
13C-1,2,3,6,7,8-HxCDD	73		25 - 163
13C-1,2,3,4,7,8-HxCDF	100		19 - 202
13C-1,2,3,6,7,8-HxCDF	81		21 - 159
13C-1,2,3,7,8,9-HxCDF	74		17 - 205
13C-2,3,4,6,7,8-HxCDF	81		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	79		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	83		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	89		20 - 186
13C-OCDD	70		13 - 199

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-560219/2-A
Matrix: Water
Analysis Batch: 565138

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 560219

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	97		31 - 191

Lab Sample ID: LCSD 320-560219/3-A
Matrix: Water
Analysis Batch: 565138

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 560219

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000228		ug/L		114	67 - 158	5	50
2,3,7,8-TCDF			0.000200	0.000241	MB	ug/L		120	75 - 158	0	50
1,2,3,7,8-PeCDD			0.00100	0.00114		ug/L		114	70 - 142	3	50
1,2,3,7,8-PeCDF			0.00100	0.00113	MB	ug/L		113	80 - 134	2	50
2,3,4,7,8-PeCDF			0.00100	0.000990	MB	ug/L		99	68 - 160	1	50
1,2,3,4,7,8-HxCDD			0.00100	0.000941	MB	ug/L		94	70 - 164	0	50
1,2,3,6,7,8-HxCDD			0.00100	0.00115	MB	ug/L		115	76 - 134	3	50
1,2,3,7,8,9-HxCDD			0.00100	0.00110	MB	ug/L		110	64 - 162	3	50
1,2,3,4,7,8-HxCDF			0.00100	0.00101	MB	ug/L		101	72 - 134	0	50
1,2,3,6,7,8-HxCDF			0.00100	0.00112	MB	ug/L		112	84 - 130	0	50
1,2,3,7,8,9-HxCDF			0.00100	0.00111	MB	ug/L		111	78 - 130	2	50
2,3,4,6,7,8-HxCDF			0.00100	0.00111	MB	ug/L		111	70 - 156	0	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.00106	MB	ug/L		106	70 - 140	2	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.00109	MB	ug/L		109	82 - 122	4	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000918	MB	ug/L		92	78 - 138	2	50
OCDD			0.00200	0.00209	MB	ug/L		105	78 - 144	1	50
OCDF			0.00200	0.00217	MB	ug/L		109	63 - 170	3	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	74		20 - 175
13C-2,3,7,8-TCDF	77		22 - 152
13C-1,2,3,7,8-PeCDD	88		21 - 227
13C-1,2,3,7,8-PeCDF	83		21 - 192
13C-2,3,4,7,8-PeCDF	101		13 - 328
13C-1,2,3,4,7,8-HxCDD	104		21 - 193
13C-1,2,3,6,7,8-HxCDD	74		25 - 163
13C-1,2,3,4,7,8-HxCDF	103		19 - 202
13C-1,2,3,6,7,8-HxCDF	81		21 - 159
13C-1,2,3,7,8,9-HxCDF	86		17 - 205
13C-2,3,4,6,7,8-HxCDF	83		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	91		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	89		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	106		20 - 186
13C-OCDD	90		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	99		31 - 191

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-560219/1-A
Matrix: Water
Analysis Batch: 566566

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 560219

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	0.00000338	J,DX	0.000010	0.00000039	ug/L		01/24/22 14:10	02/17/22 08:17	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF - RA	*81*		*24 - 169*	*01/24/22 14:10*	*02/17/22 08:17*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD - RA	*102*		*35 - 197*	*01/24/22 14:10*	*02/17/22 08:17*	*1*

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Specialty Organics

Prep Batch: 560219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1 - RA	Outfall002_20220119_Comp	Total/NA	Water	1613B	
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	1613B	
MB 320-560219/1-A - RA	Method Blank	Total/NA	Water	1613B	
MB 320-560219/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-560219/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-560219/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 565138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	1613B	560219
MB 320-560219/1-A	Method Blank	Total/NA	Water	1613B	560219
LCS 320-560219/2-A	Lab Control Sample	Total/NA	Water	1613B	560219
LCSD 320-560219/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	560219

Analysis Batch: 566566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1 - RA	Outfall002_20220119_Comp	Total/NA	Water	1613B	560219
MB 320-560219/1-A - RA	Method Blank	Total/NA	Water	1613B	560219

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B	RA		1067.8 mL	20.0 uL	560219	01/24/22 14:10	CGB	TAL SAC
Total/NA	Analysis	1613B	RA	1			566566	02/17/22 10:50	DB	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	1613B			1067.8 mL	20.0 uL	560219	01/24/22 14:10	CGB	TAL SAC
Total/NA	Analysis	1613B		1			565138	02/13/22 12:45	GRB	TAL SAC
	Instrument ID: DFS 1									

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-23
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-30-23
Hawaii	State	<cert No.>	01-29-23
Illinois	NELAP	200060	03-18-22
Kansas	NELAP	E-10375	02-28-22
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22 *
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-23
Oregon	NELAP	4040	01-29-23
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-22
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Job ID: 570-82063-4

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-82063-1	Outfall002_20220119_Comp	Water	01/19/22 08:30	01/19/22 18:20

82063

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-82063 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Adrian Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									ANALYSIS REQUIRED																	
									R/A	R	R	R	R/A	R	R	R	A	A	R						
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl-, F-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals: Mercury (E245.1)					Comments
Outfall 002	Outfall002_20220119_Comp	1/19/2022 0830	WM	500 mL Poly	1	HNO_3	80	No	X										X						
			WM	1 L Glass Amber	2	None	110	No		X															
			WM	1 L Poly	1	None	115	No			X														
			WM	500 mL Poly	2	None	120	No				X													
			WM	500 mL Poly	2	None	125	No					X												48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X											48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X									
			WM	1 L Glass Amber	2	None	250	No									X								
			WM	1 L Glass Amber	2	None	175	No										X							
			WM	1 L Poly	1	None	185	No							X										
	Outfall002_20220119_Comp_Extra	1/19/2022 0830	WM	1 L Glass Amber	2	None	110	No		H															Hold
			WM	500 mL Poly	2	None	120	No				H													Hold
			WM	500 mL Poly	2	None	125	No					H												Hold
			WM	1 L Glass Amber	2	None	250	No										H							Hold
			WM	1 L Glass Amber	2	None	175	No											H						Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	1-19-2022 / 1400	H&A		ECI 01119/22 1400
	01119/22 18:20	ECI		1/19/22 1820

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

20|3.5, 1.8|33, 21|36 SCG

2/22/2022
2019-2020 Rainy Season
Version 5

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:	R/A	R	R	R	A	A	A	A	R	QRSW	
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 002 Comp	ANALYSIS REQUIRED										
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218		Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V, Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)		Comments
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)											
Sampler: Adrian Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)											
Outfall002_20220119_Comp_F	1/19/2022/0830	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
		WM	borosilicate vials	2	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
Outfall002_20220119_Comp	1/19/2022/0830 *	WM	500 mL Poly	1	NaOH	220	No		X									
		WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
		WM	1 L Glass Amber	1	None	230	No											
		WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
		WM	40 mL VOA	3	HCl	240	No					X						
		WM	1 L Glass Amber	1	HCl	245	No						X					
		WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
		WM	500 mL Poly	1	None	260	No								X			
		WM	1L Glass Amber	2	None	275	No											
Outfall002_20220119_Comp_Extra	1/19/2022/0830	WM	40 mL VOA	3	HCl	240	No					H						Hold
		WM	1 L Glass Amber	MS/MSD	None	255	No							H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	1-19-2022/1400	H:A		1119/22 1400
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	01/19/22 1820	EQ		1/19/22 1820
Relinquished By	Date/Time:	Company:	Received By	Date/Time:

Turn-around time. (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements. (Check)
No Level IV: _____ All Level IV: ___X___

* Hand-delivered to ABC Labs in Ventura by H:A

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2/22/2022
2019-2020 Rainy Season
Version 5

Eurofins Calscience
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s).	COC No: 570-152165 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82063-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/16/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B NaOH	N None
C - Zn Acetate	O - AsNaO2
D Nitric Acid	P Na2O4S
E NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note.
			Preservation Code:												
Outfall002_20220119_Comp (570-82063-1)	1/19/22	08 30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	1/20/22 1304				
Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

2/22/2022

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-152240 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-82063-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 2/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20220119_Comp (570-82063-1)	1/19/22	08:30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware
Outfall002_20220119_Comp_Extra (570-82063-2)	1/19/22	08 30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/20/22 1520	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/22/2022

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM. Patel, Virendra	Carrier Tracking No(s)	COC No 570-152284 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note) State Program - California		Job #: 570-82063-2
Address: 14859 E Clark Avenue, ,	Due Date Requested 2/9/2022			
City: City of Industry	TAT Requested (days).			
State, Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note.
			Preservation Code:							
Outfall002_20220119_Comp (570-82063-1)	1/19/22	08:30 Pacific		Water			X		1	Level IV needed
Outfall002_20220119_Comp_Extra (570-82063-2)	1/19/22	08:30 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Level 1 radioactive, Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/20/22 1637	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

2/22/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82063-4

Login Number: 82063
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82063-4

Login Number: 82063
List Number: 4
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 01/21/22 02:27 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.0c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-82063-5
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/26/2022 1:00:37 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-82063-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-82063-5

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-82063-5

Comments
No additional comments.

Receipt
The samples were received on 1/19/2022 6:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.3º C, 3.5º C and 3.6º C.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method Weck-Hydrazine: This method was subcontracted to Weck Laboratories, Inc.. The subcontract laboratory certification is different from that of the facility issuing the final report.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method	Method Description	Protocol	Laboratory
Subcontract	Weck-Hydrazine	None	Weck Lab

Protocol References:

None = None

Laboratory References:

Weck Lab = Weck Laboratories, Inc., 14859 E. Clark Avenue, City of Industry, CA 91745

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-82063-1	Outfall002_20220119_Comp	Water	01/19/22 08:30	01/19/22 18:20

WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Work Orders:	2A21039	**Report Date:**	2/25/2022
		Received Date:	1/21/2022
Project:	570-82063-2	**Turnaround Time:**	Normal
		Phones:	(949) 261-1022
		Fax:	(949) 260-3297
Attn:	Virendra Patel	**P.O. #:**	570-82063-2
Client:	Eurofins Calscience - Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	**Billing Code:**	

Dear Virendra Patel,

Enclosed are the results of analyses for samples received 1/21/22 with the Chain-of-Custody document. The samples were received in good condition, at 2.9 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Sample Results

Sample: Outfall002_20220119_(Comp (570-82063-1) Sampled: 01/19/22 8:30 by Client

2A21039-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 8315M			**Instr:** LCMS03				
Batch ID: W2B0680 **Preparation:** Microextraction			**Prepared:** 02/09/22 12:13				**Analyst:** kan
Monomethylhydrazine (MMH)	ND	0.31	2.0	ug/l	1	02/09/22	

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

Quality Control Results

Hydrazine by LCMS

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Blank (W2B0680-BLK1)					**Prepared & Analyzed: 02/09/22**						
Monomethylhydrazine (MMH)	ND	0.31	2.0	ug/l							
LCS (W2B0680-BS1)					**Prepared & Analyzed: 02/09/22**						
Monomethylhydrazine (MMH)	22.3	0.31	2.0	ug/l	20.0		112	50-150			
Matrix Spike (W2B0680-MS1)		**Source: 2A21039-01**			**Prepared & Analyzed: 02/09/22**						
Monomethylhydrazine (MMH)	24.5	0.31	2.0	ug/l	20.0	*ND*	123	50-150			
Matrix Spike Dup (W2B0680-MSD1)		**Source: 2A21039-01**			**Prepared & Analyzed: 02/09/22**						
Monomethylhydrazine (MMH)	22.5	0.31	2.0	ug/l	20.0	*ND*	113	50-150	9	30	

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

Notes and Definitions

Item	Definition
%REC	Percent Recovery
Dil	Dilution
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

Analyses Accreditation Summary

Analyte	CAS #	Not By NELAP	ANAB ISO 17025
EPA 8315M in Water			
Monomethylhydrazine (MMH)	60-34-4	✓	

Reviewed by:

Rahul R. Nair
Project Manager

ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • LACSD #10143 • NJ-DEP #CA015 • NV-DEP #NAC 445A • SCAQMD #93LA1006

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

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www.wecklabs.com

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California	
Address: 14859 E. Clark Avenue, ,	Due Date Requested: 2/9/2022	Analysis Requested	
City: City of Industry	TAT Requested (days):		
State, Zip: CA, 91745			
Phone:	PO #:		
Email:	WO #:		
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446		
Site:	SSOW#:		

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)
			Preservation Code:					
Outfall002_20220119_Comp (570-82063-1)	1/19/22	08:30 Pacific		Water			X	
Outfall002_20220119_Comp_Extra (570-82063-2)	1/19/22	08:30 Pacific		Water				X

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample ship laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are re
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 1/20/22 1637	Company	Received by: Date/Time:

ORATORIES, INC.

Sample Receipt Checklist

Weck WKO: 2A21039
Logged by: Jerico B.
Checked by: JB

Date/Time Received: 01/21/22 @ 10:25
# of Samples: 02
Delivered by: Fedex

sk	Yes	No	N/A	Comments
OC present at receipt?	☒	☐		
OC properly completed?	☒	☐		
OC matches sample labels?	☒	☐		
	☐	☐		
oject Manager notified?	☐	☐	☒	
mple Temperature	2.9°C			
mples received on ice?	☒	☐		
Type (Blue/Wet)	WET			
samples intact?	☒	☐		
mples in proper containers?	☒	☐		
fficient sample volume?	☒	☐		
mples intact?	☒	☐		
ceived within holding time?	☒	☐		
	☐	☐		
oject Manager notified?	☐	☐	☒	
mple labels checked for correct preservation?	☒	☐	☐	
OC Headspace: none, <6mm/<Pea size? 4.2, S24.3, 624.1, 8260, 1666 P/T, LUFT	☐	☐	☒	
verified upon receipt? etals <2; H2SO4 pres tests <2; S22<4; TOC <2; 608.3 S-9	☐	☐	☒	
ee Chlorine Tested <0.1	☐	☐	☒	
&G pH <2 verified?	☐	☐	☐	pH paper Lot#
adjusted for O&G	☐	☐	☐	pH Reading: Acid Lot# Amt added:
oject Manager notified?	☐	☐	☒	

82063

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-82063 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Adrian Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									ANALYSIS REQUIRED																			
									R/A	R	R	R	R/A	R	R	R	A	A	R								
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl-, F-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals: Mercury (E245.1)					Comments
Outfall 002	Outfall002_20220119_Comp	1/19/2022 0830	WM	500 mL Poly	1	HNO_3	80	No	X										X							
			WM	1 L Glass Amber	2	None	110	No		X																
			WM	1 L Poly	1	None	115	No			X															
			WM	500 mL Poly	2	None	120	No				X														
			WM	500 mL Poly	2	None	125	No					X													48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X											48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X									
			WM	1 L Glass Amber	2	None	250	No									X								
			WM	1 L Glass Amber	2	None	175	No										X							
			WM	1 L Poly	1	None	185	No							X										
	Outfall002_20220119_Comp_Extra	1/19/2022 0830	WM	1 L Glass Amber	2	None	110	No		H															Hold
			WM	500 mL Poly	2	None	120	No				H													Hold
			WM	500 mL Poly	2	None	125	No					H												Hold
			WM	1 L Glass Amber	2	None	250	No										H							Hold
			WM	1 L Glass Amber	2	None	175	No											H						Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	1-19-2022 / 1400	H&A		ECI 01119/22 1400
	01119/22 18:20	ECI		1/19/22 1820

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day __X__
48 Hour _____ 5 Day _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

20|3.5, 1.8|33, 21|36 SCG

2/26/2022
2019-2020 Rainy Season
Version 5

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:	R/A	R	R	R	A	A	A	A	R	QRSW	
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 002 Comp	ANALYSIS REQUIRED										
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218		Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V, Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)		Comments
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)											
Sampler: Adrian Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)											
Outfall002_20220119_Comp_F	1/19/2022/0830	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
		WM	borosilicate vials	2	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
Outfall002_20220119_Comp	1/19/2022/0830 *	WM	500 mL Poly	1	NaOH	220	No		X									
		WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
		WM	1 L Glass Amber	1	None	230	No											
		WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
		WM	40 mL VOA	3	HCl	240	No					X						
		WM	1 L Glass Amber	1	HCl	245	No						X					
		WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
		WM	500 mL Poly	1	None	260	No								X			
		WM	1L Glass Amber	2	None	275	No											
Outfall002_20220119_Comp_Extra	1/19/2022/0830	WM	40 mL VOA	3	HCl	240	No					H						Hold
		WM	1 L Glass Amber	MS 1	None	255	No							H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	1-19-2022/1400	H:A		1119/22 1400
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	01/19/22 1820	EQ		1/19/22 1820
Relinquished By	Date/Time:	Company:	Received By	Date/Time:

Turn-around time. (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements. (Check)
No Level IV: _____ All Level IV: ___X___

* Hand-delivered to ABC Labs in Ventura by H:A

Eurofins Calscience
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s).	COC No: 570-152165 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82063-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/16/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	SSOW#:			
Site:				

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B NaOH	N None
C - Zn Acetate	O - AsNaO2
D Nitric Acid	P Na2O4S
E NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note.
			Preservation Code:												
Outfall002_20220119_Comp (570-82063-1)	1/19/22	08 30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	1/20/22 1304				
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

2/26/2022

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM. Patel Virendra	Carrier Tracking No(s)	COC No 570-152240 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin. California	Page Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-82063-2
Address: 880 Riverside Parkway, ,	Due Date Requested. 2/4/2022			
City: West Sacramento	TAT Requested (days)			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20220119_Comp (570-82063-1)	1/19/22	08:30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware
Outfall002_20220119_Comp_Extra (570-82063-2)	1/19/22	08 30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Level 1 radioactive, Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/20/22 1520	Company	Received by:	Date/Time.	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/26/2022

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM. Patel, Virendra	Carrier Tracking No(s)	COC No 570-152284 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note) State Program - California		Job #: 570-82063-2
Address: 14859 E Clark Avenue, ,	Due Date Requested 2/9/2022			
City: City of Industry	TAT Requested (days).			
State, Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note.
			Preservation Code:							
Outfall002_20220119_Comp (570-82063-1)	1/19/22	08:30 Pacific		Water			X		1	Level IV needed
Outfall002_20220119_Comp_Extra (570-82063-2)	1/19/22	08:30 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Level 1 radioactive, Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/20/22 1637	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

2/26/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82063-5

Login Number: 82063
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-82063-6
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp
Revision: 1

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/25/2022 12:04:21 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@et.eurofinsus.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-82063-6
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Qualifiers

Metals

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-82063-6
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Job ID: 570-82063-6

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-82063-6

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 4/19/2022. The report (revision 1) is being revised due to: Due to a laboratory error, the analyte list has been revised to only include confirmation analytes requested on April 6, 2022..

Receipt
The samples were received on 1/19/2022 6:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.3º C, 3.5º C and 3.6º C.

Revision: Due to a laboratory error, the analyte list has been revised to only include confirmation analytes requested on April 6, 2022

RAD
Method 901.1: Gamma 160-558303

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall002_20220119_Comp (570-82063-1), (MB 160-558303/1-A), (570-80241-R-1-K) and (570-80241-R-1-L DU)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-6
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Potassium	4.1		0.10	0.017	mg/L	1		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-6
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	4.1		0.10	0.017	mg/L		04/07/22 14:09	04/07/22 17:32	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-6
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall002_20220119_Comp
Date Collected: 01/19/22 08:30
Date Received: 01/19/22 18:20

Lab Sample ID: 570-82063-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	4.92	U	8.96	8.98	20.0	11.0	pCi/L	04/01/22 18:20	04/01/22 20:11	1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 570-225082/1-A
Matrix: Water
Analysis Batch: 225142

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 225082

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.10	0.017	mg/L		04/07/22 14:09	04/07/22 17:10	1

Lab Sample ID: LCS 570-225082/2-A
Matrix: Water
Analysis Batch: 225142

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 225082

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Potassium	1.00	1.12		mg/L		112	80 - 120

Lab Sample ID: LCSD 570-225082/3-A
Matrix: Water
Analysis Batch: 225142

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 225082

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Potassium	1.00	1.09		mg/L		109	80 - 120	3	20

Lab Sample ID: 570-80241-C-1-M MS
Matrix: Water
Analysis Batch: 225142

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 225082

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Potassium	4.1		1.00	4.90	BB	mg/L		84	80 - 120

Lab Sample ID: 570-80241-C-1-N MSD
Matrix: Water
Analysis Batch: 225142

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 225082

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Potassium	4.1		1.00	5.05	BB	mg/L		99	80 - 120	3	20

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-558303/1-A
Matrix: Water
Analysis Batch: 558240

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 558303

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	1.865	U	9.40	9.40	20.0	12.1	pCi/L	04/01/22 18:20	04/01/22 21:45	1

Lab Sample ID: LCS 160-558303/2-A
Matrix: Water
Analysis Batch: 558248

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 558303

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Americium-241	135000	139600		16600		455	pCi/L	103	75 - 125
Cesium-137	41800	43090		5140	20.0	107	pCi/L	103	75 - 125
Cobalt-60	20300	21110		2520		51.1	pCi/L	104	75 - 125

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-6
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS) (Continued)

Lab Sample ID: 570-80241-R-1-L DU
Matrix: Water
Analysis Batch: 558249

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 558303

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Cesium-137	-7.20	U		1.319	U	10.9	20.0	13.8	pCi/L			0.36	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-6
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Metals

Prep Batch: 225082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total Recoverable	Water	3005A	
MB 570-225082/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 570-225082/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 570-225082/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
570-80241-C-1-M MS	Matrix Spike	Total Recoverable	Water	3005A	
570-80241-C-1-N MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 225142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total Recoverable	Water	6020	225082
MB 570-225082/1-A	Method Blank	Total Recoverable	Water	6020	225082
LCS 570-225082/2-A	Lab Control Sample	Total Recoverable	Water	6020	225082
LCSD 570-225082/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020	225082
570-80241-C-1-M MS	Matrix Spike	Total Recoverable	Water	6020	225082
570-80241-C-1-N MSD	Matrix Spike Duplicate	Total Recoverable	Water	6020	225082

Rad

Prep Batch: 558303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82063-1	Outfall002_20220119_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-558303/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-558303/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-80241-R-1-L DU	Duplicate	Total/NA	Water	Fill_Geo-0	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-6
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20220119_Comp
Lab Sample ID: 570-82063-1
Date Collected: 01/19/22 08:30
Matrix: Water
Date Received: 01/19/22 18:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	225082	04/07/22 14:09	WL8G	ECL 4
Total Recoverable	Analysis	6020		1			225142	04/07/22 17:32	UFLE	ECL 4
	Instrument ID: ICPMS05									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	558303	04/01/22 18:20	ZTH	TAL SL
Total/NA	Analysis	901.1		1			558249	04/01/22 20:11	CAH	TAL SL
	Instrument ID: GAMMAVISION									

Laboratory References:

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-6
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-31-23
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	04-17-22
ANAB	Dept. of Defense ELAP	L2305	04-05-22
ANAB	Dept. of Energy	L2305.01	04-05-22
ANAB	ISO/IEC 17025	L2305	04-05-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	07-01-22
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-23
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	NELAP	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-82063-6
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
West Virginia DEP	State	381	10-31-22

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82063-6
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	ECL 4
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	ECL 4
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Job ID: 570-82063-6

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-82063-1	Outfall002_20220119_Comp	Water	01/19/22 08:30	01/19/22 18:20

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82063-6

Login Number: 82063
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82063-6

Login Number: 82063
List Number: 3
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 01/21/22 02:18 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-82228-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/4/2022 10:32:06 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-82228-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82228-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

Method	Method Description	Protocol	Laboratory
Subcontract	9223- Colilert 18 - E. Coli - level 4 required	None	Enthalpy

Protocol References:

None = None

Laboratory References:

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82228-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-82228-1	Outfall002_20220121_Grab	Water	01/20/22 07:30	01/21/22 16:00

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 457165
Report Level: IV
Report Date: 02/04/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDE SSFL Outfall - Outfall 002 #570-82228-1

Authorized for release by:

Quynhgiao Le

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	Lab Job #: Project No: Location: Date Received:	457165 BOEING NPDES SSFL Boeing NPDE SSFL Outfall - Outfall 002 #570-82228-1 01/21/22

Sample ID	Lab ID	Collected	Matrix
OUTFALL002_20220121_GRAB (570-82228-1)	457165-001	01/21/22 07:30	Water

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Virendra Patel	Lab Job Number:	457165
	Project No:	BOEING NPDES SSFL
	Location:	Boeing NPDE SSFL Outfall - Outfall 002 #570-82228-1
	Date Received:	01/21/22

This data package contains sample and QC results for one water sample, requested for the above referenced project on 01/21/22. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

457165

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152147.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-82228-1
Address: 931 W. Barkley Ave, ,	Due Date Requested: 2/3/2022			
City: Orange	TAT Requested (days): Standard TAT			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002	Project #: 570-82228-1			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (9223- Colilert 18 - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall002_20220121_Grab (570-82228-1)	1/21/22	07:30		Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	01/21/22	ECL		01/21/22 1720	ECL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.2/1.2

Ver: 06/08/2021

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Eurofins Calscience Project: 570-82228-1

Date Received: 1/21/22 Sampler's Name Present: ☑ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2) Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 3.2 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 1.2 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✔		
Are sample IDs present?	✔		
Are sampling dates & times present?	✔		
Is a relinquished signature present?	✔		
Are the tests required clearly indicated on the COC?	✔		
Are custody seals present?		✔	
If custody seals are present, were they intact?			✔
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	✔		
Did all samples arrive intact? If no, indicate in Section 4 below.	✔		
Did all bottle labels agree with COC? (ID, dates and times)	✔		
Were the samples collected in the correct containers for the required tests?	✔		
Are the containers labeled with the correct preservatives?	✔		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✔
Was a sufficient amount of sample submitted for the requested tests?	✔		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 1/21/22

Enthalpy Analytical, a subsidiary of Montrose Environmental Group ,Inc.
931 W. Barkley Ave, Orange, CA 92868 • T: (714) 771-6900 • F: (714) 538-1209
www.enthalpy.com/socal

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 457165 **Project#:** BOEING NPDES SSFL

Client: Eurofins Calscience Tustin **Location:** Boeing NPDE SSFL Outfall - Outfall...

Field ID:	OUTFALL002_20220121_GRAB (570-82228-1)	**Batch#:**	282313	**Analyzed:**	01/22/22 11:54
Lab ID:	457165-001	**Sampled:**	01/21/22 07:30	**Prep:**	
Matrix:	Water	**Received:**	01/21/22	**Analysis:**	SM 9223Bb
Dil'n Fac:	1.000	**Prepared:**	01/21/22 17:20	**Analyst:**	SZL

Analyte	Result	RL	Units	Qual
Coliform, E. Coli	**4.1**	1.0	MPN/100ml	H

Legend

H: Holding time was exceeded

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: SL Prep Date/Time: 1/21/22 1730 QC Batch ID: 282313 Batch Page 1 of 1

Read Analyst: SL Read Date/Time 1/22/22 1154

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: JT924 Pipette Lot #: A103931, A103909, & ~~A1039~~ A103665 SL 1/21/22

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 1/4/22 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: M3 Incubator In, Temp/Time: 35.2 1728 Incubator Out, Temp/Time: 35.1 1154

Fecal Coliform: Water Bath ID: N/A Water Bath In, Temp/Time: N/A Water Bath Out, Temp/Time: N/A

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
ECL GG		457165-001	1X	49	39	1046.2	1000	3	1	4.1	4.1					EC-01
			10X	35	4	64.4	640	0	0	<1	<10					
			100X	1	0	1.0	100	0	0	<1	<100					
Quality Control	**Culture ID**															
Positive +/+ (E. Coli)	1/16/22			49	48	>2419.6	>2400	49	48	>2419.6	>2400					
Positive +/- (K. Pneumonia)				49	48	>2419.6	>2400	0	0	<1	<1					
Negative -/- (P. Aeruginosa)				0	0	<1	<1	0	0	<1	<1					

MM 1/24/22

MM 1/24/22

Data Entered By: MM 1/24/22 Data Reviewed By:

82228

Test America Version 7/19/2010 CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
Haley & Aldrich, Inc. 5333 Mission Center Road, Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Outfall 002 Adrian Mobeka
Eurofins Contact. Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3269 **ECI #44024446**	Project Manager: Katherine Miller Phone Number: (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	E coli (SM9221)									Comments
OF002	W	125mL Sterile Poly	3	OF002_20220121_Grab	1/21/2022 0730	$Na_2S_2O_3$	10	X									Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Relinquished By Date/Time:
Mark Dominick 1/21-2022/1220

Relinquished By Date/Time:
01/21/22 1220

Relinquished By Date/Time:
01/21/22 1745

Turn around Time (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal __X__

Sample Integrity (check)
Intact _____ On Ice _____

Data Requirements: (check)
No Level IV ____ All Level IV ____
NPDES Level IV ____

1.27 SCG

570-82228 Chain of Custody

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82228-1

Login Number: 82228
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80529-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/17/2022 4:57:42 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80529-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-80529-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Job ID: 570-80529-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80529-1

Comments
No additional comments.

Receipt
The samples were received on 1/3/2022 4:48 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.9º C.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 1664A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-206211. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.
1664

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80529-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Client Sample ID: Outfall009_20220103_Grab
Lab Sample ID: 570-80529-1

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

Client: Haley & Aldrich, Inc.
Job ID: 570-80529-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

General Chemistry

Client Sample ID: Outfall009_20220103_Grab
Lab Sample ID: 570-80529-1
Date Collected: 01/03/22 10:00
Matrix: Water
Date Received: 01/03/22 16:48

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	ND		1.0	0.53	mg/L		01/07/22 12:31	01/07/22 12:31	1

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-206211/1-A
Matrix: Water
Analysis Batch: 206285

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 206211

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	ND		1.0	0.51	mg/L		01/07/22 12:31	01/07/22 12:31	1

Lab Sample ID: LCS 570-206211/2-A
Matrix: Water
Analysis Batch: 206285

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 206211

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
HEM: Oil and Grease			40.0	36.9		mg/L		92	78 - 114		

Lab Sample ID: LCSD 570-206211/3-A
Matrix: Water
Analysis Batch: 206285

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 206211

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM: Oil and Grease			40.0	38.4		mg/L		96	78 - 114	4	18

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80529-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

General Chemistry

Prep Batch: 206211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80529-1	Outfall009_20220103_Grab	Total/NA	Water	1664A	
MB 570-206211/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-206211/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-206211/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

Analysis Batch: 206285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80529-1	Outfall009_20220103_Grab	Total/NA	Water	1664A	206211
MB 570-206211/1-A	Method Blank	Total/NA	Water	1664A	206211
LCS 570-206211/2-A	Lab Control Sample	Total/NA	Water	1664A	206211
LCSD 570-206211/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	206211

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80529-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Client Sample ID: Outfall009_20220103_Grab
Lab Sample ID: 570-80529-1
Date Collected: 01/03/22 10:00
Matrix: Water
Date Received: 01/03/22 16:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664A			964 mL	1000 mL	206211	01/07/22 12:31	UWEZ	ECL 1
Total/NA	Analysis	1664A		1			206285	01/07/22 12:31	L6IE	ECL 1
	Instrument ID: ICPMS05									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80529-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80529-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Method	Method Description	Protocol	Laboratory
1664A	HEM and SGT-HEM	1664A	ECL 1
1664A	HEM and SGT-HEM (Aqueous)	1664A	ECL 1

Protocol References:

1664A = EPA-821-98-002

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80529-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80529-1	Outfall009_20220103_Grab	Water	01/03/22 10:00	01/03/22 16:48

80529

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

VLJOUVKT

R

Client Name/Address.	Project:	ANALYSIS REQUIRED	Field Readings	Meter serial #
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108 Eurofins Calscience Irvine Contact: Virendra Patel **ECI #44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	Boeing-SSFL NPDES Permit 2022 Routine Outfall [003-007, 009, 010] Outfall 009 Grab	Oil & Grease (E1664A-HEM)	**Field Readings: (Include units)** **Time of Readings:** 0955 **pH** 7.51 **pH unit** **Temp** 39.5 °C/°F	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)		**Field readings QC** **Checked by:** [signature] **Date/Time:** 1-3 22/0955	
Sampler: Mark Dominick	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)			

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Oil & Grease (E1664A-HEM)	Comments
Outfall 009	Outfall009_20220103_Grab	1/3/2022 0955	WM	1 L Glass Amber	2	HCl	15	No	X	
	Outfall009_20220103_Grab_Extra	1/3/2022 1005	WM	1 L Glass Amber	2	HCl	15	No	H	Hold

570-80529 Chain of Custody

Legend. R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	1-3-2022/1330	H&A	[signature] ECL	1/3/22 1330
Victor M	1/3/22 1648	ECL	[signature] ECI	1-3-2022 16:48
Relinquished By	Date/Time:	Company:	Received By	Date/Time:

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: X
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements: (Check)
No Level IV: _____ All Level IV: X

TP ~~3.5/4.4~~ SCS
2.0/2.9

1/17/2022

2019-2020 Rainy Season
Version 2

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80529-1

Login Number: 80529
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80544-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp
Revision: 1

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
3/30/2022 3:20:08 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80544-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
BA	Relative percent difference out of control
LN	MS and/or MSD below acceptance limits. See Blank Spike (LCS)

Metals

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80544-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80544-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 1/27/2022. The report (revision 1) is being revised due to: The results were revised to include calculated Nitrate+NItrite as N in the final report..

Receipt
The samples were received on 1/4/2022 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.5º C and 3.7º C.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall009_20220104_Comp_F (570-80544-2). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with insufficient time to filter within the HT.

01/06/21 @ 15:40 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall009_20220104_Comp_F (570-80544-2). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with insufficient time to filter within the HT.

01/06/21 @ 16:17 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Job ID: 570-80544-4

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80544-4

Comments
No additional comments.

Receipt

Job ID: 570-80544-4 (Continued)

Laboratory: Eurofins Calscience (Continued)

The samples were received on 1/4/2022 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.5º C and 3.7º C.

HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20220104_Comp
Lab Sample ID: 570-80544-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.1		2.0	0.72	mg/L	2		300.0	Total/NA
Nitrate as N	6.3		0.20	0.048	mg/L	2		300.0	Total/NA
Sulfate	8.2		2.0	0.47	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	6.3		0.20	0.071	mg/L	1		NO2NO3 Calc	Total/NA
Copper	3.4		2.0	0.50	ug/L	1		200.8	Total Recoverable
Antimony	1.5	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Total Dissolved Solids	160		10	3.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: Outfall009_20220104_Comp_F
Lab Sample ID: 570-80544-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	3.5		2.0	0.50	ug/L	1		200.8	Dissolved
Antimony	1.3	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall009_20220104_Comp
Lab Sample ID: 570-80544-1
Date Collected: 01/04/22 11:40
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.1**		2.0	0.72	mg/L			01/05/22 15:36	2
Nitrite as N	ND		0.20	0.036	mg/L			01/05/22 15:36	2
Nitrate as N	**6.3**		0.20	0.048	mg/L			01/05/22 15:36	2
Sulfate	**8.2**		2.0	0.47	mg/L			01/05/22 15:36	2

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall009_20220104_Comp
Lab Sample ID: 570-80544-1
Date Collected: 01/04/22 11:40
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	6.3		0.20	0.071	mg/L			03/30/22 14:18	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: Outfall009_20220104_Comp
Lab Sample ID: 570-80544-1
Date Collected: 01/04/22 11:40
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	ND		10	5.0	ug/L		01/24/22 17:16	01/25/22 11:05	1
Zinc	ND		20	12	ug/L		01/24/22 17:16	01/25/22 11:05	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: Outfall009_20220104_Comp_F
Lab Sample ID: 570-80544-2
Date Collected: 01/04/22 11:40
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	ND		10	5.0	ug/L		01/06/22 17:20	01/07/22 21:32	1
Zinc	ND		20	12	ug/L		01/06/22 17:20	01/07/22 21:32	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall009_20220104_Comp
Lab Sample ID: 570-80544-1
Date Collected: 01/04/22 11:40
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/24/22 13:48	01/25/22 11:12	1
Cadmium	ND		1.0	0.25	ug/L		01/24/22 13:48	01/25/22 11:12	1
Copper	**3.4**		2.0	0.50	ug/L		01/24/22 13:48	01/25/22 11:12	1
Lead	ND		1.0	0.50	ug/L		01/24/22 13:48	01/25/22 11:12	1
Antimony	**1.5**	**J,DX**	2.0	0.50	ug/L		01/24/22 13:48	01/25/22 11:12	1
Selenium	ND		2.0	0.50	ug/L		01/24/22 13:48	01/25/22 11:12	1
Thallium	ND		1.0	0.20	ug/L		01/24/22 13:48	01/25/22 11:12	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall009_20220104_Comp_F
Lab Sample ID: 570-80544-2
Date Collected: 01/04/22 11:40
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:34	1
Cadmium	ND		1.0	0.25	ug/L		01/06/22 17:16	01/07/22 14:34	1
Copper	**3.5**		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:34	1
Lead	ND		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:34	1
Antimony	**1.3**	**J,DX**	2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:34	1
Selenium	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:34	1
Thallium	ND		1.0	0.20	ug/L		01/06/22 17:16	01/07/22 14:34	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 245.1 - Mercury (CVAA)

Client Sample ID: Outfall009_20220104_Comp
Lab Sample ID: 570-80544-1
Date Collected: 01/04/22 11:40
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/20/22 12:43	01/20/22 18:43	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall009_20220104_Comp_F
Lab Sample ID: 570-80544-2
Date Collected: 01/04/22 11:40
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/20/22 12:45	01/20/22 18:21	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

General Chemistry

Client Sample ID: Outfall009_20220104_Comp
Lab Sample ID: 570-80544-1
Date Collected: 01/04/22 11:40
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**160**		10	3.0	mg/L			01/11/22 10:10	1
Total Suspended Solids	ND		1.0	0.50	mg/L			01/05/22 19:16	1
Cyanide, Total	ND		0.0030	0.0014	mg/L		01/04/22 19:30	01/04/22 22:49	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-205584/5
Matrix: Water
Analysis Batch: 205584

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.36	mg/L			01/05/22 10:37	1
Sulfate	ND		1.0	0.24	mg/L			01/05/22 10:37	1

Lab Sample ID: LCS 570-205584/6
Matrix: Water
Analysis Batch: 205584

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	47.7		mg/L		95	90 - 110
Sulfate	50.0	49.6		mg/L		99	90 - 110

Lab Sample ID: LCSD 570-205584/7
Matrix: Water
Analysis Batch: 205584

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50.0	47.7		mg/L		95	90 - 110	0	15
Sulfate	50.0	49.6		mg/L		99	90 - 110	0	15

Lab Sample ID: 570-80593-A-4 MS
Matrix: Water
Analysis Batch: 205584

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	13		50.0	58.8		mg/L		91	80 - 120
Sulfate	36		50.0	85.6		mg/L		99	80 - 120

Lab Sample ID: 570-80593-A-4 MSD
Matrix: Water
Analysis Batch: 205584

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	13		50.0	51.3	LN	mg/L		76	80 - 120	14	20
Sulfate	36		50.0	66.0	LN BA	mg/L		60	80 - 120	26	20

Lab Sample ID: MB 570-205585/5
Matrix: Water
Analysis Batch: 205585

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			01/05/22 10:37	1
Nitrate as N	ND		0.10	0.024	mg/L			01/05/22 10:37	1

Lab Sample ID: LCS 570-205585/6
Matrix: Water
Analysis Batch: 205585

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	2.50	2.44		mg/L		98	90 - 110
Nitrate as N	5.00	4.96		mg/L		99	90 - 110

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCSD 570-205585/7
Matrix: Water
Analysis Batch: 205585

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N			2.50	2.46		mg/L		98	90 - 110	1	15
Nitrate as N			5.00	4.92		mg/L		98	90 - 110	1	15

Lab Sample ID: 570-80593-A-4 MS
Matrix: Water
Analysis Batch: 205585

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	ND		2.50	2.59		mg/L		104	80 - 120
Nitrate as N	0.64		5.00	5.46		mg/L		96	80 - 120

Lab Sample ID: 570-80593-A-4 MSD
Matrix: Water
Analysis Batch: 205585

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	ND		2.50	2.58		mg/L		103	80 - 120	0	20
Nitrate as N	0.64		5.00	5.25		mg/L		92	80 - 120	4	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-665279/1-A
Matrix: Water
Analysis Batch: 665372

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 665279

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	ND		10	5.0	ug/L		01/24/22 17:16	01/25/22 11:00	1
Zinc	ND		20	12	ug/L		01/24/22 17:16	01/25/22 11:00	1

Lab Sample ID: LCS 440-665279/2-A
Matrix: Water
Analysis Batch: 665372

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 665279

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nickel			500	544		ug/L		109	85 - 115
Zinc			500	573		ug/L		115	85 - 115

Lab Sample ID: 570-80544-1 MS
Matrix: Water
Analysis Batch: 665372

Client Sample ID: Outfall009_20220104_Comp
Prep Type: Total Recoverable
Prep Batch: 665279

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nickel	ND		500	526		ug/L		105	70 - 130
Zinc	ND		500	547		ug/L		109	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 570-80544-1 MSD
Client Sample ID: Outfall009_20220104_Comp
Matrix: Water
Prep Type: Total Recoverable
Analysis Batch: 665372
Prep Batch: 665279

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nickel	ND		500	522		ug/L		104	70 - 130	1	20
Zinc	ND		500	543		ug/L		109	70 - 130	1	20

Lab Sample ID: MB 440-663928/1-C
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 664049
Prep Batch: 663949

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	ND		10	5.0	ug/L		01/06/22 17:20	01/07/22 21:20	1
Zinc	ND		20	12	ug/L		01/06/22 17:20	01/07/22 21:20	1

Lab Sample ID: LCS 440-663928/2-C
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 664049
Prep Batch: 663949

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nickel	500	468		ug/L		94	85 - 115
Zinc	500	472		ug/L		94	85 - 115

Lab Sample ID: 570-80532-R-1-D MS
Client Sample ID: Matrix Spike
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 664049
Prep Batch: 663949

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nickel	ND		500	490		ug/L		98	70 - 130
Zinc	19	J,DX	500	513		ug/L		99	70 - 130

Lab Sample ID: 570-80532-R-1-E MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 664049
Prep Batch: 663949

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nickel	ND		500	489		ug/L		98	70 - 130	0	20
Zinc	19	J,DX	500	515		ug/L		99	70 - 130	0	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-665252/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total Recoverable
Analysis Batch: 665379
Prep Batch: 665252

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/24/22 13:48	01/25/22 11:02	1
Cadmium	ND		1.0	0.25	ug/L		01/24/22 13:48	01/25/22 11:02	1
Copper	ND		2.0	0.50	ug/L		01/24/22 13:48	01/25/22 11:02	1
Lead	ND		1.0	0.50	ug/L		01/24/22 13:48	01/25/22 11:02	1
Antimony	ND		2.0	0.50	ug/L		01/24/22 13:48	01/25/22 11:02	1
Selenium	ND		2.0	0.50	ug/L		01/24/22 13:48	01/25/22 11:02	1
Thallium	ND		1.0	0.20	ug/L		01/24/22 13:48	01/25/22 11:02	1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 440-665252/2-A
Matrix: Water
Analysis Batch: 665379

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 665252

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Silver			80.0	76.8		ug/L		96	85 - 115		
Cadmium			80.0	82.8		ug/L		103	85 - 115		
Copper			80.0	78.5		ug/L		98	85 - 115		
Lead			80.0	83.1		ug/L		104	85 - 115		
Antimony			80.0	86.6		ug/L		108	85 - 115		
Selenium			80.0	84.2		ug/L		105	85 - 115		
Thallium			80.0	82.7		ug/L		103	85 - 115		

Lab Sample ID: 570-80544-1 MS
Matrix: Water
Analysis Batch: 665379

Client Sample ID: Outfall009_20220104_Comp
Prep Type: Total Recoverable
Prep Batch: 665252

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Silver	ND		80.0	78.5		ug/L		98	70 - 130		
Cadmium	ND		80.0	84.4		ug/L		105	70 - 130		
Copper	3.4		80.0	84.5		ug/L		101	70 - 130		
Lead	ND		80.0	84.5		ug/L		106	70 - 130		
Antimony	1.5	J,DX	80.0	93.7		ug/L		115	70 - 130		
Selenium	ND		80.0	83.0		ug/L		104	70 - 130		
Thallium	ND		80.0	83.7		ug/L		105	70 - 130		

Lab Sample ID: 570-80544-1 MSD
Matrix: Water
Analysis Batch: 665379

Client Sample ID: Outfall009_20220104_Comp
Prep Type: Total Recoverable
Prep Batch: 665252

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	85.3		ug/L		107	70 - 130	8	20
Cadmium	ND		80.0	90.7		ug/L		113	70 - 130	7	20
Copper	3.4		80.0	96.2		ug/L		116	70 - 130	13	20
Lead	ND		80.0	91.2		ug/L		114	70 - 130	8	20
Antimony	1.5	J,DX	80.0	101		ug/L		125	70 - 130	8	20
Selenium	ND		80.0	90.9		ug/L		114	70 - 130	9	20
Thallium	ND		80.0	90.7		ug/L		113	70 - 130	8	20

Lab Sample ID: MB 440-663928/1-B
Matrix: Water
Analysis Batch: 664013

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663947

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Cadmium	ND		1.0	0.25	ug/L		01/06/22 17:16	01/07/22 14:30	1
Copper	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Lead	ND		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Antimony	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Selenium	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Thallium	ND		1.0	0.20	ug/L		01/06/22 17:16	01/07/22 14:30	1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 440-663928/2-B
Matrix: Water
Analysis Batch: 664013

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663947

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Silver			80.0	78.5		ug/L		98	85 - 115		
Cadmium			80.0	79.3		ug/L		99	85 - 115		
Copper			80.0	81.3		ug/L		102	85 - 115		
Lead			80.0	79.4		ug/L		99	85 - 115		
Antimony			80.0	89.2		ug/L		111	85 - 115		
Selenium			80.0	75.7		ug/L		95	85 - 115		
Thallium			80.0	78.1		ug/L		98	85 - 115		

Lab Sample ID: 570-80544-2 MS
Matrix: Water
Analysis Batch: 664013

Client Sample ID: Outfall009_20220104_Comp_F
Prep Type: Dissolved
Prep Batch: 663947

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Silver	ND		80.0	79.2		ug/L		99	70 - 130		
Cadmium	ND		80.0	80.4		ug/L		100	70 - 130		
Copper	3.5		80.0	87.2		ug/L		105	70 - 130		
Lead	ND		80.0	81.1		ug/L		101	70 - 130		
Antimony	1.3	J,DX	80.0	92.0		ug/L		113	70 - 130		
Selenium	ND		80.0	79.8		ug/L		100	70 - 130		
Thallium	ND		80.0	80.4		ug/L		101	70 - 130		

Lab Sample ID: 570-80544-2 MSD
Matrix: Water
Analysis Batch: 664013

Client Sample ID: Outfall009_20220104_Comp_F
Prep Type: Dissolved
Prep Batch: 663947

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	79.1		ug/L		99	70 - 130	0	20
Cadmium	ND		80.0	80.5		ug/L		101	70 - 130	0	20
Copper	3.5		80.0	86.8		ug/L		104	70 - 130	1	20
Lead	ND		80.0	80.6		ug/L		101	70 - 130	1	20
Antimony	1.3	J,DX	80.0	91.5		ug/L		113	70 - 130	1	20
Selenium	ND		80.0	77.7		ug/L		97	70 - 130	3	20
Thallium	ND		80.0	79.5		ug/L		99	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-664963/1-A
Matrix: Water
Analysis Batch: 665026

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 664963

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/20/22 12:43	01/20/22 18:28	1

Lab Sample ID: LCS 440-664963/2-A
Matrix: Water
Analysis Batch: 665026

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 664963

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			6.00	6.28		ug/L		105	85 - 115		

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 440-293828-B-1-G MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665026 — **Prep Batch: 664963**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		6.00	5.95		ug/L		99	75 - 125

Lab Sample ID: 440-293828-B-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665026 — **Prep Batch: 664963**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		6.00	5.96		ug/L		99	75 - 125	0	20

Lab Sample ID: MB 440-663929/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 665026 — **Prep Batch: 664964**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/20/22 12:45	01/20/22 18:15	1

Lab Sample ID: LCS 440-663929/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 665026 — **Prep Batch: 664964**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.00	5.68		ug/L		95	85 - 115

Lab Sample ID: LCSD 440-663929/3-B — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 665026 — **Prep Batch: 664964**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	6.00	5.53		ug/L		92	85 - 115	3	20

Lab Sample ID: 570-80544-2 MS — **Client Sample ID: Outfall009_20220104_Comp_F**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 665026 — **Prep Batch: 664964**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		6.00	5.91		ug/L		98	75 - 125

Lab Sample ID: 570-80544-2 MSD — **Client Sample ID: Outfall009_20220104_Comp_F**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 665026 — **Prep Batch: 664964**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		6.00	5.73		ug/L		96	75 - 125	3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-663806/1
Matrix: Water
Analysis Batch: 663806

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	3.0	mg/L			01/11/22 10:10	1

Lab Sample ID: LCS 440-663806/2
Matrix: Water
Analysis Batch: 663806

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	974		mg/L		97	90 - 110		

Lab Sample ID: 570-80544-1 DU
Matrix: Water
Analysis Batch: 663806

Client Sample ID: Outfall009_20220104_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	160			157		mg/L				1	5

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-663860/1
Matrix: Water
Analysis Batch: 663860

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			01/05/22 19:16	1

Lab Sample ID: LCS 440-663860/2
Matrix: Water
Analysis Batch: 663860

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			1000	1010		mg/L		101	85 - 115		

Lab Sample ID: 440-293826-D-1 DU
Matrix: Water
Analysis Batch: 663860

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	7.2			7.40		mg/L				3	5

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 570-205516/1-A
Matrix: Water
Analysis Batch: 205489

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205516

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0030	0.0014	mg/L		01/04/22 16:30	01/04/22 19:10	1

Method: SM 4500 CN E - Cyanide, Total (Low Level) (Continued)

Lab Sample ID: LCS 570-205516/2-A
Matrix: Water
Analysis Batch: 205489

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205516

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			0.0100	0.0102		mg/L		102	80 - 120		

Lab Sample ID: LCSD 570-205516/3-A
Matrix: Water
Analysis Batch: 205489

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205516

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total			0.0100	0.0100		mg/L		100	80 - 120	2	20

Lab Sample ID: 570-80531-L-1-A MS
Matrix: Water
Analysis Batch: 205489

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 205516

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total	0.0043		0.0100	0.0150		mg/L		108	74 - 115		

Lab Sample ID: 570-80531-L-1-B MSD
Matrix: Water
Analysis Batch: 205489

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 205516

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.0043		0.0100	0.0140		mg/L		97	74 - 115	7	20

HPLC/IC

Analysis Batch: 205584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total/NA	Water	300.0	
MB 570-205584/5	Method Blank	Total/NA	Water	300.0	
LCS 570-205584/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-205584/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80593-A-4 MS	Matrix Spike	Total/NA	Water	300.0	
570-80593-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 205585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total/NA	Water	300.0	
MB 570-205585/5	Method Blank	Total/NA	Water	300.0	
LCS 570-205585/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-205585/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80593-A-4 MS	Matrix Spike	Total/NA	Water	300.0	
570-80593-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 223214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total/NA	Water	NO2NO3 Calc	

Metals

Filtration Batch: 663928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-2	Outfall009_20220104_Comp_F	Dissolved	Water	FILTRATION	
MB 440-663928/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-663928/1-C	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663928/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-663928/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
570-80532-R-1-D MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80532-R-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
570-80544-2 MS	Outfall009_20220104_Comp_F	Dissolved	Water	FILTRATION	
570-80544-2 MSD	Outfall009_20220104_Comp_F	Dissolved	Water	FILTRATION	

Filtration Batch: 663929

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-2	Outfall009_20220104_Comp_F	Dissolved	Water	FILTRATION	
MB 440-663929/1-B	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663929/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCSD 440-663929/3-B	Lab Control Sample Dup	Dissolved	Water	FILTRATION	
570-80544-2 MS	Outfall009_20220104_Comp_F	Dissolved	Water	FILTRATION	
570-80544-2 MSD	Outfall009_20220104_Comp_F	Dissolved	Water	FILTRATION	

Prep Batch: 663947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-2	Outfall009_20220104_Comp_F	Dissolved	Water	200.2	663928
MB 440-663928/1-B	Method Blank	Dissolved	Water	200.2	663928
LCS 440-663928/2-B	Lab Control Sample	Dissolved	Water	200.2	663928
570-80544-2 MS	Outfall009_20220104_Comp_F	Dissolved	Water	200.2	663928
570-80544-2 MSD	Outfall009_20220104_Comp_F	Dissolved	Water	200.2	663928

Metals

Prep Batch: 663949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-2	Outfall009_20220104_Comp_F	Dissolved	Water	200.2	663928
MB 440-663928/1-C	Method Blank	Dissolved	Water	200.2	663928
LCS 440-663928/2-C	Lab Control Sample	Dissolved	Water	200.2	663928
570-80532-R-1-D MS	Matrix Spike	Dissolved	Water	200.2	663928
570-80532-R-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663928

Analysis Batch: 664013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-2	Outfall009_20220104_Comp_F	Dissolved	Water	200.8	663947
MB 440-663928/1-B	Method Blank	Dissolved	Water	200.8	663947
LCS 440-663928/2-B	Lab Control Sample	Dissolved	Water	200.8	663947
570-80544-2 MS	Outfall009_20220104_Comp_F	Dissolved	Water	200.8	663947
570-80544-2 MSD	Outfall009_20220104_Comp_F	Dissolved	Water	200.8	663947

Analysis Batch: 664049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-2	Outfall009_20220104_Comp_F	Dissolved	Water	200.7 Rev 4.4	663949
MB 440-663928/1-C	Method Blank	Dissolved	Water	200.7 Rev 4.4	663949
LCS 440-663928/2-C	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	663949
570-80532-R-1-D MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	663949
570-80532-R-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	663949

Prep Batch: 664963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total/NA	Water	245.1	
MB 440-664963/1-A	Method Blank	Total/NA	Water	245.1	
LCS 440-664963/2-A	Lab Control Sample	Total/NA	Water	245.1	
440-293828-B-1-G MS	Matrix Spike	Total/NA	Water	245.1	
440-293828-B-1-H MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Prep Batch: 664964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-2	Outfall009_20220104_Comp_F	Dissolved	Water	245.1	663929
MB 440-663929/1-B	Method Blank	Dissolved	Water	245.1	663929
LCS 440-663929/2-B	Lab Control Sample	Dissolved	Water	245.1	663929
LCSD 440-663929/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	663929
570-80544-2 MS	Outfall009_20220104_Comp_F	Dissolved	Water	245.1	663929
570-80544-2 MSD	Outfall009_20220104_Comp_F	Dissolved	Water	245.1	663929

Analysis Batch: 665026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total/NA	Water	245.1	664963
570-80544-2	Outfall009_20220104_Comp_F	Dissolved	Water	245.1	664964
MB 440-663929/1-B	Method Blank	Dissolved	Water	245.1	664964
MB 440-664963/1-A	Method Blank	Total/NA	Water	245.1	664963
LCS 440-663929/2-B	Lab Control Sample	Dissolved	Water	245.1	664964
LCS 440-664963/2-A	Lab Control Sample	Total/NA	Water	245.1	664963
LCSD 440-663929/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	664964
440-293828-B-1-G MS	Matrix Spike	Total/NA	Water	245.1	664963
440-293828-B-1-H MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	664963
570-80544-2 MS	Outfall009_20220104_Comp_F	Dissolved	Water	245.1	664964

Metals (Continued)

Analysis Batch: 665026 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-2 MSD	Outfall009_20220104_Comp_F	Dissolved	Water	245.1	664964

Prep Batch: 665252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total Recoverable	Water	200.2	
MB 440-665252/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-665252/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80544-1 MS	Outfall009_20220104_Comp	Total Recoverable	Water	200.2	
570-80544-1 MSD	Outfall009_20220104_Comp	Total Recoverable	Water	200.2	

Prep Batch: 665279

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total Recoverable	Water	200.2	
MB 440-665279/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-665279/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80544-1 MS	Outfall009_20220104_Comp	Total Recoverable	Water	200.2	
570-80544-1 MSD	Outfall009_20220104_Comp	Total Recoverable	Water	200.2	

Analysis Batch: 665372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total Recoverable	Water	200.7 Rev 4.4	665279
MB 440-665279/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	665279
LCS 440-665279/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	665279
570-80544-1 MS	Outfall009_20220104_Comp	Total Recoverable	Water	200.7 Rev 4.4	665279
570-80544-1 MSD	Outfall009_20220104_Comp	Total Recoverable	Water	200.7 Rev 4.4	665279

Analysis Batch: 665379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total Recoverable	Water	200.8	665252
MB 440-665252/1-A	Method Blank	Total Recoverable	Water	200.8	665252
LCS 440-665252/2-A	Lab Control Sample	Total Recoverable	Water	200.8	665252
570-80544-1 MS	Outfall009_20220104_Comp	Total Recoverable	Water	200.8	665252
570-80544-1 MSD	Outfall009_20220104_Comp	Total Recoverable	Water	200.8	665252

General Chemistry

Analysis Batch: 205489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total/NA	Water	SM 4500 CN E	205516
MB 570-205516/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	205516
LCS 570-205516/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	205516
LCSD 570-205516/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	205516
570-80531-L-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	205516
570-80531-L-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	205516

Prep Batch: 205516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total/NA	Water	SM 4500 CN C	
MB 570-205516/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-205516/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-205516/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	

General Chemistry (Continued)

Prep Batch: 205516 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-L-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN C	
570-80531-L-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN C	

Analysis Batch: 663806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total/NA	Water	SM 2540C	
MB 440-663806/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-663806/2	Lab Control Sample	Total/NA	Water	SM 2540C	
570-80544-1 DU	Outfall009_20220104_Comp	Total/NA	Water	SM 2540C	

Analysis Batch: 663860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total/NA	Water	SM 2540D	
MB 440-663860/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-663860/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-293826-D-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 570-80544-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20220104_Comp
Lab Sample ID: 570-80544-1
Date Collected: 01/04/22 11:40
Matrix: Water
Date Received: 01/04/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2			205584	01/05/22 15:36	URMH	ECL 1
	Instrument ID: IC7									
Total/NA	Analysis	300.0		2			205585	01/05/22 15:36	URMH	ECL 1
	Instrument ID: IC7									
Total/NA	Analysis	NO2NO3 Calc		1			223214	03/30/22 14:18	URMH	ECL 1
	Instrument ID: IC7									
Total Recoverable	Prep	200.2			25 mL	25 mL	665279	01/24/22 17:16		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			665372	01/25/22 11:05	K1UV	IRV 2
	Instrument ID: ICP10									
Total Recoverable	Prep	200.2			25 mL	25 mL	665252	01/24/22 13:48		IRV 2
Total Recoverable	Analysis	200.8		1			665379	01/25/22 11:12	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total/NA	Prep	245.1			20 mL	30 mL	664963	01/20/22 12:43	C0YH	IRV 2
Total/NA	Analysis	245.1		1			665026	01/20/22 18:43	C0YH	IRV 2
	Instrument ID: CV-HG5									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	663806	01/11/22 10:10	VY3D	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	663860	01/05/22 19:16	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	205516	01/04/22 19:30	CY2M	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	5.0 mL	5.0 mL	205489	01/04/22 22:49	CY2M	ECL 1
	Instrument ID: UV8									

Client Sample ID: Outfall009_20220104_Comp_F
Lab Sample ID: 570-80544-2
Date Collected: 01/04/22 11:40
Matrix: Water
Date Received: 01/04/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			150 mL	150 mL	663928	01/06/22 15:10	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663949	01/06/22 17:20	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			664049	01/07/22 21:32	K1UV	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			150 mL	150 mL	663928	01/06/22 15:10	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663947	01/06/22 17:16	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664013	01/07/22 14:34	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	FILTRATION			40 mL	40 mL	663929	01/06/22 15:12	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664964	01/20/22 12:45	C0YH	IRV 2
Dissolved	Analysis	245.1		1			665026	01/20/22 18:21	C0YH	IRV 2
	Instrument ID: CV-HG5									

Laboratory References:
ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	ECL 1
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	ECL 1
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	IRV 2
SM 2540C	Solids, Total Dissolved (TDS)	SM	IRV 2
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 2
SM 4500 CN E	Cyanide, Total (Low Level)	SM	ECL 1
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	IRV 2
FILTRATION	Sample Filtration	None	IRV 2
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80544-1	Outfall009_20220104_Comp	Water	01/04/22 11:40	01/04/22 17:00
570-80544-2	Outfall009_20220104_Comp_F	Water	01/04/22 11:40	01/04/22 17:00

80544

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80544 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSF_NPDES Permit 2022 Routine Outfall [003-007, 009 010] Outfall 009 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **ECI #44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	
Sampler: Michelle Dallalah	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R Total Recoverable Metals. (E200.7): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R TCDD (and all congeners) (E1613B)	R Cl, SO_4, NO_3+NO_2-N (300)	R TDS (SM2540C/E160.1)	R Total Dissolved Metals. (E200.7): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0) K-40, CS-137 (E901.0 or E901.1)	R Chronic Toxicity Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	R Cyanide (SM4500-CN-E / E335.2)	R Total Recoverable Metals: Mercury (E245.1)	R Total Dissolved Metals: Mercury (E245.1)	EP TSS (160.2 (SM2540D))	Comments
Outfall 009	Outfall009_20220104_Comp	1/4/2022 1140	WM	500 mL Poly	1	HNO_3	95	No	X								X			
			WM	1 L Glass Amber	2	None	110	No		X										
			WM	500 mL Poly	2	None	145	No			X									48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	155	No				X								
			WM	500 mL Poly	1	NaOH	220	No								X				
			WM	2.5 Gal Cube	1	None	225	No												Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No						X						
			~~WM~~	~~1 Gal Cube~~	~~6~~	~~None~~	~~235~~	~~No~~							~~X~~					~~Only test if first or second rain events of the year~~ ~~Deliver to ABC Labs in Ventura CA.~~
			WM	1 L Poly	1	None	185	No											X	
	Outfall009_20220104_Comp_F	1/4/2022 1142	WM	1L Poly	1	None	205	No					X							Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No										X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall009_20220104_Comp_Extra	1/4/2022 1140	WM	1 L Glass Amber	2	None	110	No		H										Hold
			WM	500 mL Poly	2	None	145	No			H									Hold

Not collected, per Mark Dominick 2/14/2022

Legend: EP=Expert Panel, R=Routine

Relinquished By: Michelle Dallalah	Date/Time: 1/4/2022 1400	Company: Haley & Aldrich	Received By: ECI	Date/Time: 01/04/22 14:00
Relinquished By:	Date/Time: 01/04/22 17:00	Company:	Received By:	Date/Time: 1/4/22 1700
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day X
48 Hour _____ 5 Day _____ Normal. _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: X

2013.5, 2237 SCG

80544

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80544 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSF_NPDES Permit 2022 Routine Outfall [003-007, 009 010] Outfall 009 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **ECI #44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	
Sampler: Michelle Dallalah	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R Total Recoverable Metals. (E200.7): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R TCDD (and all congeners) (E1613B)	R Cl, SO_4, NO_3+NO_2-N (300)	R TDS (SM2540C/E160.1)	R Total Dissolved Metals. (E200.7): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0) K-40, CS-137 (E901.0 or E901.1)	R Chronic Toxicity Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	R Cyanide (SM4500-CN-E / E335.2)	R Total Recoverable Metals: Mercury (E245.1)	R Total Dissolved Metals: Mercury (E245.1)	EP TSS (160.2 (SM2540D))	Comments
Outfall 009	Outfall009_20220104_Comp	1/4/2022 1140	WM	500 mL Poly	1	HNO_3	95	No	X								X			
			WM	1 L Glass Amber	2	None	110	No		X										
			WM	500 mL Poly	2	None	145	No			X									48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	155	No				X								
			WM	500 mL Poly	1	NaOH	220	No								X				
			WM	2.5 Gal Cube	1	None	225	No						X						Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No												
			WM	1 Gal Cube	6	None	235	No							X					Only test if first or second rain events of the year Deliver to ABC Labs in Ventura CA.
			WM	1 L Poly	1	None	185	No											X	
	Outfall009_20220104_Comp_F	1/4/2022 1142	WM	1L Poly	1	None	205	No					X							Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No										X		Sample receiving DO NOT OPEN BAG. Beg to be opened in Mercury Prep using clean procedures.
	Outfall009_20220104_Comp_Extra	1/4/2022 1140	WM	1 L Glass Amber	2	None	110	No		H										Hold
			WM	500 mL Poly	2	None	145	No			H									Hold

Legend: EP=Expert Panel, R=Routine

Relinquished By: Michelle Dallalah	Date/Time: 1/4/2022 1400	Company: Haley & Aldrich	Received By: ECI	Date/Time: 01/04/22 14:00
Relinquished By:	Date/Time: 01/04/22 17:00	Company:	Received By:	Date/Time: 1/4/22 1700
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day X
48 Hour _____ 5 Day _____ Normal. _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: X

2013.5, 22137 SCG

3/30/2022 (Rev. 1)

2019-2020 Rainy Season
Version 2

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-149015 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80544-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/1/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfall - Outfall 009 Comp	SSOW#:			
Site				

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note.
Preservation Code:															
Outfall009_20220104_Comp (570-80544-1)	1/4/22	11 40 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	1/5/22 1338				
2						
3						

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149048 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80544-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/20/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 009 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
Preservation Code:										
Outfall009_20220104_Comp (570-80544-1)	1/4/22	11 40 Pacific		Water			X		2	See QAS Boeing_w/u to zero, ug/L, Use Boeing glassware
Outfall009_20220104_Comp_Extra (570-80544-3)	1/4/22	11 40 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time:	Method of Shipment:

Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time: 1/5 22 1610	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM. Patel Virendra	Carrier Tracking No(s)	COC No. 570-149026 1
Client Contact: Shipping/Receiving	Phone	E-Mail Virendra Patel@eurofinset.com	State of Origin California	Page. Page 1 of 1
Company. Eurofins Environment Testing Southwest,		Accreditations Required (See note) State Program - California		Job #. 570-80544-1
Address. 2841 Dow Avenue, ,	Due Date Requested 1/12/2022			
City. Tustin	TAT Requested (days).			
State Zip. CA, 92780				
Phone 949-261-1022(Tel) 949-260-3297(Fax)	PO #.			
Email.	WO #.			
Project Name. Boeing NPDES SSFL Outfall - Outfall 009 Comp	Project #. 44024446			
Site	SSOW#.			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other.

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 Ni,,Zn	200.8/200.2 (MOD) Sb, Cd,Cu,Pb,Tl,Se,Ag	2540C_Calcd/ Solids, Total Dissolved (TDS)	245.1/245.1_Prep Mercury	2540D	200.8/FILTRATION (MOD) Sb, Cd,Cu,Pb,Tl,Se,Ag	245.1/FILTRATION Diss Mercury	200.7/FILTRATION Diss NiZn	Total Number of containers	Special Instructions/Note.
			Preservation Code:													
Outfall009_20220104_Comp (570-80544-1)	1/4/22	11 40 Pacific		Water			X	X	X	X	X				4	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall009_20220104_Comp_F (570-80544-2)	1/4/22	11 40 Pacific		Water								X	X	X	3	Filter within 24 hours of reciept, use VOA vials from LL Hg Kit-Clean Hands

Note. Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements 1.8/1.3 IR-90

Empty Kit Relinquished by	Date	Time	Method of Shipment.

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	1/5/22 1618	ECI		1/5/22	ECI
Relinquished by	1/5/22 1735		Olga Omelas	01/05/22 1735	ECI
Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: | Custody Seal No

Cooler Temperature(s) °C and Other Remarks

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80544-1

Login Number: 80544
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80544-1

Login Number: 80544
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience
List Creation: 01/05/22 06:21 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80544-2
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/4/2022 12:24:19 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80544-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80544-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80544-2

Comments
No additional comments.

Receipt
The samples were received on 1/4/2022 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.5º C and 3.7º C.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: (CCV 320-559680/2) and (MB 320-556933/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
Method 1613B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for preparation:
Outfall009_20220104_Comp (570-80544-1).
Nominal volume required by method is 1 liter.

preparation batch 320-556933
method: 1613B_Sox_Sep_P
matrix: Water

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20220104_Comp
Lab Sample ID: 570-80544-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8,9-HxCDF	0.0000011	J,DX MB	0.000057	0.00000046	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000031	J,DX MB	0.000057	0.0000011	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000024	J,DX MB	0.000057	0.00000060	ug/L	1		1613B	Total/NA
OCDD	0.00031	MB	0.00011	0.0000018	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000071	J,DX MB	0.000057	0.00000074	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000042	J,DX MB	0.000057	0.00000045	ug/L	1		1613B	Total/NA
Total HpCDD	0.00013	J,DX MB	0.000057	0.0000011	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000049	J,DX MB	0.000057	0.00000060	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall009_20220104_Comp **Lab Sample ID: 570-80544-1**
Date Collected: 01/04/22 11:40 **Matrix: Water**
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000011	0.0000014	ug/L		01/10/22 05:25	01/18/22 04:01	1
2,3,7,8-TCDF	ND		0.000011	0.0000007 5	ug/L		01/10/22 05:25	01/18/22 04:01	1
1,2,3,7,8-PeCDD	ND		0.000057	0.0000012	ug/L		01/10/22 05:25	01/18/22 04:01	1
1,2,3,7,8-PeCDF	ND		0.000057	0.0000007 4	ug/L		01/10/22 05:25	01/18/22 04:01	1
2,3,4,7,8-PeCDF	ND		0.000057	0.0000007 6	ug/L		01/10/22 05:25	01/18/22 04:01	1
1,2,3,4,7,8-HxCDD	ND		0.000057	0.0000007 4	ug/L		01/10/22 05:25	01/18/22 04:01	1
1,2,3,6,7,8-HxCDD	ND		0.000057	0.0000007 8	ug/L		01/10/22 05:25	01/18/22 04:01	1
1,2,3,7,8,9-HxCDD	ND		0.000057	0.0000007 4	ug/L		01/10/22 05:25	01/18/22 04:01	1
1,2,3,4,7,8-HxCDF	ND		0.000057	0.0000004 8	ug/L		01/10/22 05:25	01/18/22 04:01	1
1,2,3,6,7,8-HxCDF	ND		0.000057	0.0000004 9	ug/L		01/10/22 05:25	01/18/22 04:01	1
1,2,3,7,8,9-HxCDF	**0.0000011**	**J,DX MB**	0.000057	0.0000004 6	ug/L		01/10/22 05:25	01/18/22 04:01	1
2,3,4,6,7,8-HxCDF	ND		0.000057	0.0000004 5	ug/L		01/10/22 05:25	01/18/22 04:01	1
1,2,3,4,6,7,8-HpCDD	**0.000031**	**J,DX MB**	0.000057	0.0000011	ug/L		01/10/22 05:25	01/18/22 04:01	1
1,2,3,4,6,7,8-HpCDF	**0.0000024**	**J,DX MB**	0.000057	0.0000006 0	ug/L		01/10/22 05:25	01/18/22 04:01	1
1,2,3,4,7,8,9-HpCDF	ND		0.000057	0.0000006 1	ug/L		01/10/22 05:25	01/18/22 04:01	1
OCDD	**0.00031**	**MB**	0.00011	0.0000018	ug/L		01/10/22 05:25	01/18/22 04:01	1
OCDF	ND		0.00011	0.0000013	ug/L		01/10/22 05:25	01/18/22 04:01	1
Total TCDD	ND		0.000011	0.0000014	ug/L		01/10/22 05:25	01/18/22 04:01	1
Total TCDF	ND		0.000011	0.0000007 5	ug/L		01/10/22 05:25	01/18/22 04:01	1
Total PeCDD	ND		0.000057	0.0000012	ug/L		01/10/22 05:25	01/18/22 04:01	1
Total PeCDF	ND		0.000057	0.0000007 4	ug/L		01/10/22 05:25	01/18/22 04:01	1
Total HxCDD	**0.0000071**	**J,DX MB**	0.000057	0.0000007 4	ug/L		01/10/22 05:25	01/18/22 04:01	1
Total HxCDF	**0.0000042**	**J,DX MB**	0.000057	0.0000004 5	ug/L		01/10/22 05:25	01/18/22 04:01	1
Total HpCDD	**0.00013**	**J,DX MB**	0.000057	0.0000011	ug/L		01/10/22 05:25	01/18/22 04:01	1
Total HpCDF	**0.0000049**	**J,DX MB**	0.000057	0.0000006 0	ug/L		01/10/22 05:25	01/18/22 04:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*84*		*25 - 164*	*01/10/22 05:25*	*01/18/22 04:01*	*1*
13C-2,3,7,8-TCDF	*83*		*24 - 169*	*01/10/22 05:25*	*01/18/22 04:01*	*1*
13C-1,2,3,7,8-PeCDD	*86*		*25 - 181*	*01/10/22 05:25*	*01/18/22 04:01*	*1*
13C-1,2,3,7,8-PeCDF	*80*		*24 - 185*	*01/10/22 05:25*	*01/18/22 04:01*	*1*
13C-2,3,4,7,8-PeCDF	*92*		*21 - 178*	*01/10/22 05:25*	*01/18/22 04:01*	*1*
13C-1,2,3,4,7,8-HxCDD	*87*		*32 - 141*	*01/10/22 05:25*	*01/18/22 04:01*	*1*
13C-1,2,3,6,7,8-HxCDD	*82*		*28 - 130*	*01/10/22 05:25*	*01/18/22 04:01*	*1*
13C-1,2,3,4,7,8-HxCDF	*84*		*26 - 152*	*01/10/22 05:25*	*01/18/22 04:01*	*1*
13C-1,2,3,6,7,8-HxCDF	*78*		*26 - 123*	*01/10/22 05:25*	*01/18/22 04:01*	*1*
13C-1,2,3,7,8,9-HxCDF	*76*		*29 - 147*	*01/10/22 05:25*	*01/18/22 04:01*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall009_20220104_Comp **Lab Sample ID: 570-80544-1**
Date Collected: 01/04/22 11:40 **Matrix: Water**
Date Received: 01/04/22 17:00

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,6,7,8-HxCDF	75		28 - 136	01/10/22 05:25	01/18/22 04:01	1
13C-1,2,3,4,6,7,8-HpCDD	86		23 - 140	01/10/22 05:25	01/18/22 04:01	1
13C-1,2,3,4,6,7,8-HpCDF	87		28 - 143	01/10/22 05:25	01/18/22 04:01	1
13C-1,2,3,4,7,8,9-HpCDF	97		26 - 138	01/10/22 05:25	01/18/22 04:01	1
13C-OCDD	90		17 - 157	01/10/22 05:25	01/18/22 04:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	86		35 - 197	01/10/22 05:25	01/18/22 04:01	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	37TCDD (35-197)							
570-80544-1	Outfall009_20220104_Comp	86							
MB 320-556933/1-A	Method Blank	89							
MB 320-556933/1-A - RA	Method Blank	95							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	37TCDD (31-191)							
LCS 320-556933/2-A	Lab Control Sample	82							
LCSD 320-556933/3-A	Lab Control Sample Dup	87							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80544-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-80544-1	Outfall009_20220104_Comp	84	83	86	80	92	87	82	84
MB 320-556933/1-A	Method Blank	79	80	73	72	83	80	78	78
MB 320-556933/1-A - RA	Method Blank		111						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-80544-1	Outfall009_20220104_Comp	78	76	75	86	87	97	90
MB 320-556933/1-A	Method Blank	76	69	72	75	78	82	74
MB 320-556933/1-A - RA	Method Blank							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-556933/2-A	Lab Control Sample	73	72	65	64	75	69	68	69
LCSD 320-556933/3-A	Lab Control Sample Dup	76	75	68	67	76	71	73	70

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-556933/2-A	Lab Control Sample	64	61	63	63	65	70	64
LCSD 320-556933/3-A	Lab Control Sample Dup	68	60	65	63	67	70	61

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-556933/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 558766 **Prep Batch: 556933**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000016	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,7,8-PeCDD	0.00000467	J,DX	0.000050	0.0000014	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,7,8-PeCDF	0.00000401	J,DX	0.000050	0.00000089	ug/L		01/10/22 05:25	01/17/22 19:15	1
2,3,4,7,8-PeCDF	0.00000412	J,DX	0.000050	0.00000090	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,7,8-HxCDD	0.00000550	J,DX q	0.000050	0.0000007 7	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,6,7,8-HxCDD	0.00000657	J,DX	0.000050	0.0000007 4	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,7,8,9-HxCDD	0.00000690	J,DX q	0.000050	0.0000007 3	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,7,8-HxCDF	0.00000382	J,DX q	0.000050	0.0000007 0	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,6,7,8-HxCDF	0.00000445	J,DX q	0.000050	0.0000007 2	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,7,8,9-HxCDF	0.00000579	J,DX	0.000050	0.0000006 7	ug/L		01/10/22 05:25	01/17/22 19:15	1
2,3,4,6,7,8-HxCDF	0.00000499	J,DX	0.000050	0.0000006 3	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,6,7,8-HpCDD	0.00000880	J,DX	0.000050	0.0000005 9	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,6,7,8-HpCDF	0.00000623	J,DX	0.000050	0.0000005 9	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,7,8,9-HpCDF	0.00000709	J,DX	0.000050	0.0000006 4	ug/L		01/10/22 05:25	01/17/22 19:15	1
OCDD	0.0000172	J,DX	0.00010	0.0000010	ug/L		01/10/22 05:25	01/17/22 19:15	1
OCDF	0.0000123	J,DX	0.00010	0.0000015	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total TCDD	0.00000271	J,DX q	0.000010	0.0000016	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total TCDF	0.00000188	J,DX q	0.000010	0.0000008 5	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total PeCDD	0.00000467	J,DX	0.000050	0.0000014	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total PeCDF	0.00000813	J,DX	0.000050	0.0000008 9	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total HxCDD	0.0000190	J,DX q	0.000050	0.0000007 3	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total HxCDF	0.0000205	J,DX q	0.000050	0.0000006 3	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total HpCDD	0.0000127	J,DX	0.000050	0.0000005 9	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total HpCDF	0.0000133	J,DX	0.000050	0.0000005 9	ug/L		01/10/22 05:25	01/17/22 19:15	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*79*		*25 - 164*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-2,3,7,8-TCDF	*80*		*24 - 169*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,7,8-PeCDD	*73*		*25 - 181*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,7,8-PeCDF	*72*		*24 - 185*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-2,3,4,7,8-PeCDF	*83*		*21 - 178*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,4,7,8-HxCDD	*80*		*32 - 141*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,6,7,8-HxCDD	*78*		*28 - 130*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,4,7,8-HxCDF	*78*		*26 - 152*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,6,7,8-HxCDF	*76*		*26 - 123*	*01/10/22 05:25*	*01/17/22 19:15*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-556933/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 558766 **Prep Batch: 556933**

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8,9-HxCDF	69		29 - 147	01/10/22 05:25	01/17/22 19:15	1
13C-2,3,4,6,7,8-HxCDF	72		28 - 136	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,4,6,7,8-HpCDD	75		23 - 140	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,4,6,7,8-HpCDF	78		28 - 143	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,4,7,8,9-HpCDF	82		26 - 138	01/10/22 05:25	01/17/22 19:15	1
13C-OCDD	74		17 - 157	01/10/22 05:25	01/17/22 19:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	89		35 - 197	01/10/22 05:25	01/17/22 19:15	1

Lab Sample ID: LCS 320-556933/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 558766 **Prep Batch: 556933**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000206		ug/L		103	67 - 158
2,3,7,8-TCDF	0.000200	0.000210	MB	ug/L		105	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.00114	MB	ug/L		114	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.00113	MB	ug/L		113	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.00103	MB	ug/L		103	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000989	MB	ug/L		99	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.00107	MB	ug/L		107	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.00105	MB	ug/L		105	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000988	MB	ug/L		99	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.00111	MB	ug/L		111	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.00107	MB	ug/L		107	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.00112	MB	ug/L		112	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.00109	MB	ug/L		109	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.00105	MB	ug/L		105	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000972	MB	ug/L		97	78 - 138
OCDD	0.00200	0.00199	MB	ug/L		99	78 - 144
OCDF	0.00200	0.00204	MB	ug/L		102	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	73		20 - 175
13C-2,3,7,8-TCDF	72		22 - 152
13C-1,2,3,7,8-PeCDD	65		21 - 227
13C-1,2,3,7,8-PeCDF	64		21 - 192
13C-2,3,4,7,8-PeCDF	75		13 - 328
13C-1,2,3,4,7,8-HxCDD	69		21 - 193
13C-1,2,3,6,7,8-HxCDD	68		25 - 163
13C-1,2,3,4,7,8-HxCDF	69		19 - 202
13C-1,2,3,6,7,8-HxCDF	64		21 - 159
13C-1,2,3,7,8,9-HxCDF	61		17 - 205
13C-2,3,4,6,7,8-HxCDF	63		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	63		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	65		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	70		20 - 186

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-556933/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 558766 **Prep Batch: 556933**

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-OCDD	64		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	82		31 - 191

Lab Sample ID: LCSD 320-556933/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 558766 **Prep Batch: 556933**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000197		ug/L		98	67 - 158	5	50
2,3,7,8-TCDF			0.000200	0.000209	MB	ug/L		104	75 - 158	1	50
1,2,3,7,8-PeCDD			0.00100	0.00112	MB	ug/L		112	70 - 142	2	50
1,2,3,7,8-PeCDF			0.00100	0.00113	MB	ug/L		113	80 - 134	0	50
2,3,4,7,8-PeCDF			0.00100	0.00103	MB	ug/L		103	68 - 160	0	50
1,2,3,4,7,8-HxCDD			0.00100	0.00102	MB	ug/L		102	70 - 164	3	50
1,2,3,6,7,8-HxCDD			0.00100	0.00104	MB	ug/L		104	76 - 134	3	50
1,2,3,7,8,9-HxCDD			0.00100	0.00102	MB	ug/L		102	64 - 162	3	50
1,2,3,4,7,8-HxCDF			0.00100	0.00101	MB	ug/L		101	72 - 134	2	50
1,2,3,6,7,8-HxCDF			0.00100	0.00108	MB	ug/L		108	84 - 130	2	50
1,2,3,7,8,9-HxCDF			0.00100	0.00112	MB	ug/L		112	78 - 130	5	50
2,3,4,6,7,8-HxCDF			0.00100	0.00110	MB	ug/L		110	70 - 156	2	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.00110	MB	ug/L		110	70 - 140	1	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.00106	MB	ug/L		106	82 - 122	1	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000988	MB	ug/L		99	78 - 138	2	50
OCDD			0.00200	0.00204	MB	ug/L		102	78 - 144	3	50
OCDF			0.00200	0.00207	MB	ug/L		104	63 - 170	2	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	76		20 - 175
13C-2,3,7,8-TCDF	75		22 - 152
13C-1,2,3,7,8-PeCDD	68		21 - 227
13C-1,2,3,7,8-PeCDF	67		21 - 192
13C-2,3,4,7,8-PeCDF	76		13 - 328
13C-1,2,3,4,7,8-HxCDD	71		21 - 193
13C-1,2,3,6,7,8-HxCDD	73		25 - 163
13C-1,2,3,4,7,8-HxCDF	70		19 - 202
13C-1,2,3,6,7,8-HxCDF	68		21 - 159
13C-1,2,3,7,8,9-HxCDF	60		17 - 205
13C-2,3,4,6,7,8-HxCDF	65		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	63		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	67		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	70		20 - 186
13C-OCDD	61		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	87		31 - 191

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-556933/1-A
Matrix: Water
Analysis Batch: 559680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556933

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	ND		0.000010	0.0000054	ug/L		01/10/22 05:25	01/21/22 13:35	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF - RA	*111*		*24 - 169*	*01/10/22 05:25*	*01/21/22 13:35*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD - RA	*95*		*35 - 197*	*01/10/22 05:25*	*01/21/22 13:35*	*1*

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Specialty Organics

Prep Batch: 556933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total/NA	Water	1613B	
MB 320-556933/1-A - RA	Method Blank	Total/NA	Water	1613B	
MB 320-556933/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-556933/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-556933/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 558766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total/NA	Water	1613B	556933
MB 320-556933/1-A	Method Blank	Total/NA	Water	1613B	556933
LCS 320-556933/2-A	Lab Control Sample	Total/NA	Water	1613B	556933
LCSD 320-556933/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	556933

Analysis Batch: 559680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-556933/1-A - RA	Method Blank	Total/NA	Water	1613B	556933

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20220104_Comp
Lab Sample ID: 570-80544-1
Date Collected: 01/04/22 11:40
Matrix: Water
Date Received: 01/04/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			876.7 mL	20.0 uL	556933	01/10/22 05:25	FC	TAL SAC
Total/NA	Analysis	1613B		1			558766	01/18/22 04:01	GRB	TAL SAC
	Instrument ID: DFS 1									

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80544-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Kansas	NELAP	E-10375	10-31-21 *
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-23
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-22
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80544-1	Outfall009_20220104_Comp	Water	01/04/22 11:40	01/04/22 17:00

80544

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80544 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSF_NPDES Permit 2022 Routine Outfall [003-007, 009 010] Outfall 009 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **ECI #44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	
Sampler: Michelle Dallalah	

ANALYSIS REQUIRED

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R Total Recoverable Metals. (E200.7): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R TCDD (and all congeners) (E1613B)	R Cl, SO_4, NO_3+NO_2-N (300)	R TDS (SM2540C/E160.1)	R Total Dissolved Metals. (E200.7): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0) K-40, CS-137 (E901.0 or E901.1)	R Chronic Toxicity Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	R Cyanide (SM4500-CN-E / E335.2)	R Total Recoverable Metals: Mercury (E245.1)	R Total Dissolved Metals: Mercury (E245.1)	EP TSS (160.2 (SM2540D))	Comments
Outfall 009	Outfall009_20220104_Comp	1/4/2022 1140	WM	500 mL Poly	1	HNO_3	95	No	X								X			
			WM	1 L Glass Amber	2	None	110	No		X										
			WM	500 mL Poly	2	None	145	No			X									48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	155	No				X								
			WM	500 mL Poly	1	NaOH	220	No								X				
			WM	2.5 Gal Cube	1	None	225	No						X						Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No												
			WM	1 Gal Cube	6	None	235	No							X					Only test if first or second rain events of the year Deliver to ABC Labs in Ventura CA.
			WM	1 L Poly	1	None	185	No											X	
	Outfall009_20220104_Comp_F	1/4/2022 1142	WM	1L Poly	1	None	205	No					X							Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No										X		Sample receiving DO NOT OPEN BAG. Beg to be opened in Mercury Prep using clean procedures.
	Outfall009_20220104_Comp_Extra	1/4/2022 1140	WM	1 L Glass Amber	2	None	110	No		H										Hold
			WM	500 mL Poly	2	None	145	No			H									Hold

Legend: EP=Expert Panel, R=Routine

Relinquished By: Michelle Dallalah	Date/Time: 1/4/2022 1400	Company: Haley & Aldrich	Received By: ECI	Date/Time: 01/04/22 14:00
Relinquished By:	Date/Time: 01/04/22 17:00	Company:	Received By:	Date/Time: 1/4/22 1700
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day X
48 Hour _____ 5 Day _____ Normal. _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: X

2013.5, 22137 SCG

2/4/2022

2019-2020 Rainy Season
Version 2

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-149015 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80544-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/1/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfall - Outfall 009 Comp	SSOW#:			
Site				

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Cs/FIII_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note.
			Preservation Code:												
Outfall009_20220104_Comp (570-80544-1)	1/4/22	11 40 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		1/5/22 1338				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149048 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80544-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/20/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 009 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall009_20220104_Comp (570-80544-1)	1/4/22	11 40 Pacific		Water			X		2	See QAS Boeing_w/u to zero, ug/L, Use Boeing glassware
Outfall009_20220104_Comp_Extra (570-80544-3)	1/4/22	11 40 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time:	Method of Shipment:

Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time: 1/5 22 1610	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149048.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80544-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/20/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 009 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
Preservation Code:										
Outfall009_20220104_Comp (570-80544-1)	1/4/22	11:40 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall009_20220104_Comp_Extra (570-80544-3)	1/4/22	11:40 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/5/22 1610			1/6/22 1200	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 1.4

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80544-2

Login Number: 80544
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80544-2

Login Number: 80544
List Number: 3
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 01/06/22 03:44 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.4c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80544-3
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/7/2022 4:24:10 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80544-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80544-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80544-3

Comments
No additional comments.

Receipt
The samples were received on 1/4/2022 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.5º C and 3.7º C.

RAD
Method 900.0: Gross Alpha Beta prep batch 160-547126:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall009_20220104_Comp (570-80544-1), (LCS 160-547126/2-A), (LCSB 160-547126/3-A), (MB 160-547126/1-A), (570-80548-R-1-O), (570-80548-R-1-U DU), (570-80548-R-1-S MS) and (570-80548-R-1-T MSBT)

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Method 901.1: Gamma Prep Batch 160-546005

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Job ID: 570-80544-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Outfall009_20220104_Comp (570-80544-1), (570-80749-R-1-F) and (570-80749-R-1-G DU)

Method 903.0: Radium 226 Batch 160-545836:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall009_20220104_Comp (570-80544-1), (LCS 160-545836/1-A), (LCSD 160-545836/2-A) and (MB 160-545836/24-A)

Method 904.0: Radium 228 batch 545838
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall009_20220104_Comp (570-80544-1), (LCS 160-545838/1-A), (LCSD 160-545838/2-A) and (MB 160-545838/24-A)

Method 905: Strontium 90 batch 546021
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall009_20220104_Comp (570-80544-1), (LCS 160-546021/1-A), (LCSD 160-546021/2-A) and (MB 160-546021/18-A)

Method 906.0: Tritium in Liquid batch 160-545833
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
Outfall009_20220104_Comp (570-80544-1), (LCS 160-545833/2-A), (MB 160-545833/1-A), (570-80746-Q-1-A), (570-80746-Q-1-B MS), (570-80749-Q-1-A) and (570-80749-Q-1-B DU)

Method A-01-R: Isotopic Uranium Batch 160-545831:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall009_20220104_Comp (570-80544-1), (LCS 160-545831/2-A), (MB 160-545831/1-A), (570-80749-R-1-D) and (570-80749-R-1-E DU)

Method ExtChrom: Uranium Prep Batch 160-545831

The following samples were prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall009_20220104_Comp (570-80544-1).

Method LSC_Dist_Susp: Tritium Prep Batch 545833:

Job ID: 570-80544-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

The following sample had an unclear matrix: Outfall009_20220104_Comp (570-80544-1). The sample was slighlty orange in color.

Method PrecSep_0: Radium-228 Prep Batch 160-545838

The following samples were prepared at a reduced aliquot due to Matrix: Outfall009_20220104_Comp (570-80544-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-545836

The following samples were prepared at a reduced aliquot due to Matrix: Outfall009_20220104_Comp (570-80544-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-546021

The following samples were prepared at a reduced aliquot due to Matrix: Outfall009_20220104_Comp (570-80544-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20220104_Comp
Lab Sample ID: 570-80544-1

No Detections.

This Detection Summary does not include radiochemical test results.

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall009_20220104_Comp **Lab Sample ID: 570-80544-1**
Date Collected: 01/04/22 11:40 **Matrix: Water**
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.917	U	1.42	1.43	3.00	2.40	pCi/L	01/19/22 09:35	01/21/22 13:54	1
Gross Beta	**1.65**		0.783	0.800	4.00	1.15	pCi/L	01/19/22 09:35	01/21/22 13:54	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall009_20220104_Comp **Lab Sample ID: 570-80544-1**
Date Collected: 01/04/22 11:40 **Matrix: Water**
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.642	U	8.90	8.90	20.0	11.0	pCi/L	01/12/22 09:57	01/25/22 08:06	1
Potassium-40	**114**		102	103		98.4	pCi/L	01/12/22 09:57	01/25/22 08:06	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall009_20220104_Comp
Date Collected: 01/04/22 11:40
Date Received: 01/04/22 17:00

Lab Sample ID: 570-80544-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.138	U	0.225	0.226	1.00	0.388	pCi/L	01/11/22 12:38	02/07/22 11:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.6*		*40 - 110*	*01/11/22 12:38*	*02/07/22 11:47*	*1*

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall009_20220104_Comp
Lab Sample ID: 570-80544-1
Date Collected: 01/04/22 11:40
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.254	U	0.341	0.342	1.00	0.569	pCi/L	01/11/22 13:24	02/05/22 12:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.6*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:33*	*1*
Y Carrier	*82.6*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:33*	*1*

Method: 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall009_20220104_Comp **Lab Sample ID: 570-80544-1**
Date Collected: 01/04/22 11:40 **Matrix: Water**
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.0227	U	0.378	0.378	3.00	0.672	pCi/L	01/12/22 12:11	01/24/22 16:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*86.0*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:52*	*1*
Y Carrier	*87.1*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:52*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall009_20220104_Comp
Lab Sample ID: 570-80544-1
Date Collected: 01/04/22 11:40
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-144	U	205	205	500	396	pCi/L	01/11/22 12:29	01/14/22 15:35	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall009_20220104_Comp
Date Collected: 01/04/22 11:40
Date Received: 01/04/22 17:00

Lab Sample ID: 570-80544-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.148	U	0.173	0.173	1.00	0.228	pCi/L	01/11/22 11:42	01/16/22 16:25	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*95.6*		*30 - 110*	*01/11/22 11:42*	*01/16/22 16:25*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
570-80544-1	Outfall009_20220104_Comp	88.6
LCS 160-545836/1-A	Lab Control Sample	91.4
LCSD 160-545836/2-A	Lab Control Sample Dup	95.2
MB 160-545836/24-A	Method Blank	103

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80544-1	Outfall009_20220104_Comp	88.6	82.6
LCS 160-545838/1-A	Lab Control Sample	91.4	83.4
LCSD 160-545838/2-A	Lab Control Sample Dup	95.2	84.5
MB 160-545838/24-A	Method Blank	103	90.1

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Sr	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80544-1	Outfall009_20220104_Comp	86.0	87.1
LCS 160-546021/1-A	Lab Control Sample	88.0	86.7
LCSD 160-546021/2-A	Lab Control Sample Dup	69.5	81.1
MB 160-546021/18-A	Method Blank	81.5	91.2

Tracer/Carrier Legend

Sr = Sr Carrier
Y = Y Carrier

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		U-232
Lab Sample ID	Client Sample ID	(30-110)
570-80544-1	Outfall009_20220104_Comp	95.6
570-80749-R-1-E DU	Duplicate	90.5
LCS 160-545831/2-A	Lab Control Sample	91.9
MB 160-545831/1-A	Method Blank	83.7

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-547126/1-A
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 547126

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.04269	U	0.612	0.612	3.00	1.19	pCi/L	01/19/22 09:35	01/21/22 13:53	1
Gross Beta	0.5433	U	0.532	0.535	4.00	0.861	pCi/L	01/19/22 09:35	01/21/22 13:53	1

Lab Sample ID: LCS 160-547126/2-A
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	52.84		7.62	3.00	2.09	pCi/L	104	75 - 125

Lab Sample ID: LCSB 160-547126/3-A
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.6	74.43		7.97	4.00	1.06	pCi/L	98	75 - 125

Lab Sample ID: 570-80548-R-1-S MS
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	1.07	U	50.6	33.21		6.09	3.00	3.28	pCi/L	64	60 - 140

Lab Sample ID: 570-80548-R-1-T MSBT
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	2.34		75.6	76.60		8.22	4.00	1.01	pCi/L	98	60 - 140

Lab Sample ID: 570-80548-R-1-U DU
Matrix: Water
Analysis Batch: 547960

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	1.07	U	1.137	U	1.53	3.00	2.53	pCi/L	0.02	1
Gross Beta	2.34		2.080		0.584	4.00	0.728	pCi/L	0.21	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-546005/1-A
Matrix: Water
Analysis Batch: 547972

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 546005

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-4.333	U	11.2	11.2	20.0	13.2	pCi/L	01/12/22 09:57	01/25/22 16:40	1
Potassium-40	54.77	U	93.6	93.8		98.4	pCi/L	01/12/22 09:57	01/25/22 16:40	1

Lab Sample ID: LCS 160-546005/2-A
Matrix: Water
Analysis Batch: 547972

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 546005

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Americium-241			135000	138500		16500		435	pCi/L	102	75 - 125		
Cesium-137			42000	42890		5110	20.0	101	pCi/L	102	75 - 125		
Cobalt-60			20800	21330		2540		49.6	pCi/L	103	75 - 125		

Lab Sample ID: 570-80749-R-1-G DU
Matrix: Water
Analysis Batch: 547984

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 546005

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Cesium-137	3.59	U		-6.217	U	13.5	20.0	16.5	pCi/L			0.48	1
Potassium-40	88.6			-65.58	U	121		186	pCi/L			0.90	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-545836/24-A
Matrix: Water
Analysis Batch: 549570

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545836

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.03016	U	0.101	0.101	1.00	0.228	pCi/L	01/11/22 12:38	02/07/22 12:17	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*01/11/22 12:38*	*02/07/22 12:17*	*1*

Lab Sample ID: LCS 160-545836/1-A
Matrix: Water
Analysis Batch: 549569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545836

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.1	13.84		1.60	1.00	0.255	pCi/L	92	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.4*		*40 - 110*

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-545836/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 549569 — **Prep Batch: 545836**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	13.98		1.60	1.00	0.279	pCi/L	92	75 - 125	0.04	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*95.2*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-545838/24-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 549231 — **Prep Batch: 545838**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.6159		0.326	0.331	1.00	0.487	pCi/L	01/11/22 13:24	02/05/22 12:35	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:35*	*1*
Y Carrier	*90.1*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:35*	*1*

Lab Sample ID: LCS 160-545838/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 549232 — **Prep Batch: 545838**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			11.9	13.74		1.58	1.00	0.462	pCi/L	116	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.4*		*40 - 110*
Y Carrier	*83.4*		*40 - 110*

Lab Sample ID: LCSD 160-545838/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 549232 — **Prep Batch: 545838**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			11.9	14.06		1.60	1.00	0.452	pCi/L	119	75 - 125	0.10	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*95.2*		*40 - 110*
Y Carrier	*84.5*		*40 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-546021/18-A
Matrix: Water
Analysis Batch: 547796

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 546021

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.4294		0.203	0.206	3.00	0.290	pCi/L	01/12/22 12:11	01/24/22 16:53	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*81.5*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:53*	*1*
Y Carrier	*91.2*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:53*	*1*

Lab Sample ID: LCS 160-546021/1-A
Matrix: Water
Analysis Batch: 547958

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 546021

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Strontium-90			7.56	7.562		0.824	3.00	0.290	pCi/L	100	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*88.0*		*40 - 110*
Y Carrier	*86.7*		*40 - 110*

Lab Sample ID: LCSD 160-546021/2-A
Matrix: Water
Analysis Batch: 547958

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 546021

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Strontium-90			7.56	6.786		0.827	3.00	0.408	pCi/L	90	75 - 125	0.47	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*69.5*		*40 - 110*
Y Carrier	*81.1*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-545833/1-A
Matrix: Water
Analysis Batch: 546736

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545833

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-85.59	U	210	210	500	394	pCi/L	01/11/22 12:29	01/14/22 14:05	1

Lab Sample ID: LCS 160-545833/2-A
Matrix: Water
Analysis Batch: 546736

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545833

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			2240	1986		398	500	399	pCi/L	89	75 - 125		

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 570-80749-Q-1-B DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 546915 — **Prep Batch: 545833**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	-90.1	U		-132.9	U	155	500	290	pCi/L			0.12	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-545831/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 546580 — **Prep Batch: 545831**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.1253	U	0.1306	0.1308	1.00	0.154	pCi/L	01/11/22 11:42	01/16/22 16:25	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*83.7*		*30 - 110*	*01/11/22 11:42*	*01/16/22 16:25*	*1*

Lab Sample ID: LCS 160-545831/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 546581 — **Prep Batch: 545831**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Uranium-234			18.2	18.21		1.99	1.00	0.148	pCi/L	100	75 - 125		
Uranium-238			18.6	18.24		1.99	1.00	0.107	pCi/L	98	75 - 125		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*91.9*		*30 - 110*

Lab Sample ID: 570-80749-R-1-E DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 546589 — **Prep Batch: 545831**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Total Uranium	0.0721	U		0.09260	U	0.09449	1.00	0.113	pCi/L			0.12	1

Tracer	*DU %Yield*	*DU Qualifier*	*Limits*
Uranium-232	*90.5*		*30 - 110*

Rad

Prep Batch: 545831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total/NA	Water	ExtChrom	
MB 160-545831/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-545831/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
570-80749-R-1-E DU	Duplicate	Total/NA	Water	ExtChrom	

Prep Batch: 545833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-545833/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-545833/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
570-80749-Q-1-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 545836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total/NA	Water	PrecSep-21	
MB 160-545836/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-545836/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-545836/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 545838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total/NA	Water	PrecSep_0	
MB 160-545838/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-545838/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-545838/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 546005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-546005/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-546005/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-80749-R-1-G DU	Duplicate	Total/NA	Water	Fill_Geo-0	

Prep Batch: 546021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total/NA	Water	PrecSep-7	
MB 160-546021/18-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-546021/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-546021/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Prep Batch: 547126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total/NA	Water	Evaporation	
MB 160-547126/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-547126/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-547126/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-80548-R-1-S MS	Matrix Spike	Total/NA	Water	Evaporation	
570-80548-R-1-T MSBT	Matrix Spike	Total/NA	Water	Evaporation	
570-80548-R-1-U DU	Duplicate	Total/NA	Water	Evaporation	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20220104_Comp
Lab Sample ID: 570-80544-1
Date Collected: 01/04/22 11:40
Matrix: Water
Date Received: 01/04/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			200.04 mL	1.0 g	547126	01/19/22 09:35	KG	TAL SL
Total/NA	Analysis	900.0		1	1.0 mL	1.0 mL	547481	01/21/22 13:54	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	546005	01/12/22 09:57	SRE	TAL SL
Total/NA	Analysis	901.1		1			547972	01/25/22 08:06	JCB	TAL SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			749.71 mL	1.0 g	545836	01/11/22 12:38	LPS	TAL SL
Total/NA	Analysis	903.0		1			549569	02/07/22 11:47	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			749.71 mL	1.0 g	545838	01/11/22 13:24	LPS	TAL SL
Total/NA	Analysis	904.0		1			549231	02/05/22 12:33	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-7			500.31 mL	1.0 g	546021	01/12/22 12:11	LPS	TAL SL
Total/NA	Analysis	905		1			547796	01/24/22 16:52	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	LSC_Dist_Susp			100.76 mL	1.0 g	545833	01/11/22 12:29	BAL	TAL SL
Total/NA	Analysis	906.0		1			546736	01/14/22 15:35	JLP	TAL SL
	Instrument ID: LSCTEAL									
Total/NA	Prep	ExtChrom			300.48 mL	1.0 mL	545831	01/11/22 11:42	MLO	TAL SL
Total/NA	Analysis	A-01-R		1			546583	01/16/22 16:25	CLP	TAL SL
	Instrument ID: ALPHAVISION									

Laboratory References:
TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80544-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	TAL SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	TAL SL

Protocol References:

DOE = U.S. Department of Energy

EPA = US Environmental Protection Agency

None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80544-1	Outfall009_20220104_Comp	Water	01/04/22 11:40	01/04/22 17:00

80544

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80544 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSF_NPDES Permit 2022 Routine Outfall [003-007, 009 010] Outfall 009 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **ECI #44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	
Sampler: Michelle Dallalah	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R Total Recoverable Metals. (E200.7): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R TCDD (and all congeners) (E1613B)	R Cl, SO_4, NO_3+NO_2-N (300)	R TDS (SM2540C/E160.1)	R Total Dissolved Metals. (E200.7): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0) K-40, CS-137 (E901.0 or E901.1)	R Chronic Toxicity Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	R Cyanide (SM4500-CN-E / E335.2)	R Total Recoverable Metals: Mercury (E245.1)	R Total Dissolved Metals: Mercury (E245.1)	EP TSS (160.2 (SM2540D))	Comments
Outfall 009	Outfall009_20220104_Comp	1/4/2022 1140	WM	500 mL Poly	1	HNO_3	95	No	X								X			
			WM	1 L Glass Amber	2	None	110	No		X										
			WM	500 mL Poly	2	None	145	No			X									48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	155	No				X								
			WM	500 mL Poly	1	NaOH	220	No								X				
			WM	2.5 Gal Cube	1	None	225	No						X						Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No												
			WM	1 Gal Cube	6	None	235	No							X					Only test if first or second rain events of the year Deliver to ABC Labs in Ventura CA.
			WM	1 L Poly	1	None	185	No											X	
	Outfall009_20220104_Comp_F	1/4/2022 1142	WM	1L Poly	1	None	205	No					X							Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No										X		Sample receiving DO NOT OPEN BAG. Beg to be opened in Mercury Prep using clean procedures.
	Outfall009_20220104_Comp_Extra	1/4/2022 1140	WM	1 L Glass Amber	2	None	110	No		H										Hold
			WM	500 mL Poly	2	None	145	No			H									Hold

Legend: EP=Expert Panel, R=Routine

Relinquished By: Michelle Dallalah	Date/Time: 1/4/2022 1400	Company: Haley & Aldrich	Received By: ECI 01/04/22 14:00
Relinquished By:	Date/Time: 01/04/22 17:00	Company:	Received By:	Date/Time: 1/4/22 1700
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day X
48 Hour _____ 5 Day _____ Normal. _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: X

2013.5, 2237 SCG

2/7/2022

2019-2020 Rainy Season
Version 2

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-149015 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80544-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/1/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfall - Outfall 009 Comp	SSOW#:			
Site				

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note.
Preservation Code:															
Outfall009_20220104_Comp (570-80544-1)	1/4/22	11 40 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	1/5/22 1338				
2						
3						

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149048 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80544-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/20/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 009 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
Preservation Code:										
Outfall009_20220104_Comp (570-80544-1)	1/4/22	11 40 Pacific		Water			X		2	See QAS Boeing_w/u to zero, ug/L, Use Boeing glassware
Outfall009_20220104_Comp_Extra (570-80544-3)	1/4/22	11 40 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time:	Method of Shipment:

Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time: 1/5 22 1610	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149015.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80544-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/1/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 009 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall009_20220104_Comp (570-80544-1)	1/4/22	11:40 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratones. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	FED EX	1/5/22 1338		FED EX		
2	FED EX			~~FED EX~~ SW 1/10/22		
3				SW Waughn	1/10/22 0910	GMSL
4						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80544-3

Login Number: 80544
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80544-3

Login Number: 80544
List Number: 4
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 01/10/22 10:10 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-80544-5
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/1/2022 1:36:04 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80544-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
BU	Analyzed out of holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Job ID: 570-80544-5

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80544-5

Comments
No additional comments.

Receipt
The samples were received on 1/4/2022 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.5º C and 3.7º C.

HPLC/IC
Method 314.0: The following sample was analyzed outside of analytical holding time per client request: Outfall009_20220104_Comp (570-80544-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80544-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20220104_Comp **Lab Sample ID: 570-80544-1**

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 314.0 - Perchlorate (IC)

Client Sample ID: Outfall009_20220104_Comp
Lab Sample ID: 570-80544-1
Date Collected: 01/04/22 11:40
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND	BU	4.0	0.95	ug/L			03/31/22 10:02	1

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-670177/6
Matrix: Water
Analysis Batch: 670177

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			03/31/22 05:09	1

Lab Sample ID: LCS 440-670177/5
Matrix: Water
Analysis Batch: 670177

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	24.2		ug/L		97	85 - 115

Lab Sample ID: MRL 440-670177/4
Matrix: Water
Analysis Batch: 670177

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.04	J,DX	ug/L		104	75 - 125

Lab Sample ID: MRL 440-670177/9
Matrix: Water
Analysis Batch: 670177

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.85	J,DX	ug/L		96	75 - 125

Lab Sample ID: 680-213183-A-1 MS
Matrix: Water
Analysis Batch: 670177

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	ND		24.0	23.9		ug/L		100	80 - 120

Lab Sample ID: 680-213183-A-1 MSD
Matrix: Water
Analysis Batch: 670177

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		24.0	23.8		ug/L		99	80 - 120	0	15

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

HPLC/IC

Analysis Batch: 670177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total/NA	Water	314.0	
MB 440-670177/6	Method Blank	Total/NA	Water	314.0	
LCS 440-670177/5	Lab Control Sample	Total/NA	Water	314.0	
MRL 440-670177/4	Lab Control Sample	Total/NA	Water	314.0	
MRL 440-670177/9	Lab Control Sample	Total/NA	Water	314.0	
680-213183-A-1 MS	Matrix Spike	Total/NA	Water	314.0	
680-213183-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20220104_Comp
Lab Sample ID: 570-80544-1
Date Collected: 01/04/22 11:40
Matrix: Water
Date Received: 01/04/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	314.0		1			670177	03/31/22 10:02	YO8L	IRV 2
	Instrument ID: IC-23									

Laboratory References:

IRV 2 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80544-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Laboratory: Eurofins Calscience

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
314.0		Water	Perchlorate

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method	Method Description	Protocol	Laboratory
314.0	Perchlorate (IC)	EPA	IRV 2

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

IRV 2 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80544-1	Outfall009_20220104_Comp	Water	01/04/22 11:40	01/04/22 17:00

80544

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80544 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSF_NPDES Permit 2022 Routine Outfall [003-007, 009 010] Outfall 009 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **ECI #44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	
Sampler: Michelle Dallalah	

ANALYSIS REQUIRED

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R Total Recoverable Metals. (E200.7): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R TCDD (and all congeners) (E1613B)	R Cl, SO_4, NO_3+NO_2-N (300)	R TDS (SM2540C/E160.1)	R Total Dissolved Metals. (E200.7): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0) K-40, CS-137 (E901.0 or E901.1)	R Chronic Toxicity Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	R Cyanide (SM4500-CN-E / E335.2)	R Total Recoverable Metals: Mercury (E245.1)	R Total Dissolved Metals: Mercury (E245.1)	EP TSS (160.2 /SM2540D))	Perchlorate (300)			Comments
Outfall 009	Outfall009_20220104_Comp	1/4/2022 1140	WM	500 mL Poly	1	HNO_3	95	No	X								X						
			WM	1 L Glass Amber	2	None	110	No		X													
			WM	500 mL Poly	2	None	145	No			X												48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	155	No				X											
			WM	500 mL Poly	1	NaOH	220	No								X							
			WM	2.5 Gal Cube	1	None	225	No						X									Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No															
			WM	1 Gal Cube	6	None	235	No							X								Only test if first or second rain events of the year Deliver to ABC Labs in Ventura CA.
			WM	1 L Poly	1	None	185	No											X				
	Outfall009_20220104_Comp_F	1/4/2022 1142	WM	1L Poly	1	None	205	No					X										Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No										X					Sample receiving DO NOT OPEN BAG. Beg to be opened in Mercury Prep using clean procedures.
	Outfall009_20220104_Comp_Extra	1/4/2022 1140	WM	1 L Glass Amber	2	None	110	No		H													Hold
			WM	500 mL Poly	2	None	145	No			H										X		Hold

COC revised by M. Dallalah (Haley & Aldrich) on 3/31/2022 at 11:45am

Legend: EP=Expert Panel, R=Routine

Relinquished By: Michelle Dallalah	Date/Time: 1/4/2022 1400	Company: Haley & Aldrich	Received By: ECI 01/04/22 14:00
Relinquished By:	Date/Time: 01/04/22 17:00	Company:	Received By: 1/4/22 1700
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day X
48 Hour _____ 5 Day _____ Normal. _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: X

2013.5, 2237 SCG

4/1/2022

2019-2020 Rainy Season
Version 2

80544

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80544 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSF_NPDES Permit 2022 Routine Outfall [003-007, 009 010] Outfall 009 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **ECI #44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	
Sampler: Michelle Dallalah	

ANALYSIS REQUIRED

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R Total Recoverable Metals. (E200.7): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R TCDD (and all congeners) (E1613B)	R Cl, SO_4, NO_3+NO_2-N (300)	R TDS (SM2540C/E160.1)	R Total Dissolved Metals. (E200.7): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0) K-40, CS-137 (E901.0 or E901.1)	R Chronic Toxicity Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	R Cyanide (SM4500-CN-E / E335.2)	R Total Recoverable Metals: Mercury (E245.1)	R Total Dissolved Metals: Mercury (E245.1)	EP TSS (160.2 (SM2540D))	Comments
Outfall 009	Outfall009_20220104_Comp	1/4/2022 1140	WM	500 mL Poly	1	HNO_3	95	No	X								X			
			WM	1 L Glass Amber	2	None	110	No		X										
			WM	500 mL Poly	2	None	145	No			X									48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	155	No				X								
			WM	500 mL Poly	1	NaOH	220	No								X				
			WM	2.5 Gal Cube	1	None	225	No						X						Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No												
			~~WM~~	~~1 Gal Cube~~	~~6~~	~~None~~	~~235~~	~~No~~							X					Only test if first or second rain events of the year Deliver to ABC Labs in Ventura CA.
			WM	1 L Poly	1	None	185	No											X	
			WM	1L Poly	1	None	205	No					X							Filter and preserve w/in 24hrs of receipt at lab
	Outfall009_20220104_Comp_F	1/4/2022 1142	WM	borosilicate vials	1	None	320	No										X		Sample receiving DO NOT OPEN BAG. Beg to be opened in Mercury Prep using clean procedures.
	Outfall009_20220104_Comp_Extra	1/4/2022 1140	WM	1 L Glass Amber	2	None	110	No		H										Hold
			WM	500 mL Poly	2	None	145	No			H									Hold

Not collected, per Mark Dominick 2/14/2022

Legend: EP=Expert Panel, R=Routine

Relinquished By: Michelle Dallalah	Date/Time: 1/4/2022 1400	Company: Haley & Aldrich	Received By: ECI	Date/Time: 01/04/22 14:00
Relinquished By:	Date/Time: 01/04/22 17:00	Company:	Received By:	Date/Time: 1/4/22 1700
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day X
48 Hour _____ 5 Day _____ Normal. _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: X

2013.5, 22137 SCG

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4/1/2022

2019-2020 Rainy Season
Version 2

80544

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80544 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSF_NPDES Permit 2022 Routine Outfall [003-007, 009 010] Outfall 009 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **ECI #44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	
Sampler: Michelle Dallalah	

ANALYSIS REQUIRED

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R Total Recoverable Metals. (E200.7): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R TCDD (and all congeners) (E1613B)	R Cl, SO_4, NO_3+NO_2-N (300)	R TDS (SM2540C/E160.1)	R Total Dissolved Metals. (E200.7): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0) K-40, CS-137 (E901.0 or E901.1)	R Chronic Toxicity Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	R Cyanide (SM4500-CN-E / E335.2)	R Total Recoverable Metals: Mercury (E245.1)	R Total Dissolved Metals: Mercury (E245.1)	EP TSS (160.2 (SM2540D))	Comments
Outfall 009	Outfall009_20220104_Comp	1/4/2022 1140	WM	500 mL Poly	1	HNO_3	95	No	X								X			
			WM	1 L Glass Amber	2	None	110	No		X										
			WM	500 mL Poly	2	None	145	No			X									48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	155	No				X								
			WM	500 mL Poly	1	NaOH	220	No								X				
			WM	2.5 Gal Cube	1	None	225	No						X						Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No												
			WM	1 Gal Cube	6	None	235	No							X					Only test if first or second rain events of the year Deliver to ABC Labs in Ventura CA.
			WM	1 L Poly	1	None	185	No											X	
	Outfall009_20220104_Comp_F	1/4/2022 1142	WM	1L Poly	1	None	205	No					X							Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No										X		Sample receiving DO NOT OPEN BAG. Beg to be opened in Mercury Prep using clean procedures.
	Outfall009_20220104_Comp_Extra	1/4/2022 1140	WM	1 L Glass Amber	2	None	110	No		H										Hold
			WM	500 mL Poly	2	None	145	No			H									Hold

Legend: EP=Expert Panel, R=Routine

Relinquished By: Michelle Dallalah	Date/Time: 1/4/2022 1400	Company: Haley & Aldrich	Received By: ECI 01/04/22 14:00
Relinquished By:	Date/Time: 01/04/22 17:00	Company:	Received By: 1/4/22 1700
Relinquished By:	Date/Time:	Company:	Received By: Date/Time:

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day X
48 Hour _____ 5 Day _____ Normal. _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: X

2013.5, 2237 SCG

4/1/2022

2019-2020 Rainy Season
Version 2

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80544-5

Login Number: 80544
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80544-5

Login Number: 80544
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience
List Creation: 01/05/22 06:21 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-80544-6
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp
Revision: 1

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/24/2022 9:24:36 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@et.eurofinsus.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80544-6
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Qualifiers

Metals

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80544-6

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80544-6

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 4/19/2022. The report (revision 1) is being revised due to: Due to a laboratory error, the analyte list has been revised to only include confirmation analytes requested on April 6, 2022..

Receipt
The samples were received on 1/4/2022 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.5º C and 3.7º C.

Revision: Due to a laboratory error, the analyte list has been revised to only include confirmation analytes requested on April 6, 2022

RAD
Method 901.1: Gamma 160-558303

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall009_20220104_Comp (570-80544-1), (MB 160-558303/1-A), (570-80241-R-1-K) and (570-80241-R-1-L DU)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-6
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20220104_Comp
Lab Sample ID: 570-80544-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Potassium	1.6		0.10	0.017	mg/L	1		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-6
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall009_20220104_Comp
Lab Sample ID: 570-80544-1
Date Collected: 01/04/22 11:40
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	1.6		0.10	0.017	mg/L		04/07/22 14:09	04/07/22 17:31	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-6
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall009_20220104_Comp
Lab Sample ID: 570-80544-1
Date Collected: 01/04/22 11:40
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Potassium-40	-50.0	U	174	174		178	pCi/L	04/01/22 18:20	04/01/22 20:58	1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 570-225082/1-A
Matrix: Water
Analysis Batch: 225142

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 225082

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.10	0.017	mg/L		04/07/22 14:09	04/07/22 17:10	1

Lab Sample ID: LCS 570-225082/2-A
Matrix: Water
Analysis Batch: 225142

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 225082

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Potassium	1.00	1.12		mg/L		112	80 - 120

Lab Sample ID: LCSD 570-225082/3-A
Matrix: Water
Analysis Batch: 225142

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 225082

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Potassium	1.00	1.09		mg/L		109	80 - 120	3	20

Lab Sample ID: 570-80241-C-1-M MS
Matrix: Water
Analysis Batch: 225142

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 225082

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Potassium	4.1		1.00	4.90	BB	mg/L		84	80 - 120

Lab Sample ID: 570-80241-C-1-N MSD
Matrix: Water
Analysis Batch: 225142

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 225082

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Potassium	4.1		1.00	5.05	BB	mg/L		99	80 - 120	3	20

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-558303/1-A
Matrix: Water
Analysis Batch: 558240

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 558303

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Potassium-40	-73.00	U	131	131		212	pCi/L	04/01/22 18:20	04/01/22 21:45	1

Lab Sample ID: LCS 160-558303/2-A
Matrix: Water
Analysis Batch: 558248

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 558303

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Americium-241	135000	139600		16600		455	pCi/L	103	75 - 125
Cesium-137	41800	43090		5140	20.0	107	pCi/L	103	75 - 125
Cobalt-60	20300	21110		2520		51.1	pCi/L	104	75 - 125

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-6
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS) (Continued)

Lab Sample ID: 570-80241-R-1-L DU
Matrix: Water
Analysis Batch: 558249

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 558303

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Potassium-40	-31.4	U		-47.92	U	109		166	pCi/L			0.07	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-6
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Metals

Prep Batch: 225082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total Recoverable	Water	3005A	
MB 570-225082/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 570-225082/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 570-225082/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
570-80241-C-1-M MS	Matrix Spike	Total Recoverable	Water	3005A	
570-80241-C-1-N MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 225142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total Recoverable	Water	6020	225082
MB 570-225082/1-A	Method Blank	Total Recoverable	Water	6020	225082
LCS 570-225082/2-A	Lab Control Sample	Total Recoverable	Water	6020	225082
LCSD 570-225082/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020	225082
570-80241-C-1-M MS	Matrix Spike	Total Recoverable	Water	6020	225082
570-80241-C-1-N MSD	Matrix Spike Duplicate	Total Recoverable	Water	6020	225082

Rad

Prep Batch: 558303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-1	Outfall009_20220104_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-558303/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-558303/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-80241-R-1-L DU	Duplicate	Total/NA	Water	Fill_Geo-0	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-6
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20220104_Comp
Lab Sample ID: 570-80544-1
Date Collected: 01/04/22 11:40
Matrix: Water
Date Received: 01/04/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	225082	04/07/22 14:09	WL8G	ECL 4
Total Recoverable	Analysis	6020		1			225142	04/07/22 17:31	UFLE	ECL 4
	Instrument ID: ICPMS05									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	558303	04/01/22 18:20	ZTH	TAL SL
Total/NA	Analysis	901.1		1			558242	04/01/22 20:58	JCB	TAL SL
	Instrument ID: GAMMAVISION									

Laboratory References:

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80544-6
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-31-23
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	04-17-22
ANAB	Dept. of Defense ELAP	L2305	04-05-22
ANAB	Dept. of Energy	L2305.01	04-05-22
ANAB	ISO/IEC 17025	L2305	04-05-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	07-01-22
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-23
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	NELAP	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80544-6
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
West Virginia DEP	State	381	10-31-22

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80544-6
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	ECL 4
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	ECL 4
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Job ID: 570-80544-6

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80544-1	Outfall009_20220104_Comp	Water	01/04/22 11:40	01/04/22 17:00

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80544-6

Login Number: 80544
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80544-6

Login Number: 80544
List Number: 4
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 01/10/22 10:10 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-81932-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Grab

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/30/2022 9:40:23 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-81932-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Grab

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-81932-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Grab

Job ID: 570-81932-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-81932-1

Comments
No additional comments.

Receipt
The samples were received on 1/18/2022 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.1º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 2540F: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with analytical batch 570-208961.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method 9223- Colilert 18 - E. Coli - level 4 required: This method was subcontracted to Enthalpy Analytical - Barkley. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-81932-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Grab

Client Sample ID: Outfall011_20220118_Grab
Lab Sample ID: 570-81932-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C13-C28	0.052		0.050	0.036	mg/L	1		8015B	Total/NA
Specific Conductance	310		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: TB-20220118
Lab Sample ID: 570-81932-3

No Detections.

This Detection Summary does not include radiochemical test results.

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall011_20220118_Grab
Lab Sample ID: 570-81932-1
Date Collected: 01/18/22 12:30
Matrix: Water
Date Received: 01/18/22 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/20/22 19:04	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/20/22 19:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			01/20/22 19:04	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/20/22 19:04	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/20/22 19:04	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/20/22 19:04	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	0.58	ug/L			01/20/22 19:04	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/20/22 19:04	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/20/22 19:04	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/20/22 19:04	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/20/22 19:04	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/20/22 19:04	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/20/22 19:04	1
Acrolein	ND		5.0	4.6	ug/L			01/20/22 19:04	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/20/22 19:04	1
Benzene	ND		0.50	0.28	ug/L			01/20/22 19:04	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/20/22 19:04	1
Bromoform	ND		1.0	0.25	ug/L			01/20/22 19:04	1
Bromomethane	ND		0.50	0.22	ug/L			01/20/22 19:04	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/20/22 19:04	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/20/22 19:04	1
Chloroethane	ND		1.0	0.29	ug/L			01/20/22 19:04	1
Chloroform	ND		0.50	0.19	ug/L			01/20/22 19:04	1
Chloromethane	ND		0.50	0.30	ug/L			01/20/22 19:04	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/20/22 19:04	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/20/22 19:04	1
Cyclohexane	ND		2.0	0.79	ug/L			01/20/22 19:04	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/20/22 19:04	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/20/22 19:04	1
m,p-Xylene	ND		1.0	0.17	ug/L			01/20/22 19:04	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/20/22 19:04	1
Naphthalene	ND		1.0	0.33	ug/L			01/20/22 19:04	1
o-Xylene	ND		0.50	0.15	ug/L			01/20/22 19:04	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/20/22 19:04	1
Toluene	ND		0.50	0.23	ug/L			01/20/22 19:04	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/20/22 19:04	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/20/22 19:04	1
Trichloroethene	ND		0.50	0.17	ug/L			01/20/22 19:04	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			01/20/22 19:04	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/20/22 19:04	1
Xylenes, Total	ND		1.0	0.17	ug/L			01/20/22 19:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*60 - 140*		*01/20/22 19:04*	*1*
Dibromofluoromethane (Surr)	*95*		*60 - 140*		*01/20/22 19:04*	*1*
Toluene-d8 (Surr)	*98*		*60 - 140*		*01/20/22 19:04*	*1*

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: TB-20220118
Date Collected: 01/18/22 12:30
Date Received: 01/18/22 18:00

Lab Sample ID: 570-81932-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/20/22 19:33	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/20/22 19:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			01/20/22 19:33	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/20/22 19:33	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/20/22 19:33	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/20/22 19:33	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	0.58	ug/L			01/20/22 19:33	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/20/22 19:33	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/20/22 19:33	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/20/22 19:33	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/20/22 19:33	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/20/22 19:33	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/20/22 19:33	1
Acrolein	ND		5.0	4.6	ug/L			01/20/22 19:33	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/20/22 19:33	1
Benzene	ND		0.50	0.28	ug/L			01/20/22 19:33	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/20/22 19:33	1
Bromoform	ND		1.0	0.25	ug/L			01/20/22 19:33	1
Bromomethane	ND		0.50	0.22	ug/L			01/20/22 19:33	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/20/22 19:33	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/20/22 19:33	1
Chloroethane	ND		1.0	0.29	ug/L			01/20/22 19:33	1
Chloroform	ND		0.50	0.19	ug/L			01/20/22 19:33	1
Chloromethane	ND		0.50	0.30	ug/L			01/20/22 19:33	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/20/22 19:33	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/20/22 19:33	1
Cyclohexane	ND		2.0	0.79	ug/L			01/20/22 19:33	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/20/22 19:33	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/20/22 19:33	1
m,p-Xylene	ND		1.0	0.17	ug/L			01/20/22 19:33	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/20/22 19:33	1
Naphthalene	ND		1.0	0.33	ug/L			01/20/22 19:33	1
o-Xylene	ND		0.50	0.15	ug/L			01/20/22 19:33	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/20/22 19:33	1
Toluene	ND		0.50	0.23	ug/L			01/20/22 19:33	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/20/22 19:33	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/20/22 19:33	1
Trichloroethene	ND		0.50	0.17	ug/L			01/20/22 19:33	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			01/20/22 19:33	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/20/22 19:33	1
Xylenes, Total	ND		1.0	0.17	ug/L			01/20/22 19:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*60 - 140*		*01/20/22 19:33*	*1*
Dibromofluoromethane (Surr)	*100*		*60 - 140*		*01/20/22 19:33*	*1*
Toluene-d8 (Surr)	*100*		*60 - 140*		*01/20/22 19:33*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-81932-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Grab

Method: 8015B - Gasoline Range Organics - (GC)

Client Sample ID: Outfall011_20220118_Grab
Lab Sample ID: 570-81932-1
Date Collected: 01/18/22 12:30
Matrix: Water
Date Received: 01/18/22 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		50	30	ug/L			01/20/22 22:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*20 - 144*		*01/20/22 22:38*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-81932-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Grab

Method: 8015B - Diesel Range Organics (DRO) (GC)

Client Sample ID: Outfall011_20220118_Grab
Lab Sample ID: 570-81932-1
Date Collected: 01/18/22 12:30
Matrix: Water
Date Received: 01/18/22 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C28	0.052		0.050	0.036	mg/L		01/20/22 16:53	01/27/22 18:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*122*		*53 - 151*	*01/20/22 16:53*	*01/27/22 18:51*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-81932-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Grab

General Chemistry

Client Sample ID: Outfall011_20220118_Grab
Lab Sample ID: 570-81932-1
Date Collected: 01/18/22 12:30
Matrix: Water
Date Received: 01/18/22 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	ND		1.0	0.53	mg/L		01/20/22 09:08	01/20/22 09:08	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	**310**		1.0	1.0	umhos/cm			01/20/22 11:31	1
Settleable Solids	ND		0.10	0.10	mL/L			01/19/22 09:30	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-81932-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Grab

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(60-140)	(60-140)	(60-140)
570-81928-A-1 MS	Matrix Spike	102	99	101
570-81928-B-1 MSD	Matrix Spike Duplicate	107	98	96
570-81932-1	Outfall011_20220118_Grab	100	95	98
570-81932-3	TB-20220118	100	100	100
LCS 440-664976/1002	Lab Control Sample	103	101	95
LCS 440-664976/1003	Lab Control Sample	97	106	110
MB 440-664976/4	Method Blank	93	112	107

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8015B - Gasoline Range Organics - (GC)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
		BFB1
Lab Sample ID	Client Sample ID	(20-144)
570-81932-1	Outfall011_20220118_Grab	91
570-81959-D-1 MS	Matrix Spike	102
570-81959-D-1 MSD	Matrix Spike Duplicate	96
LCS 570-208491/3	Lab Control Sample	99
LCSD 570-208491/4	Lab Control Sample Dup	99
MB 570-208491/5	Method Blank	70

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: 8015B - Diesel Range Organics (DRO) (GC)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
		OTCSN1
Lab Sample ID	Client Sample ID	(53-151)
570-81932-1	Outfall011_20220118_Grab	122
LCS 570-208574/2-A	Lab Control Sample	118
LCSD 570-208574/3-A	Lab Control Sample Dup	126
MB 570-208574/1-A	Method Blank	119

Surrogate Legend

OTCSN = n-Octacosane (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-664976/4
Matrix: Water
Analysis Batch: 664976

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/20/22 16:10	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/20/22 16:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			01/20/22 16:10	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/20/22 16:10	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/20/22 16:10	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/20/22 16:10	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	0.58	ug/L			01/20/22 16:10	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/20/22 16:10	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/20/22 16:10	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/20/22 16:10	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/20/22 16:10	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/20/22 16:10	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/20/22 16:10	1
Acrolein	ND		5.0	4.6	ug/L			01/20/22 16:10	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/20/22 16:10	1
Benzene	ND		0.50	0.28	ug/L			01/20/22 16:10	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/20/22 16:10	1
Bromoform	ND		1.0	0.25	ug/L			01/20/22 16:10	1
Bromomethane	ND		0.50	0.22	ug/L			01/20/22 16:10	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/20/22 16:10	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/20/22 16:10	1
Chloroethane	ND		1.0	0.29	ug/L			01/20/22 16:10	1
Chloroform	ND		0.50	0.19	ug/L			01/20/22 16:10	1
Chloromethane	ND		0.50	0.30	ug/L			01/20/22 16:10	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/20/22 16:10	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/20/22 16:10	1
Cyclohexane	ND		2.0	0.79	ug/L			01/20/22 16:10	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/20/22 16:10	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/20/22 16:10	1
m,p-Xylene	ND		1.0	0.17	ug/L			01/20/22 16:10	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/20/22 16:10	1
Naphthalene	ND		1.0	0.33	ug/L			01/20/22 16:10	1
o-Xylene	ND		0.50	0.15	ug/L			01/20/22 16:10	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/20/22 16:10	1
Toluene	ND		0.50	0.23	ug/L			01/20/22 16:10	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/20/22 16:10	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/20/22 16:10	1
Trichloroethene	ND		0.50	0.17	ug/L			01/20/22 16:10	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			01/20/22 16:10	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/20/22 16:10	1
Xylenes, Total	ND		1.0	0.17	ug/L			01/20/22 16:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*60 - 140*		*01/20/22 16:10*	*1*
Dibromofluoromethane (Surr)	*112*		*60 - 140*		*01/20/22 16:10*	*1*
Toluene-d8 (Surr)	*107*		*60 - 140*		*01/20/22 16:10*	*1*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-664976/1002
Matrix: Water
Analysis Batch: 664976

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	25.3		ug/L		101	69 - 151
1,1,2,2-Tetrachloroethane	25.0	25.5		ug/L		102	68 - 136
1,1,2-Trichloroethane	25.0	24.0		ug/L		96	75 - 136
1,1-Dichloroethane	25.0	25.9		ug/L		103	71 - 143
1,1-Dichloroethene	25.0	26.5		ug/L		106	19 - 212
1,2-Dichlorobenzene	25.0	24.7		ug/L		99	59 - 174
1,2-Dichloroethane	25.0	25.2		ug/L		101	72 - 137
1,2-Dichloropropane	25.0	26.5		ug/L		106	19 - 181
1,3-Dichlorobenzene	25.0	25.1		ug/L		100	75 - 144
1,4-Dichlorobenzene	25.0	24.4		ug/L		98	59 - 174
2-Chloroethyl vinyl ether	25.0	28.3		ug/L		113	10 - 252
Acrolein	24.7	26.0		ug/L		105	50 - 150
Acrylonitrile	250	252		ug/L		101	50 - 150
Benzene	25.0	25.2		ug/L		101	75 - 125
Bromodichloromethane	25.0	25.7		ug/L		103	50 - 140
Bromoform	25.0	24.3		ug/L		97	57 - 156
Bromomethane	25.0	28.6		ug/L		115	10 - 206
Carbon tetrachloride	25.0	25.9		ug/L		104	65 - 125
Chlorobenzene	25.0	25.2		ug/L		101	82 - 137
Chloroethane	25.0	26.4		ug/L		106	42 - 202
Chloroform	25.0	25.0		ug/L		100	68 - 121
Chloromethane	25.0	28.6		ug/L		114	10 - 230
cis-1,2-Dichloroethene	25.0	25.2		ug/L		101	60 - 140
cis-1,3-Dichloropropene	25.0	24.4		ug/L		98	5 - 195
Dibromochloromethane	25.0	24.8		ug/L		99	69 - 133
Ethylbenzene	25.0	23.3		ug/L		93	75 - 134
m,p-Xylene	25.0	22.2		ug/L		89	60 - 140
Methylene Chloride	25.0	25.8		ug/L		103	10 - 205
Naphthalene	25.0	25.0		ug/L		100	60 - 140
o-Xylene	25.0	24.0		ug/L		96	60 - 140
Tetrachloroethene	25.0	22.4		ug/L		90	70 - 130
Toluene	25.0	23.4		ug/L		94	75 - 134
trans-1,2-Dichloroethene	25.0	25.6		ug/L		102	70 - 130
trans-1,3-Dichloropropene	25.0	26.6		ug/L		106	38 - 162
Trichloroethene	25.0	23.7		ug/L		95	75 - 138
Trichlorofluoromethane	25.0	26.7		ug/L		107	45 - 158
Vinyl chloride	25.0	29.2		ug/L		117	10 - 218
Xylenes, Total	50.0	46.2		ug/L		92	

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*60 - 140*
Dibromofluoromethane (Surr)	*101*		*60 - 140*
Toluene-d8 (Surr)	*95*		*60 - 140*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-664976/1003
Matrix: Water
Analysis Batch: 664976

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2-Dichloro-1,1,2-trifluoroethane			25.0	25.2		ug/L		101	60 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*60 - 140*
Dibromofluoromethane (Surr)	*106*		*60 - 140*
Toluene-d8 (Surr)	*110*		*60 - 140*

Lab Sample ID: 570-81928-A-1 MS
Matrix: Water
Analysis Batch: 664976

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,1,1-Trichloroethane	ND		25.0	26.6		ug/L		106	52 - 162		
1,1,2,2-Tetrachloroethane	ND		25.0	26.9		ug/L		108	46 - 157		
1,1,2-Trichloroethane	ND		25.0	23.8		ug/L		95	52 - 150		
1,1-Dichloroethane	ND		25.0	26.2		ug/L		105	59 - 155		
1,1-Dichloroethene	ND		25.0	28.3		ug/L		113	10 - 234		
1,2-Dichloro-1,1,2-trifluoroethane	ND		25.0	23.7		ug/L		95	60 - 140		
1,2-Dichlorobenzene	ND		25.0	26.6		ug/L		107	18 - 190		
1,2-Dichloroethane	ND		25.0	25.1		ug/L		101	49 - 155		
1,2-Dichloropropane	ND		25.0	26.5		ug/L		106	10 - 210		
1,3-Dichlorobenzene	ND		25.0	26.8		ug/L		107	59 - 156		
1,4-Dichlorobenzene	ND		25.0	25.4		ug/L		102	18 - 190		
2-Chloroethyl vinyl ether	ND		25.0	24.9		ug/L		100	10 - 305		
Acrolein	ND		24.7	20.8		ug/L		84	40 - 160		
Acrylonitrile	ND		250	254		ug/L		102	40 - 160		
Benzene	ND		25.0	26.0		ug/L		104	37 - 151		
Bromodichloromethane	ND		25.0	25.1		ug/L		100	35 - 155		
Bromoform	ND		25.0	23.8		ug/L		95	45 - 169		
Bromomethane	ND		25.0	28.9		ug/L		116	10 - 242		
Carbon tetrachloride	ND		25.0	27.6		ug/L		111	70 - 140		
Chlorobenzene	ND		25.0	25.3		ug/L		101	37 - 160		
Chloroethane	ND		25.0	27.5		ug/L		110	14 - 230		
Chloroform	ND		25.0	24.8		ug/L		99	51 - 138		
Chloromethane	ND		25.0	29.8		ug/L		119	10 - 273		
cis-1,2-Dichloroethene	ND		25.0	25.0		ug/L		100	60 - 140		
cis-1,3-Dichloropropene	ND		25.0	25.4		ug/L		102	10 - 227		
Dibromochloromethane	ND		25.0	24.4		ug/L		98	53 - 149		
Ethylbenzene	ND		25.0	25.3		ug/L		101	37 - 162		
m,p-Xylene	ND		25.0	24.3		ug/L		97	60 - 140		
Methylene Chloride	ND		25.0	24.6		ug/L		99	10 - 221		
Naphthalene	ND		25.0	26.5		ug/L		106	60 - 140		
o-Xylene	ND		25.0	25.5		ug/L		102	60 - 140		
Tetrachloroethene	ND		25.0	26.5		ug/L		106	64 - 148		
Toluene	ND		25.0	26.2		ug/L		105	47 - 150		
trans-1,2-Dichloroethene	ND		25.0	25.4		ug/L		102	54 - 156		
trans-1,3-Dichloropropene	ND		25.0	23.9		ug/L		96	17 - 183		
Trichloroethene	ND		25.0	26.0		ug/L		104	70 - 157		

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-81928-A-1 MS **Client Sample ID: Matrix Spike**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 664976

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	ND		25.0	26.4		ug/L		105	17 - 181
Vinyl chloride	ND		25.0	32.0		ug/L		128	10 - 251
Xylenes, Total	ND		50.0	49.8		ug/L		100	

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*60 - 140*
Dibromofluoromethane (Surr)	*99*		*60 - 140*
Toluene-d8 (Surr)	*101*		*60 - 140*

Lab Sample ID: 570-81928-B-1 MSD **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 664976

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		25.0	25.5		ug/L		102	52 - 162	4	36
1,1,2,2-Tetrachloroethane	ND		25.0	26.0		ug/L		104	46 - 157	3	61
1,1,2-Trichloroethane	ND		25.0	23.9		ug/L		95	52 - 150	0	45
1,1-Dichloroethane	ND		25.0	25.9		ug/L		103	59 - 155	1	40
1,1-Dichloroethene	ND		25.0	28.2		ug/L		113	10 - 234	0	32
1,2-Dichloro-1,1,2-trifluoroethane	ND		25.0	26.4		ug/L		106	60 - 140	11	35
1,2-Dichlorobenzene	ND		25.0	25.5		ug/L		102	18 - 190	4	57
1,2-Dichloroethane	ND		25.0	25.0		ug/L		100	49 - 155	1	49
1,2-Dichloropropane	ND		25.0	26.1		ug/L		105	10 - 210	1	55
1,3-Dichlorobenzene	ND		25.0	26.7		ug/L		107	59 - 156	0	43
1,4-Dichlorobenzene	ND		25.0	25.5		ug/L		102	18 - 190	0	57
2-Chloroethyl vinyl ether	ND		25.0	27.3		ug/L		109	10 - 305	9	71
Acrolein	ND		24.7	18.7		ug/L		76	40 - 160	11	60
Acrylonitrile	ND		250	245		ug/L		98	40 - 160	4	60
Benzene	ND		25.0	25.5		ug/L		102	37 - 151	2	61
Bromodichloromethane	ND		25.0	24.7		ug/L		99	35 - 155	1	56
Bromoform	ND		25.0	23.3		ug/L		93	45 - 169	2	42
Bromomethane	ND		25.0	26.9		ug/L		108	10 - 242	7	61
Carbon tetrachloride	ND		25.0	26.9		ug/L		108	70 - 140	3	41
Chlorobenzene	ND		25.0	25.2		ug/L		101	37 - 160	1	53
Chloroethane	ND		25.0	25.8		ug/L		103	14 - 230	7	78
Chloroform	ND		25.0	24.5		ug/L		98	51 - 138	1	54
Chloromethane	ND		25.0	27.3		ug/L		109	10 - 273	9	60
cis-1,2-Dichloroethene	ND		25.0	25.0		ug/L		100	60 - 140	0	35
cis-1,3-Dichloropropene	ND		25.0	25.2		ug/L		101	10 - 227	1	58
Dibromochloromethane	ND		25.0	25.1		ug/L		100	53 - 149	3	50
Ethylbenzene	ND		25.0	24.0		ug/L		96	37 - 162	5	63
m,p-Xylene	ND		25.0	23.3		ug/L		93	60 - 140	4	35
Methylene Chloride	ND		25.0	23.7		ug/L		95	10 - 221	4	28
Naphthalene	ND		25.0	24.8		ug/L		99	60 - 140	6	35
o-Xylene	ND		25.0	24.2		ug/L		97	60 - 140	5	35
Tetrachloroethene	ND		25.0	25.6		ug/L		102	64 - 148	4	39
Toluene	ND		25.0	24.9		ug/L		100	47 - 150	5	41
trans-1,2-Dichloroethene	ND		25.0	25.2		ug/L		101	54 - 156	1	45

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-81928-B-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664976

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,3-Dichloropropene	ND		25.0	26.0		ug/L		104	17 - 183	8	86
Trichloroethene	ND		25.0	25.8		ug/L		103	70 - 157	1	48
Trichlorofluoromethane	ND		25.0	24.7		ug/L		99	17 - 181	7	84
Vinyl chloride	ND		25.0	30.0		ug/L		120	10 - 251	6	66
Xylenes, Total	ND		50.0	47.5		ug/L		95		5	

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*60 - 140*
Dibromofluoromethane (Surr)	*98*		*60 - 140*
Toluene-d8 (Surr)	*96*		*60 - 140*

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 570-208491/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208491

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		50	30	ug/L			01/20/22 13:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*70*		*20 - 144*		*01/20/22 13:45*	*1*

Lab Sample ID: LCS 570-208491/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208491

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (C4-C13)			1970	2020		ug/L		102	71 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*20 - 144*

Lab Sample ID: LCSD 570-208491/4 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208491

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)			1970	2030		ug/L		103	71 - 120	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*20 - 144*

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: 570-81959-D-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208491

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (C4-C13)	ND		1970	2000		ug/L		101	54 - 125		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*20 - 144*

Lab Sample ID: 570-81959-D-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208491

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	ND		1970	1930		ug/L		98	54 - 125	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*20 - 144*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 570-208574/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 209821 — **Prep Batch: 208574**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C28	ND		0.050	0.036	mg/L		01/20/22 16:53	01/27/22 15:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*119*		*53 - 151*	*01/20/22 16:53*	*01/27/22 15:24*	*1*

Lab Sample ID: LCS 570-208574/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 209821 — **Prep Batch: 208574**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C28			4.00	4.24		mg/L		106	70 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane (Surr)	*118*		*53 - 151*

Lab Sample ID: LCSD 570-208574/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 209821 — **Prep Batch: 208574**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28			4.00	4.78		mg/L		120	70 - 131	12	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane (Surr)	*126*		*53 - 151*

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-208430/1-A
Matrix: Water
Analysis Batch: 208529

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208430

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	ND		1.0	0.51	mg/L		01/20/22 09:08	01/20/22 09:08	1

Lab Sample ID: LCS 570-208430/2-A
Matrix: Water
Analysis Batch: 208529

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208430

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM: Oil and Grease	40.0	38.6		mg/L		97	78 - 114

Lab Sample ID: LCSD 570-208430/3-A
Matrix: Water
Analysis Batch: 208529

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208430

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM: Oil and Grease	40.0	36.5		mg/L		91	78 - 114	6	18

Lab Sample ID: 440-294401-A-1-A MS
Matrix: Water
Analysis Batch: 208529

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 208430

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM: Oil and Grease	2.6		39.7	40.5		mg/L		95	78 - 114

Lab Sample ID: 440-294401-B-1-A MSD
Matrix: Water
Analysis Batch: 208529

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 208430

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM: Oil and Grease	2.6		39.5	40.6		mg/L		96	78 - 114	0	18

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 440-664955/3
Matrix: Water
Analysis Batch: 664955

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			01/20/22 11:31	1

Lab Sample ID: LCS 440-664955/4
Matrix: Water
Analysis Batch: 664955

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	687	672		umhos/cm		98	90 - 110

Client: Haley & Aldrich, Inc.
Job ID: 570-81932-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Grab

Method: SM 2510B - Conductivity, Specific Conductance (Continued)

Lab Sample ID: 440-293917-A-13 DU
Matrix: Water
Analysis Batch: 664955

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Specific Conductance	1100			1070		umhos/cm				0	5

GC/MS VOA

Analysis Batch: 664976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-81932-1	Outfall011_20220118_Grab	Total/NA	Water	624.1	
570-81932-3	TB-20220118	Total/NA	Water	624.1	
MB 440-664976/4	Method Blank	Total/NA	Water	624.1	
LCS 440-664976/1002	Lab Control Sample	Total/NA	Water	624.1	
LCS 440-664976/1003	Lab Control Sample	Total/NA	Water	624.1	
570-81928-A-1 MS	Matrix Spike	Total/NA	Water	624.1	
570-81928-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	624.1	

GC VOA

Analysis Batch: 208491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-81932-1	Outfall011_20220118_Grab	Total/NA	Water	8015B	
MB 570-208491/5	Method Blank	Total/NA	Water	8015B	
LCS 570-208491/3	Lab Control Sample	Total/NA	Water	8015B	
LCSD 570-208491/4	Lab Control Sample Dup	Total/NA	Water	8015B	
570-81959-D-1 MS	Matrix Spike	Total/NA	Water	8015B	
570-81959-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B	

GC Semi VOA

Prep Batch: 208574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-81932-1	Outfall011_20220118_Grab	Total/NA	Water	3510C	
MB 570-208574/1-A	Method Blank	Total/NA	Water	3510C	
LCS 570-208574/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 570-208574/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 209821

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-81932-1	Outfall011_20220118_Grab	Total/NA	Water	8015B	208574
MB 570-208574/1-A	Method Blank	Total/NA	Water	8015B	208574
LCS 570-208574/2-A	Lab Control Sample	Total/NA	Water	8015B	208574
LCSD 570-208574/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	208574

General Chemistry

Prep Batch: 208430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-81932-1	Outfall011_20220118_Grab	Total/NA	Water	1664A	
MB 570-208430/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-208430/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-208430/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	
440-294401-A-1-A MS	Matrix Spike	Total/NA	Water	1664A	
440-294401-B-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1664A	

Analysis Batch: 208529

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-81932-1	Outfall011_20220118_Grab	Total/NA	Water	1664A	208430
MB 570-208430/1-A	Method Blank	Total/NA	Water	1664A	208430
LCS 570-208430/2-A	Lab Control Sample	Total/NA	Water	1664A	208430
LCSD 570-208430/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	208430

General Chemistry (Continued)

Analysis Batch: 208529 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-294401-A-1-A MS	Matrix Spike	Total/NA	Water	1664A	208430
440-294401-B-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1664A	208430

Analysis Batch: 208961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-81932-1	Outfall011_20220118_Grab	Total/NA	Water	SM 2540F	

Analysis Batch: 664955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-81932-1	Outfall011_20220118_Grab	Total/NA	Water	SM 2510B	
MB 440-664955/3	Method Blank	Total/NA	Water	SM 2510B	
LCS 440-664955/4	Lab Control Sample	Total/NA	Water	SM 2510B	
440-293917-A-13 DU	Duplicate	Total/NA	Water	SM 2510B	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-81932-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Grab

Client Sample ID: Outfall011_20220118_Grab
Lab Sample ID: 570-81932-1
Date Collected: 01/18/22 12:30
Matrix: Water
Date Received: 01/18/22 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	664976	01/20/22 19:04	N1A	IRV 2
	Instrument ID: GCMS13									
Total/NA	Analysis	8015B		1	5 mL	5 mL	208491	01/20/22 22:38	A9VE	ECL 2
	Instrument ID: GC1									
Total/NA	Prep	3510C			249.9 mL	2.5 mL	208574	01/20/22 16:53	UFLU	ECL 1
Total/NA	Analysis	8015B		1			209821	01/27/22 18:51	N5Y3	ECL 1
	Instrument ID: GC48									
Total/NA	Prep	1664A			971 mL	1000 mL	208430	01/20/22 09:08	UWEZ	ECL 1
Total/NA	Analysis	1664A		1			208529	01/20/22 09:08	L6IE	ECL 1
	Instrument ID: ICPMS05									
Total/NA	Analysis	SM 2510B		1			664955	01/20/22 11:31	VY3D	IRV 2
	Instrument ID: COND13									
Total/NA	Analysis	SM 2540F		1	1000 mL	1 L	208961	01/19/22 09:30	UAPD	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: TB-20220118
Lab Sample ID: 570-81932-3
Date Collected: 01/18/22 12:30
Matrix: Water
Date Received: 01/18/22 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	664976	01/20/22 19:33	N1A	IRV 2
	Instrument ID: GCMS13									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-81932-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Grab

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
624.1		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
624.1		Water	1,2-Dichloro-1,1,2-trifluoroethane
624.1		Water	cis-1,2-Dichloroethene
624.1		Water	Cyclohexane
624.1		Water	Naphthalene
624.1		Water	Xylenes, Total

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-81932-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Grab

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	IRV 2
8015B	Gasoline Range Organics - (GC)	SW846	ECL 2
8015B	Diesel Range Organics (DRO) (GC)	SW846	ECL 1
1664A	HEM and SGT-HEM	1664A	ECL 1
SM 2510B	Conductivity, Specific Conductance	SM	IRV 2
SM 2540F	Solids, Settleable	SM	ECL 1
Subcontract	9223- Colilert 18 - E. Coli - level 4 required	None	Enthalpy
1664A	HEM and SGT-HEM (Aqueous)	1664A	ECL 1
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ECL 1
5030C	Purge and Trap	SW846	ECL 2

Protocol References:

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-81932-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Grab

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-81932-1	Outfall011_20220118_Grab	Water	01/18/22 12:30	01/18/22 18:00
570-81932-3	TB-20220118	Water	01/18/22 12:30	01/18/22 18:00

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 456998
Report Level: IV
Report Date: 01/28/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Outfall 011 Grab #570-81932

Authorized for release by:

Quynhgiao Le

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780		Lab Job #: Project No: Location: Date Received:	456998 BOEING NPDES SSFL Outfall 011 Grab #570-81932 01/18/22

Sample ID	Lab ID	Collected	Matrix
OUTFALL011_20220118_GRAB (570-81932-1)	456998-001	01/18/22 12:30	Water

ENTHALPY ANALYTICAL

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience Tustin	Lab Job Number: 456998
2841 Dow Avenue, Suite 100	Project No: BOEING NPDES SSFL
Tustin, CA 92780	Location: Outfall 011 Grab #570-81932
Virendra Patel	Date Received: 01/18/22

This data package contains sample and QC results for one water sample, requested for the above referenced project on 01/19/22. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

456998

Chain of Custody Record

C570-81932

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-151853.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-81932-1
Address: 931 W. Barkley Ave,	Due Date Requested: 1/28/2022			
City: Orange	TAT Requested (days):			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Grab	Project #: 570-81932			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (9223- Colilert 18 - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall011_20220118_Grab (570-81932-1)	1/18/22	12:30 Pacific		Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 01/18/22	Company EC	Received by:	Date/Time: 1/18/22 1638	Company EA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Calscience

Project: _____

Date Received: 1/18/22

Sampler's Name Present: ☑ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2)

Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 5.5 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 1.6 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓		
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	✓		
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?	✓		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✓
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____ ☐ Email (email sent to/on): _____/_____

Project Manager's response:

Completed By: _____ Date: 1/18/22

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 456998		**Project#:** BOEING NPDES SSFL	
Client: Eurofins Calscience Tustin		**Location:** Outfall 011 Grab #570-81932	
Field ID: OUTFALL011_20220118_GRAB (570-81932-1)	**Batch#:** 282109	**Analyzed:** 01/19/22 11:55	
Lab ID: 456998-001	**Sampled:** 01/18/22 12:30	**Prep:**	
Matrix: Water	**Received:** 01/18/22	**Analysis:** SM 9223Bb	
DiIn Fac: 1.000	**Prepared:** 01/18/22 17:20	**Analyst:** SZL	

Analyte	Result	RL	Units
Coliform, E. Coli	<1.0	1.0	MPN/100ml

Legend

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: SJ Prep Date/Time: 01/18/22 1720 QC Batch ID: 288209 Batch Page 1 of 1

Read Analyst: SL Read Date/Time 1/19/22 1155

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: HT510 Pipette Lot #: A103909

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 01/04/22 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: D Incubator In, Temp/Time: 34.6 1735 Incubator Out, Temp/Time: 35.2 1155

Fecal Coliform: Water Bath ID: n/a Water Bath In, Temp/Time: n/a Water Bath Out, Temp/Time: n/a

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts Large Wells	Total Coliform Counts Small Wells	MPN Table Value	Final Result, MPN	E. coli Counts Large Wells	E. coli Counts Small Wells	MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only) Large Wells	Fecal Coliform Counts (Colilert 18 only) Small Wells	MPN Table Value	Final Result, MPN	Comments
Eurofins Calscience		456997-001	1	49	37	920.8	920	3	0	3.1	3.1					CA-01 1X
↓		↓	10	41	5	90.6	910	0	0	<1	<10					-01 10X
		↓	100	3	1	4.1	410	0	0	<1	<100					-01 100X
		456998-001	1	49	48	>2419.6	>2400	0	0	<1	<1					CL-01 1X
		↓	10	35	3	62.4	620	0	0	<1	<10					-01 10X
↓		↓	100	5	1	6.3	630	0	0	<1	<100					-01 100X
Quality Control	Culture ID															
Positive +/+ (E. Coli)	01/16/22			49	48	>2419.6	>2400	49	48	>2419.6	>2400					
Positive +/- (K. Pneumonia)	↓			49	48	>2419.6	>2400	0	0	<1	<1					
Negative -/- (P. Aeruginosa)	↓			0	0	<1	<1	0	0	<1	<1					

1/24/22

1/24/22

Data Entered By: 1/24/22 Data Reviewed By:

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-81932 Chain of Custody

VLTOCVKT

Client Name/Address:	Project:	Field Readings	Meter serial #
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 011 Grab	Field Readings: (Include units) Time of Readings: 1250 DO 16.10 mg/L pH 7.76 pH unit Temp 57.6 °C TRC 0.00 mg/L Field readings QC Checked by: Date/Time: 1-18-2022/1250	
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218			
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)		
Sampler: Adrian Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	A MST-Bacteroidales, Human (SAM348-357) Source Molecular in Miami Lakes, FL	A E. coli (SM9221) Enthalpy Analytical Orange CA	R Settleable Solids (E160.5 (SM2540F))	R Conductivity (SM2510B / E120 1)	R Oil & Grease (E1664A-HEM)	R/Q/A VOCs + VOCs PP + xylenes, Freon 11 Freon 113, Freon 123A, Cyclohexane cis-1,2-DCE (E624)	A VOCs only A+A+2CVE (E624)	A TPH: gas (GRO(C4-C12)) (SW8015B)	A TPH: diesel/jet fuel (DRO (C13-C28)) (SW8015B)	Comments
Outfall 011	Outfall011_20220118_Grab	1/18/2022 1250 *	WM	125mL Sterile Poly	1	None	5	No	X									Deliver to lab ASAP 8 hr hold time
			WM	125mL Sterile Poly	3	$Na_2S_2O_3$	10	No		X								Deliver to lab ASAP 8 hr hold time Need 1x, 10x, 100x dilutions
			WM	1 L Glass Amber	2	HCl	15	No					X					
			WM	40 mL VOA	3	HCl	45	No						X				
			WM	40 mL VOA	3	None	55	No							X			
			WM	40 mL VOA	3	HCl	60	No								X		
			WM	1 L Glass Amber	2	None	65	No									X	
			WM	1 L Poly	1	None	70	No			X							
			WM	500 mL Poly	1	None	75	No				X						
	Outfall011_20220118_Grab_Extra	1/18/2022 1250	WM	1 L Glass Amber	2	HCl	15	No					H					Hold
			WM	40 mL VOA	3	HCl	45	No						H				Hold
			WM	40 mL VOA	3	None	55	No							H			Hold
			WM	500 mL Poly	1	None	75	No				H						Hold
Trip Blanks	TB-20220118	1/18/2022 1250	WQ	40 mL VOA	2	HCl	45	No						X				
			WQ	40 mL VOA	2	None	55	No							X			

Legend: A=Annual, R=Routine, Q=Quarterly

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	1-18-2022 / 1440			ECI 01/18/22 1440
	1/18/22	1800		1/18/22 1800

Turn-around time: (Check)
24 Hour ____ 72 Hour ____ 10 Day: __X__
48 Hour ____ 5 Day ____ Normal: ____

Sample Integrity: (Check)
Intact: ____ On Ice: ____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: ____ All Level IV: __X__

* Shipped separately via Fedex to Source Molecular

1 6/31 SC6

1/30/2022

2019-2020 Rainy Season
Version 5

Eurofins Calscience
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-151899 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-81932-1
Address: 2841 Dow Avenue,	Due Date Requested: 1/28/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Grab	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A HCL	M - Hexane
B - NaOH	N None
C Zn Acetate	O AsNaO2
D Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I Ice	U Acetone
J - DI Water	V MCAA
K EDTA	W pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	624.1_LL/624_Prep_3D PP+xyl+fr113,11,123A+cyclohex+A+A+2CVE	2510B	Total Number of containers	Special Instructions/Note
			Preservation Code:							
Outfall011_20220118_Grab (570-81932-1)	1/18/22	12 30 Pacific		Water			X	X	7	Analyze on "Closed System only"
TB-20220118 (570-81932-3)	1/18/22	12 30 Pacific		Water			X		4	Analyze on "Closed System only"

Note Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 01/19/22	Company: EC	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by: Olga Oinelas	Date/Time: 01/19/22 1230	Company: ECT
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: IR-89 2.4/2.4

Ver 06/08/2021

1/30/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-81932-1

Login Number: 81932
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-81932-1

Login Number: 81932
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 01/19/22 02:21 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

LUMINULTRA

15280 NW 79th Court, Suite 107 Miami Lakes, Florida 33016

ACCREDITED CERT # 4126.01

Fecal Host

Fecal Host Quantification ID Test Results Report

Detection and quantification of the fecal host associated gene biomarker by quantitative Polymerase Chain Reaction (qPCR) DNA analytical technology

ND: Not Det DNQ: Detected, Not Quantifiable ROQ: Detected, Quantifiable

Submitter: Haley and Aldrich
Report Generated: February 6, 2022

SM #	Sample ID	Date Collected	Time Collected	Analysis Requested	Ct, Rep1	Ct, Rep2	Marker Quantified	Results Qualifier	LOD (Limit of detection)	LOQ (Limit of Quantification)	Result Unit
SM22A21019	Outfall011_20220118_Grab	1/18/2022	12:50 PM	Human_HF183	ND	ND	0.00E+00	ND	1.50E+02	5.00E+02	copies per 100ml
SM22A21020	Outfall002_20220118_Grab	1/18/2022	8:00 AM	Human_HF183	ND	ND	0.00E+00	ND	1.50E+02	5.00E+02	copies per 100ml

Reported Results Authorized By: Anda Quintero, Quality Manager

Results reported herein apply only to the sample matrices as received.
Results reported herein relate to the genetic material extracted from the sample matrix processed and included in the analysis.

LUMINULTRA

15280 NW 79th Court, Suite 107 Miami Lakes, Florida 33016

ACCREDITED CERT#4126.01

Fecal Host Quantification ID Test Results Report

Sample Processing and Analysis Information

Submitter: Haley and Aldrich
Report Generated: February 6, 2022

SM #	Sample ID	Analysis Requested	Sample Type	Processed Date	Extraction Date	Analysis Date	Amount Processed	Amount Processed Unit	Extracted DNA/RNA Volume (ul)	PCR Input Volume (ul)	PCR Plate ID	Sample Comments
SM22A21019	Outfall011_20220118_Grab	Human_HF183	Water	1/21/2022	2/5/2022	2/5/2022	100	ml	100	2	20220205_q01	
SM22A21020	Outfall002_20220118_Grab	Human_HF183	Water	1/21/2022	2/5/2022	2/5/2022	100	ml	100	2	20220205_q01	

Reported Results Authorized By: Anda Quintero, Quality Manager

Results reported herein apply only to the sample matrices as received.
Results reported herein relate to the genetic material extracted from the sample matrix processed and included in the analysis.

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-82068-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/12/2022 9:18:39 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
BA	Relative percent difference out of control
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LR	LCS/LCSD recovery below method control limits

GC Semi VOA

Qualifier	Qualifier Description
PI	Primary and confirm results varied by > than 40% RPD

HPLC/IC

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
EY	Result exceeds normal dynamic range; reported as a min. est.
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Metals

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LN	MS and/or MSD below acceptance limits. See Blank Spike (LCS)

General Chemistry

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LN	MS and/or MSD below acceptance limits. See Blank Spike (LCS)

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-82068-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-82068-1

Comments
No additional comments.

Receipt
The samples were received on 1/19/2022 6:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.4º C, 3.6º C and 3.8º C.

GC/MS VOA
Method 8260B SIM: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-210396.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method 625.1 SIM: The following analyte(s) recovered outside control limits for the LCS/ associated with preparation batch 570-209053 and analytical batch 570-209773: 2-Chloronaphthalene and 4,6-Dinitro-2-methylphenol. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method 625.1 SIM: The following analyte(s) recovered outside control limits for the LCSD associated with preparation batch 570-209053 and analytical batch 570-209773: 2-Chloronaphthalene. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method 625.1 SIM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 570-209053 and analytical batch 570-209773 recovered outside control limits for the following analytes: Hexachlorocyclopentadiene and Di-n-octyl phthalate.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall011_20220119_Comp_F (570-82068-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method 200.8: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 440-666168 and analytical batch 440-666236 were outside control limits for Silver. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall011_20220119_Comp_F (570-82068-3). These samples were filtered and preserved upon receipt to the laboratory.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method SM 5540C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 440-665021 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance

Job ID: 570-82068-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-208417. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 608.3 PEST/PCB

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-209053. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 625.1 Sim

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrate as N	1.5		0.11	0.055	mg/L	1		300.0	Total/NA
Sulfate	30		0.50	0.25	mg/L	1		300.0	Total/NA
Chloride - DL	27		2.5	1.3	mg/L	5		300.0	Total/NA
Nitrate Nitrite as N	1.5		0.15	0.055	mg/L	1		NO3NO2 Calc	Total/NA
Barium	14		10	2.2	ug/L	1		200.7 Rev 4.4	Total Recoverable
Boron	110		50	25	ug/L	1		200.7 Rev 4.4	Total Recoverable
Iron	92	J,DX	100	50	ug/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	25		20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Copper	4.0		2.0	0.50	ug/L	1		200.8	Total Recoverable
Selenium	0.72	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Hardness, as CaCO3	55		0.91	0.17	mg/L	1		SM 2340B	Total Recoverable
Turbidity	3.1		0.10	0.05	NTU	1		180.1	Total/NA
Total Dissolved Solids	140		10	3.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.5		1.7	0.83	mg/L	1		SM 2540D	Total/NA
Ammonia (as N)	0.184	J,DX	0.200	0.100	mg/L	1		SM 4500 NH3 G	Total/NA
Carbon, Total Organic	8.2		0.50	0.26	mg/L	1		SM 5310D	Total/NA
Methylene Blue Active Substances	0.13		0.10	0.050	mg/L	1		SM 5540C	Total/NA
Biochemical Oxygen Demand	2.3		2.0	2.0	mg/L	1		SM5210B	Total/NA

Client Sample ID: Outfall011_20220119_Comp_F
Lab Sample ID: 570-82068-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	12	J,DX	20	8.9	ug/L	1		200.7 Rev 4.4	Dissolved
Barium	13		10	2.2	ug/L	1		200.7 Rev 4.4	Dissolved
Boron	100		50	25	ug/L	1		200.7 Rev 4.4	Dissolved
Manganese	25		20	6.8	ug/L	1		200.7 Rev 4.4	Dissolved
Copper	4.3		2.0	0.50	ug/L	1		200.8	Dissolved
Hardness, as CaCO3	51		0.91	0.17	mg/L	1		SM 2340B	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.55	ug/L			01/31/22 18:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dichlorobutane (Surr)	*128*		*67 - 133*		*01/31/22 18:38*	*1*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: Outfall011_20220119_Comp **Lab Sample ID: 570-82068-1**
Date Collected: 01/19/22 09:00 **Matrix: Water**
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.19	0.13	ug/L		01/24/22 09:57	01/26/22 23:57	1
1,2-Dichlorobenzene	ND		0.19	0.13	ug/L		01/24/22 09:57	01/26/22 23:57	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.19	0.067	ug/L		01/24/22 09:57	01/26/22 23:57	1
1,3-Dichlorobenzene	ND		0.19	0.12	ug/L		01/24/22 09:57	01/26/22 23:57	1
1,4-Dichlorobenzene	ND		0.19	0.12	ug/L		01/24/22 09:57	01/26/22 23:57	1
2,4,6-Trichlorophenol	ND		0.97	0.15	ug/L		01/24/22 09:57	01/26/22 23:57	1
2,4-Dichlorophenol	ND		0.97	0.094	ug/L		01/24/22 09:57	01/26/22 23:57	1
2,4-Dimethylphenol	ND		0.19	0.13	ug/L		01/24/22 09:57	01/26/22 23:57	1
2,4-Dinitrophenol	ND		4.9	4.5	ug/L		01/24/22 09:57	01/26/22 23:57	1
2,4-Dinitrotoluene	ND		0.19	0.10	ug/L		01/24/22 09:57	01/26/22 23:57	1
2,6-Dinitrotoluene	ND		0.19	0.13	ug/L		01/24/22 09:57	01/26/22 23:57	1
2-Chloronaphthalene	ND	LR	0.19	0.13	ug/L		01/24/22 09:57	01/26/22 23:57	1
2-Chlorophenol	ND		0.19	0.080	ug/L		01/24/22 09:57	01/26/22 23:57	1
2-Nitrophenol	ND		4.9	4.0	ug/L		01/24/22 09:57	01/26/22 23:57	1
3,3'-Dichlorobenzidine	ND		4.9	1.5	ug/L		01/24/22 09:57	01/26/22 23:57	1
4,6-Dinitro-2-methylphenol	ND	LR	4.9	3.9	ug/L		01/24/22 09:57	01/26/22 23:57	1
4-Bromophenyl phenyl ether	ND		0.19	0.075	ug/L		01/24/22 09:57	01/26/22 23:57	1
4-Chloro-3-methylphenol	ND		0.97	0.11	ug/L		01/24/22 09:57	01/26/22 23:57	1
4-Chlorophenyl phenyl ether	ND		0.19	0.088	ug/L		01/24/22 09:57	01/26/22 23:57	1
4-Nitrophenol	ND		4.9	3.5	ug/L		01/24/22 09:57	01/26/22 23:57	1
Acenaphthene	ND		0.19	0.084	ug/L		01/24/22 09:57	01/26/22 23:57	1
Acenaphthylene	ND		0.19	0.082	ug/L		01/24/22 09:57	01/26/22 23:57	1
Anthracene	ND		0.19	0.070	ug/L		01/24/22 09:57	01/26/22 23:57	1
Benzidine	ND		4.9	2.2	ug/L		01/24/22 09:57	01/26/22 23:57	1
Benzo[a]anthracene	ND		0.19	0.068	ug/L		01/24/22 09:57	01/26/22 23:57	1
Benzo[a]pyrene	ND		0.19	0.19	ug/L		01/24/22 09:57	01/26/22 23:57	1
Benzo[b]fluoranthene	ND		0.19	0.10	ug/L		01/24/22 09:57	01/26/22 23:57	1
Benzo[g,h,i]perylene	ND		0.19	0.12	ug/L		01/24/22 09:57	01/26/22 23:57	1
Benzo[k]fluoranthene	ND		0.19	0.075	ug/L		01/24/22 09:57	01/26/22 23:57	1
bis (2-chloroisopropyl) ether	ND		0.19	0.089	ug/L		01/24/22 09:57	01/26/22 23:57	1
Bis(2-chloroethoxy)methane	ND		0.19	0.14	ug/L		01/24/22 09:57	01/26/22 23:57	1
Bis(2-chloroethyl)ether	ND		0.19	0.095	ug/L		01/24/22 09:57	01/26/22 23:57	1
Bis(2-ethylhexyl) phthalate	ND		4.9	1.8	ug/L		01/24/22 09:57	01/26/22 23:57	1
Butyl benzyl phthalate	ND		0.97	0.95	ug/L		01/24/22 09:57	01/26/22 23:57	1
Chrysene	ND		0.19	0.056	ug/L		01/24/22 09:57	01/26/22 23:57	1
Dibenz(a,h)anthracene	ND		0.19	0.13	ug/L		01/24/22 09:57	01/26/22 23:57	1
Diethyl phthalate	ND		1.9	0.13	ug/L		01/24/22 09:57	01/26/22 23:57	1
Dimethyl phthalate	ND		1.9	0.070	ug/L		01/24/22 09:57	01/26/22 23:57	1
Di-n-butyl phthalate	ND		1.9	1.8	ug/L		01/24/22 09:57	01/26/22 23:57	1
Di-n-octyl phthalate	ND	BA	2.9	0.62	ug/L		01/24/22 09:57	01/26/22 23:57	1
Fluoranthene	ND		0.19	0.094	ug/L		01/24/22 09:57	01/26/22 23:57	1
Fluorene	ND		0.19	0.078	ug/L		01/24/22 09:57	01/26/22 23:57	1
Hexachlorobenzene	ND		0.19	0.092	ug/L		01/24/22 09:57	01/26/22 23:57	1
Hexachlorobutadiene	ND		0.19	0.16	ug/L		01/24/22 09:57	01/26/22 23:57	1
Hexachlorocyclopentadiene	ND	BA	0.19	0.095	ug/L		01/24/22 09:57	01/26/22 23:57	1
Hexachloroethane	ND		0.19	0.15	ug/L		01/24/22 09:57	01/26/22 23:57	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.12	ug/L		01/24/22 09:57	01/26/22 23:57	1
Isophorone	ND		0.19	0.086	ug/L		01/24/22 09:57	01/26/22 23:57	1
Naphthalene	ND		0.19	0.095	ug/L		01/24/22 09:57	01/26/22 23:57	1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Client Sample ID: Outfall011_20220119_Comp **Lab Sample ID: 570-82068-1**
Date Collected: 01/19/22 09:00 **Matrix: Water**
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		0.19	0.094	ug/L		01/24/22 09:57	01/26/22 23:57	1
N-Nitrosodimethylamine	ND		0.19	0.14	ug/L		01/24/22 09:57	01/26/22 23:57	1
N-Nitrosodi-n-propylamine	ND		0.19	0.16	ug/L		01/24/22 09:57	01/26/22 23:57	1
N-Nitrosodiphenylamine	ND		0.19	0.093	ug/L		01/24/22 09:57	01/26/22 23:57	1
Pentachlorophenol	ND		0.97	0.10	ug/L		01/24/22 09:57	01/26/22 23:57	1
Phenanthrene	ND		0.19	0.072	ug/L		01/24/22 09:57	01/26/22 23:57	1
Phenol	ND		0.97	0.78	ug/L		01/24/22 09:57	01/26/22 23:57	1
Pyrene	ND		0.19	0.078	ug/L		01/24/22 09:57	01/26/22 23:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*60*		*28 - 127*	*01/24/22 09:57*	*01/26/22 23:57*	*1*
2-Fluorobiphenyl (Surr)	*39*		*31 - 120*	*01/24/22 09:57*	*01/26/22 23:57*	*1*
2-Fluorophenol	*31*		*17 - 120*	*01/24/22 09:57*	*01/26/22 23:57*	*1*
Nitrobenzene-d5	*51*		*27 - 120*	*01/24/22 09:57*	*01/26/22 23:57*	*1*
Phenol-d6 (Surr)	*20*		*10 - 120*	*01/24/22 09:57*	*01/26/22 23:57*	*1*
p-Terphenyl-d14 (Surr)	*57*		*45 - 120*	*01/24/22 09:57*	*01/26/22 23:57*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 11:42	1
alpha-BHC	ND		0.0013	0.00080	ug/L		01/20/22 05:44	01/21/22 11:42	1
beta-BHC	ND		0.0020	0.0017	ug/L		01/20/22 05:44	01/21/22 11:42	1
delta-BHC	ND		0.0013	0.0011	ug/L		01/20/22 05:44	01/21/22 11:42	1
gamma-BHC (Lindane)	ND		0.0013	0.00090	ug/L		01/20/22 05:44	01/21/22 11:42	1
Chlordane (technical)	ND		0.010	0.0065	ug/L		01/20/22 05:44	01/21/22 11:42	1
4,4'-DDD	ND		0.0013	0.00080	ug/L		01/20/22 05:44	01/21/22 11:42	1
4,4'-DDE	ND		0.0013	0.00050	ug/L		01/20/22 05:44	01/21/22 11:42	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		01/20/22 05:44	01/21/22 11:42	1
Dieldrin	ND		0.0013	0.00050	ug/L		01/20/22 05:44	01/21/22 11:42	1
Endosulfan I	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 11:42	1
Endosulfan II	ND		0.0013	0.00050	ug/L		01/20/22 05:44	01/21/22 11:42	1
Endosulfan sulfate	ND		0.0013	0.00060	ug/L		01/20/22 05:44	01/21/22 11:42	1
Endrin	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 11:42	1
Endrin aldehyde	ND		0.010	0.0051	ug/L		01/20/22 05:44	01/21/22 11:42	1
Heptachlor	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 11:42	1
Heptachlor epoxide	ND		0.0013	0.00040	ug/L		01/20/22 05:44	01/21/22 11:42	1
Toxaphene	ND		0.10	0.013	ug/L		01/20/22 05:44	01/21/22 11:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*39*	*PI*	*20 - 139*	*01/20/22 05:44*	*01/21/22 11:42*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:39	1
Aroclor 1221	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:39	1
Aroclor 1232	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:39	1
Aroclor 1242	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:39	1
Aroclor 1248	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:39	1
Aroclor 1254	ND		0.10	0.052	ug/L		01/20/22 05:44	01/21/22 15:39	1
Aroclor 1260	ND		0.10	0.052	ug/L		01/20/22 05:44	01/21/22 15:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*56*		*20 - 154*	*01/20/22 05:44*	*01/21/22 15:39*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			01/20/22 08:42	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	**1.5**		0.11	0.055	mg/L			01/20/22 17:17	1
Fluoride	ND		0.50	0.20	mg/L			01/20/22 17:17	1
Nitrite as N	ND		0.15	0.024	mg/L			01/20/22 17:17	1
Sulfate	**30**		0.50	0.25	mg/L			01/20/22 17:17	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 300.0 - Anions, Ion Chromatography - DL

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	27		2.5	1.3	mg/L			01/20/22 18:06	5

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 314.0 - Perchlorate (IC)

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			01/21/22 08:21	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: NO3NO2 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	1.5		0.15	0.055	mg/L			01/31/22 13:54	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		02/02/22 11:02	02/02/22 18:07	1
Barium	**14**		10	2.2	ug/L		02/02/22 11:02	02/02/22 18:07	1
Beryllium	ND		2.0	0.44	ug/L		02/02/22 11:02	02/02/22 18:07	1
Boron	**110**		50	25	ug/L		02/02/22 11:02	02/02/22 18:07	1
Chromium	ND		5.0	2.5	ug/L		02/02/22 11:02	02/02/22 18:07	1
Cobalt	ND		10	2.8	ug/L		02/02/22 11:02	02/02/22 18:07	1
Iron	**92**	**J,DX**	100	50	ug/L		02/02/22 11:02	02/02/22 18:07	1
Manganese	**25**		20	6.8	ug/L		02/02/22 11:02	02/02/22 18:07	1
Nickel	ND		10	5.0	ug/L		02/02/22 11:02	02/02/22 18:07	1
Vanadium	ND		10	2.1	ug/L		02/02/22 11:02	02/02/22 18:07	1
Zinc	ND		20	12	ug/L		02/02/22 11:02	02/02/22 18:07	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: Outfall011_20220119_Comp_F
Lab Sample ID: 570-82068-3
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**12**	**J,DX**	20	8.9	ug/L		01/26/22 17:34	01/27/22 13:35	1
Barium	**13**		10	2.2	ug/L		01/26/22 17:34	01/27/22 13:35	1
Beryllium	ND		2.0	0.44	ug/L		01/26/22 17:34	01/27/22 13:35	1
Boron	**100**		50	25	ug/L		01/26/22 17:34	01/27/22 13:35	1
Chromium	ND		5.0	2.5	ug/L		01/26/22 17:34	01/27/22 13:35	1
Cobalt	ND		10	2.8	ug/L		01/26/22 17:34	01/27/22 13:35	1
Iron	ND		100	50	ug/L		01/26/22 17:34	01/27/22 13:35	1
Manganese	**25**		20	6.8	ug/L		01/26/22 17:34	01/27/22 13:35	1
Nickel	ND		10	5.0	ug/L		01/26/22 17:34	01/27/22 13:35	1
Vanadium	ND		10	2.1	ug/L		01/26/22 17:34	01/27/22 13:35	1
Zinc	ND		20	12	ug/L		01/26/22 17:34	01/27/22 13:35	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		02/02/22 09:57	02/02/22 16:20	1
Cadmium	ND		1.0	0.25	ug/L		02/02/22 09:57	02/02/22 16:20	1
Copper	**4.0**		2.0	0.50	ug/L		02/02/22 09:57	02/02/22 16:20	1
Lead	ND		1.0	0.50	ug/L		02/02/22 09:57	02/02/22 16:20	1
Antimony	ND		2.0	0.50	ug/L		02/02/22 09:57	02/02/22 16:20	1
Selenium	**0.72**	**J,DX**	2.0	0.50	ug/L		02/02/22 09:57	02/02/22 16:20	1
Thallium	ND		1.0	0.20	ug/L		02/02/22 09:57	02/02/22 16:20	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall011_20220119_Comp_F
Lab Sample ID: 570-82068-3
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/26/22 15:00	01/27/22 12:03	1
Cadmium	ND		1.0	0.25	ug/L		01/26/22 15:00	01/27/22 12:03	1
Copper	**4.3**		2.0	0.50	ug/L		01/26/22 15:00	01/27/22 12:03	1
Lead	ND		1.0	0.50	ug/L		01/26/22 15:00	01/27/22 12:03	1
Antimony	ND		2.0	0.50	ug/L		01/26/22 15:00	01/27/22 12:03	1
Selenium	ND		2.0	0.50	ug/L		01/26/22 15:00	01/27/22 12:03	1
Thallium	ND		1.0	0.20	ug/L		01/26/22 15:00	01/27/22 12:03	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 245.1 - Mercury (CVAA)

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		02/01/22 10:46	02/01/22 15:32	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall011_20220119_Comp_F
Lab Sample ID: 570-82068-3
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.25	0.12	ug/L		01/28/22 14:30	01/31/22 18:22	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	55		0.91	0.17	mg/L			02/03/22 17:47	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Client Sample ID: Outfall011_20220119_Comp_F
Lab Sample ID: 570-82068-3
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	51		0.91	0.17	mg/L			02/01/22 17:48	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

General Chemistry

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	**3.1**		0.10	0.05	NTU			01/20/22 10:58	1
Cr (III)	ND		1.0	0.50	ug/L			02/03/22 10:24	1
Total Dissolved Solids	**140**		10	3.0	mg/L			01/21/22 13:33	1
Total Suspended Solids	**4.5**		1.7	0.83	mg/L			01/25/22 15:21	1
Cyanide, Total	ND		5.0	2.5	ug/L		01/31/22 12:01	01/31/22 18:14	1
Ammonia (as N)	**0.184**	**J,DX**	0.200	0.100	mg/L			01/28/22 13:35	1
Carbon, Total Organic	**8.2**		0.50	0.26	mg/L			01/20/22 14:17	1
Methylene Blue Active Substances	**0.13**		0.10	0.050	mg/L			01/20/22 18:18	1
Biochemical Oxygen Demand	**2.3**		2.0	2.0	mg/L			01/20/22 18:44	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	14DCBTN (67-133)						
570-82068-1	Outfall011_20220119_Comp	128						
LCS 570-210396/4	Lab Control Sample	124						
LCSD 570-210396/5	Lab Control Sample Dup	123						
MB 570-210396/8	Method Blank	117						

Surrogate Legend

14DCBTN = 1,4-Dichlorobutane (Surr)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	TBP (28-127)	FBP (31-120)	2FP (17-120)	NBZ (27-120)	PHL6 (10-120)	TPHd14 (45-120)	
570-82068-1	Outfall011_20220119_Comp	60	39	31	51	20	57	
LCS 570-209053/2-A	Lab Control Sample	56	43	36	46	22	52	
LCSD 570-209053/3-A	Lab Control Sample Dup	58	45	36	49	23	55	
MB 570-209053/1-A	Method Blank	55	46	38	60	24	56	

Surrogate Legend

TBP = 2,4,6-Tribromophenol
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL6 = Phenol-d6 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	TCX1 (20-139)						
570-82068-1	Outfall011_20220119_Comp	39 PI						
LCS 570-208417/2-A	Lab Control Sample	64						
LCSD 570-208417/3-A	Lab Control Sample Dup	58						
MB 570-208417/1-A	Method Blank	55						

Surrogate Legend

TCX = Tetrachloro-m-xylene

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	DCB1 (20-154)						
570-82068-1	Outfall011_20220119_Comp	56						
MB 570-208417/1-A	Method Blank	70						

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-210396/8
Matrix: Water
Analysis Batch: 210396

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.55	ug/L			01/31/22 15:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dichlorobutane (Surr)	*117*		*67 - 133*		*01/31/22 15:37*	*1*

Lab Sample ID: LCS 570-210396/4
Matrix: Water
Analysis Batch: 210396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			20.0	21.8		ug/L		109	75 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dichlorobutane (Surr)	*124*		*67 - 133*

Lab Sample ID: LCSD 570-210396/5
Matrix: Water
Analysis Batch: 210396

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			20.0	23.1		ug/L		116	75 - 120	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dichlorobutane (Surr)	*123*		*67 - 133*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-209053/1-A
Matrix: Water
Analysis Batch: 209308

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209053

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
1,2-Dichlorobenzene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.20	0.069	ug/L		01/24/22 09:57	01/26/22 18:18	1
1,3-Dichlorobenzene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
1,4-Dichlorobenzene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
2,4,6-Trichlorophenol	ND		1.0	0.16	ug/L		01/24/22 09:57	01/26/22 18:18	1
2,4-Dichlorophenol	ND		1.0	0.097	ug/L		01/24/22 09:57	01/26/22 18:18	1
2,4-Dimethylphenol	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
2,4-Dinitrophenol	ND		5.0	4.6	ug/L		01/24/22 09:57	01/26/22 18:18	1
2,4-Dinitrotoluene	ND		0.20	0.11	ug/L		01/24/22 09:57	01/26/22 18:18	1
2,6-Dinitrotoluene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
2-Chloronaphthalene	ND		0.20	0.14	ug/L		01/24/22 09:57	01/26/22 18:18	1
2-Chlorophenol	ND		0.20	0.082	ug/L		01/24/22 09:57	01/26/22 18:18	1
2-Nitrophenol	ND		5.0	4.1	ug/L		01/24/22 09:57	01/26/22 18:18	1
3,3'-Dichlorobenzidine	ND		5.0	1.6	ug/L		01/24/22 09:57	01/26/22 18:18	1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: MB 570-209053/1-A
Matrix: Water
Analysis Batch: 209308

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209053

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		5.0	4.0	ug/L		01/24/22 09:57	01/26/22 18:18	1
4-Bromophenyl phenyl ether	ND		0.20	0.077	ug/L		01/24/22 09:57	01/26/22 18:18	1
4-Chloro-3-methylphenol	ND		1.0	0.12	ug/L		01/24/22 09:57	01/26/22 18:18	1
4-Chlorophenyl phenyl ether	ND		0.20	0.090	ug/L		01/24/22 09:57	01/26/22 18:18	1
4-Nitrophenol	ND		5.0	3.6	ug/L		01/24/22 09:57	01/26/22 18:18	1
Acenaphthene	ND		0.20	0.086	ug/L		01/24/22 09:57	01/26/22 18:18	1
Acenaphthylene	ND		0.20	0.084	ug/L		01/24/22 09:57	01/26/22 18:18	1
Anthracene	ND		0.20	0.072	ug/L		01/24/22 09:57	01/26/22 18:18	1
Benzidine	ND		5.0	2.3	ug/L		01/24/22 09:57	01/26/22 18:18	1
Benzo[a]anthracene	ND		0.20	0.070	ug/L		01/24/22 09:57	01/26/22 18:18	1
Benzo[a]pyrene	ND		0.20	0.20	ug/L		01/24/22 09:57	01/26/22 18:18	1
Benzo[b]fluoranthene	ND		0.20	0.10	ug/L		01/24/22 09:57	01/26/22 18:18	1
Benzo[g,h,i]perylene	ND		0.20	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
Benzo[k]fluoranthene	ND		0.20	0.077	ug/L		01/24/22 09:57	01/26/22 18:18	1
bis (2-chloroisopropyl) ether	ND		0.20	0.092	ug/L		01/24/22 09:57	01/26/22 18:18	1
Bis(2-chloroethoxy)methane	ND		0.20	0.15	ug/L		01/24/22 09:57	01/26/22 18:18	1
Bis(2-chloroethyl)ether	ND		0.20	0.098	ug/L		01/24/22 09:57	01/26/22 18:18	1
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		01/24/22 09:57	01/26/22 18:18	1
Butyl benzyl phthalate	ND		1.0	0.98	ug/L		01/24/22 09:57	01/26/22 18:18	1
Chrysene	ND		0.20	0.058	ug/L		01/24/22 09:57	01/26/22 18:18	1
Dibenz(a,h)anthracene	ND		0.20	0.14	ug/L		01/24/22 09:57	01/26/22 18:18	1
Diethyl phthalate	ND		2.0	0.13	ug/L		01/24/22 09:57	01/26/22 18:18	1
Dimethyl phthalate	ND		2.0	0.072	ug/L		01/24/22 09:57	01/26/22 18:18	1
Di-n-butyl phthalate	ND		2.0	1.9	ug/L		01/24/22 09:57	01/26/22 18:18	1
Di-n-octyl phthalate	ND		3.0	0.64	ug/L		01/24/22 09:57	01/26/22 18:18	1
Fluoranthene	ND		0.20	0.096	ug/L		01/24/22 09:57	01/26/22 18:18	1
Fluorene	ND		0.20	0.080	ug/L		01/24/22 09:57	01/26/22 18:18	1
Hexachlorobenzene	ND		0.20	0.094	ug/L		01/24/22 09:57	01/26/22 18:18	1
Hexachlorobutadiene	ND		0.20	0.17	ug/L		01/24/22 09:57	01/26/22 18:18	1
Hexachlorocyclopentadiene	ND		0.20	0.098	ug/L		01/24/22 09:57	01/26/22 18:18	1
Hexachloroethane	ND		0.20	0.15	ug/L		01/24/22 09:57	01/26/22 18:18	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.12	ug/L		01/24/22 09:57	01/26/22 18:18	1
Isophorone	ND		0.20	0.088	ug/L		01/24/22 09:57	01/26/22 18:18	1
Naphthalene	ND		0.20	0.098	ug/L		01/24/22 09:57	01/26/22 18:18	1
Nitrobenzene	ND		0.20	0.097	ug/L		01/24/22 09:57	01/26/22 18:18	1
N-Nitrosodimethylamine	ND		0.20	0.14	ug/L		01/24/22 09:57	01/26/22 18:18	1
N-Nitrosodi-n-propylamine	ND		0.20	0.17	ug/L		01/24/22 09:57	01/26/22 18:18	1
N-Nitrosodiphenylamine	ND		0.20	0.096	ug/L		01/24/22 09:57	01/26/22 18:18	1
Pentachlorophenol	ND		1.0	0.11	ug/L		01/24/22 09:57	01/26/22 18:18	1
Phenanthrene	ND		0.20	0.074	ug/L		01/24/22 09:57	01/26/22 18:18	1
Phenol	ND		1.0	0.80	ug/L		01/24/22 09:57	01/26/22 18:18	1
Pyrene	ND		0.20	0.080	ug/L		01/24/22 09:57	01/26/22 18:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*55*		*28 - 127*	*01/24/22 09:57*	*01/26/22 18:18*	*1*
2-Fluorobiphenyl (Surr)	*46*		*31 - 120*	*01/24/22 09:57*	*01/26/22 18:18*	*1*
2-Fluorophenol	*38*		*17 - 120*	*01/24/22 09:57*	*01/26/22 18:18*	*1*
Nitrobenzene-d5	*60*		*27 - 120*	*01/24/22 09:57*	*01/26/22 18:18*	*1*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: MB 570-209053/1-A
Matrix: Water
Analysis Batch: 209308

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209053

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d6 (Surr)	24		10 - 120	01/24/22 09:57	01/26/22 18:18	1
p-Terphenyl-d14 (Surr)	56		45 - 120	01/24/22 09:57	01/26/22 18:18	1

Lab Sample ID: LCS 570-209053/2-A
Matrix: Water
Analysis Batch: 209773

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209053

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	20.0	13.1		ug/L		65	57 - 130
1,2-Dichlorobenzene	20.0	13.8		ug/L		69	41 - 100
1,2-Diphenylhydrazine(as Azobenzene)	20.0	12.5		ug/L		63	60 - 115
1,3-Dichlorobenzene	20.0	13.4		ug/L		67	39 - 100
1,4-Dichlorobenzene	20.0	13.5		ug/L		68	40 - 100
2,4,6-Trichlorophenol	20.0	14.9		ug/L		75	52 - 129
2,4-Dichlorophenol	20.0	14.3		ug/L		72	53 - 122
2,4-Dimethylphenol	20.0	13.9		ug/L		70	42 - 120
2,4-Dinitrophenol	20.0	11.6		ug/L		58	1 - 173
2,4-Dinitrotoluene	20.0	15.3		ug/L		77	48 - 127
2,6-Dinitrotoluene	20.0	15.6		ug/L		78	68 - 137
2-Chloronaphthalene	20.0	12.4	LR	ug/L		62	65 - 120
2-Chlorophenol	20.0	15.6		ug/L		78	36 - 120
2-Nitrophenol	20.0	14.6		ug/L		73	45 - 167
3,3'-Dichlorobenzidine	20.0	15.8		ug/L		79	8 - 213
4,6-Dinitro-2-methylphenol	20.0	8.57	LR	ug/L		43	53 - 130
4-Bromophenyl phenyl ether	20.0	13.3		ug/L		66	65 - 120
4-Chloro-3-methylphenol	20.0	13.9		ug/L		69	41 - 128
4-Chlorophenyl phenyl ether	20.0	14.3		ug/L		71	38 - 145
4-Nitrophenol	20.0	10.7		ug/L		54	13 - 129
Acenaphthene	20.0	13.5		ug/L		67	60 - 132
Acenaphthylene	20.0	15.4		ug/L		77	54 - 126
Anthracene	20.0	15.1		ug/L		75	43 - 120
Benzidine	20.0	6.14		ug/L		31	10 - 124
Benzo[a]anthracene	20.0	16.5		ug/L		82	42 - 133
Benzo[a]pyrene	20.0	18.7		ug/L		93	32 - 148
Benzo[b]fluoranthene	20.0	17.9		ug/L		89	42 - 140
Benzo[g,h,i]perylene	20.0	14.8		ug/L		74	1 - 195
Benzo[k]fluoranthene	20.0	14.0		ug/L		70	25 - 146
bis (2-chloroisopropyl) ether	20.0	15.5		ug/L		77	63 - 139
Bis(2-chloroethoxy)methane	20.0	12.4		ug/L		62	49 - 165
Bis(2-chloroethyl)ether	20.0	13.9		ug/L		70	43 - 126
Bis(2-ethylhexyl) phthalate	20.0	16.9		ug/L		84	29 - 137
Butyl benzyl phthalate	20.0	17.0		ug/L		85	1 - 140
Chrysene	20.0	14.2		ug/L		71	44 - 140
Dibenz(a,h)anthracene	20.0	15.2		ug/L		76	1 - 200
Diethyl phthalate	20.0	14.6		ug/L		73	1 - 120
Dimethyl phthalate	20.0	14.1		ug/L		70	1 - 120
Di-n-butyl phthalate	20.0	15.7		ug/L		79	8 - 120
Di-n-octyl phthalate	20.0	19.1		ug/L		96	19 - 132

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCS 570-209053/2-A
Matrix: Water
Analysis Batch: 209773

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209053

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoranthene			20.0	16.2		ug/L		81	43 - 121		
Fluorene			20.0	14.6		ug/L		73	70 - 120		
Hexachlorobenzene			20.0	13.7		ug/L		69	8 - 142		
Hexachlorobutadiene			20.0	12.4		ug/L		62	38 - 120		
Hexachlorocyclopentadiene			20.0	10.1		ug/L		51	20 - 137		
Hexachloroethane			20.0	13.1		ug/L		66	55 - 120		
Indeno[1,2,3-cd]pyrene			20.0	18.0		ug/L		90	1 - 151		
Isophorone			20.0	14.0		ug/L		70	47 - 180		
Naphthalene			20.0	12.4		ug/L		62	36 - 120		
Nitrobenzene			20.0	12.8		ug/L		64	54 - 158		
N-Nitrosodimethylamine			20.0	12.6		ug/L		63	30 - 100		
N-Nitrosodi-n-propylamine			20.0	15.4		ug/L		77	14 - 198		
N-Nitrosodiphenylamine			20.0	17.3		ug/L		87	75 - 135		
Pentachlorophenol			20.0	13.7		ug/L		68	38 - 152		
Phenanthrene			20.0	14.0		ug/L		70	65 - 120		
Phenol			20.0	8.73		ug/L		44	17 - 120		
Pyrene			20.0	14.5		ug/L		72	70 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*56*		*28 - 127*
2-Fluorobiphenyl (Surr)	*43*		*31 - 120*
2-Fluorophenol	*36*		*17 - 120*
Nitrobenzene-d5	*46*		*27 - 120*
Phenol-d6 (Surr)	*22*		*10 - 120*
p-Terphenyl-d14 (Surr)	*52*		*45 - 120*

Lab Sample ID: LCSD 570-209053/3-A
Matrix: Water
Analysis Batch: 209773

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 209053

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene			20.0	12.4		ug/L		62	57 - 130	5	30
1,2-Dichlorobenzene			20.0	13.8		ug/L		69	41 - 100	0	20
1,2-Diphenylhydrazine(as Azobenzene)			20.0	12.9		ug/L		64	60 - 115	3	30
1,3-Dichlorobenzene			20.0	13.2		ug/L		66	39 - 100	2	20
1,4-Dichlorobenzene			20.0	13.1		ug/L		65	40 - 100	3	20
2,4,6-Trichlorophenol			20.0	15.3		ug/L		77	52 - 129	2	35
2,4-Dichlorophenol			20.0	14.3		ug/L		71	53 - 122	0	30
2,4-Dimethylphenol			20.0	13.5		ug/L		67	42 - 120	3	35
2,4-Dinitrophenol			20.0	17.3		ug/L		87	1 - 173	40	79
2,4-Dinitrotoluene			20.0	15.1		ug/L		75	48 - 127	1	25
2,6-Dinitrotoluene			20.0	15.7		ug/L		79	68 - 137	1	29
2-Chloronaphthalene			20.0	12.7	LR	ug/L		64	65 - 120	2	15
2-Chlorophenol			20.0	15.1		ug/L		75	36 - 120	4	37
2-Nitrophenol			20.0	14.4		ug/L		72	45 - 167	1	33
3,3'-Dichlorobenzidine			20.0	14.9		ug/L		75	8 - 213	6	65
4,6-Dinitro-2-methylphenol			20.0	12.8		ug/L		64	53 - 130	40	122
4-Bromophenyl phenyl ether			20.0	13.7		ug/L		68	65 - 120	3	26

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-209053/3-A
Matrix: Water
Analysis Batch: 209773

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 209053

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Chloro-3-methylphenol			20.0	13.9		ug/L		69	41 - 128	0	44
4-Chlorophenyl phenyl ether			20.0	14.0		ug/L		70	38 - 145	2	36
4-Nitrophenol			20.0	9.47		ug/L		47	13 - 129	12	79
Acenaphthene			20.0	12.7		ug/L		64	60 - 132	6	29
Acenaphthylene			20.0	15.1		ug/L		76	54 - 126	2	45
Anthracene			20.0	15.1		ug/L		75	43 - 120	0	40
Benzidine			20.0	4.44	J,DX	ug/L		22	10 - 124	32	40
Benzo[a]anthracene			20.0	16.1		ug/L		80	42 - 133	2	32
Benzo[a]pyrene			20.0	16.0		ug/L		80	32 - 148	15	43
Benzo[b]fluoranthene			20.0	15.4		ug/L		77	42 - 140	15	43
Benzo[g,h,i]perylene			20.0	14.7		ug/L		73	1 - 195	1	61
Benzo[k]fluoranthene			20.0	13.8		ug/L		69	25 - 146	2	38
bis (2-chloroisopropyl) ether			20.0	15.8		ug/L		79	63 - 139	2	46
Bis(2-chloroethoxy)methane			20.0	12.8		ug/L		64	49 - 165	3	32
Bis(2-chloroethyl)ether			20.0	14.5		ug/L		72	43 - 126	4	65
Bis(2-ethylhexyl) phthalate			20.0	18.5		ug/L		92	29 - 137	9	50
Butyl benzyl phthalate			20.0	17.3		ug/L		87	1 - 140	2	36
Chrysene			20.0	14.0		ug/L		70	44 - 140	2	53
Dibenz(a,h)anthracene			20.0	15.1		ug/L		76	1 - 200	1	75
Diethyl phthalate			20.0	15.2		ug/L		76	1 - 120	4	60
Dimethyl phthalate			20.0	14.0		ug/L		70	1 - 120	1	110
Di-n-butyl phthalate			20.0	15.9		ug/L		79	8 - 120	1	28
Di-n-octyl phthalate			20.0	11.9	BA	ug/L		59	19 - 132	47	42
Fluoranthene			20.0	15.0		ug/L		75	43 - 121	7	40
Fluorene			20.0	14.0		ug/L		70	70 - 120	4	23
Hexachlorobenzene			20.0	13.7		ug/L		69	8 - 142	0	33
Hexachlorobutadiene			20.0	12.4		ug/L		62	38 - 120	1	38
Hexachlorocyclopentadiene			20.0	12.8	BA	ug/L		64	20 - 137	23	20
Hexachloroethane			20.0	14.2		ug/L		71	55 - 120	8	32
Indeno[1,2,3-cd]pyrene			20.0	13.9		ug/L		69	1 - 151	26	60
Isophorone			20.0	13.7		ug/L		69	47 - 180	2	56
Naphthalene			20.0	12.0		ug/L		60	36 - 120	3	39
Nitrobenzene			20.0	12.5		ug/L		63	54 - 158	2	37
N-Nitrosodimethylamine			20.0	12.5		ug/L		63	30 - 100	1	20
N-Nitrosodi-n-propylamine			20.0	15.8		ug/L		79	14 - 198	3	52
N-Nitrosodiphenylamine			20.0	17.6		ug/L		88	75 - 135	1	20
Pentachlorophenol			20.0	12.7		ug/L		63	38 - 152	8	52
Phenanthrene			20.0	13.8		ug/L		69	65 - 120	1	24
Phenol			20.0	8.40		ug/L		42	17 - 120	4	39
Pyrene			20.0	14.3		ug/L		72	70 - 120	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol	*58*		*28 - 127*
2-Fluorobiphenyl (Surr)	*45*		*31 - 120*
2-Fluorophenol	*36*		*17 - 120*
Nitrobenzene-d5	*49*		*27 - 120*
Phenol-d6 (Surr)	*23*		*10 - 120*
p-Terphenyl-d14 (Surr)	*55*		*45 - 120*

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-208417/1-A
Matrix: Water
Analysis Batch: 208660

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208417

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 10:46	1
alpha-BHC	ND		0.0013	0.00080	ug/L		01/20/22 05:44	01/21/22 10:46	1
beta-BHC	ND		0.0020	0.0017	ug/L		01/20/22 05:44	01/21/22 10:46	1
delta-BHC	ND		0.0013	0.0011	ug/L		01/20/22 05:44	01/21/22 10:46	1
gamma-BHC (Lindane)	ND		0.0013	0.00090	ug/L		01/20/22 05:44	01/21/22 10:46	1
Chlordane (technical)	ND		0.010	0.0065	ug/L		01/20/22 05:44	01/21/22 10:46	1
4,4'-DDD	ND		0.0013	0.00080	ug/L		01/20/22 05:44	01/21/22 10:46	1
4,4'-DDE	ND		0.0013	0.00050	ug/L		01/20/22 05:44	01/21/22 10:46	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		01/20/22 05:44	01/21/22 10:46	1
Dieldrin	ND		0.0013	0.00050	ug/L		01/20/22 05:44	01/21/22 10:46	1
Endosulfan I	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 10:46	1
Endosulfan II	ND		0.0013	0.00050	ug/L		01/20/22 05:44	01/21/22 10:46	1
Endosulfan sulfate	ND		0.0013	0.00060	ug/L		01/20/22 05:44	01/21/22 10:46	1
Endrin	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 10:46	1
Endrin aldehyde	ND		0.010	0.0051	ug/L		01/20/22 05:44	01/21/22 10:46	1
Heptachlor	ND		0.0013	0.00070	ug/L		01/20/22 05:44	01/21/22 10:46	1
Heptachlor epoxide	ND		0.0013	0.00040	ug/L		01/20/22 05:44	01/21/22 10:46	1
Toxaphene	ND		0.10	0.013	ug/L		01/20/22 05:44	01/21/22 10:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*55*		*20 - 139*	*01/20/22 05:44*	*01/21/22 10:46*	*1*

Lab Sample ID: LCS 570-208417/2-A
Matrix: Water
Analysis Batch: 208660

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208417

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.0333	0.0280		ug/L		84	42 - 140
alpha-BHC	0.0333	0.0278		ug/L		83	37 - 140
beta-BHC	0.0333	0.0276		ug/L		83	17 - 147
delta-BHC	0.0333	0.0297		ug/L		89	19 - 140
gamma-BHC (Lindane)	0.0333	0.0284		ug/L		85	32 - 140
4,4'-DDD	0.0333	0.0315		ug/L		94	31 - 141
4,4'-DDE	0.0333	0.0298		ug/L		89	30 - 145
4,4'-DDT	0.0333	0.0341		ug/L		102	25 - 160
Dieldrin	0.0333	0.0308		ug/L		92	36 - 146
Endosulfan I	0.0333	0.0286		ug/L		86	45 - 153
Endosulfan II	0.0333	0.0309		ug/L		93	1 - 202
Endosulfan sulfate	0.0333	0.0331		ug/L		99	26 - 144
Endrin	0.0333	0.0336		ug/L		101	30 - 147
Endrin aldehyde	0.0333	0.0399		ug/L		120	60 - 140
Heptachlor	0.0333	0.0287		ug/L		86	34 - 140
Heptachlor epoxide	0.0333	0.0289		ug/L		87	37 - 142

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*64*		*20 - 139*

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: LCSD 570-208417/3-A
Matrix: Water
Analysis Batch: 208660

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208417

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin			0.0333	0.0241		ug/L		72	42 - 140	15	35
alpha-BHC			0.0333	0.0248		ug/L		74	37 - 140	11	36
beta-BHC			0.0333	0.0235		ug/L		71	17 - 147	16	44
delta-BHC			0.0333	0.0251		ug/L		75	19 - 140	17	52
gamma-BHC (Lindane)			0.0333	0.0250		ug/L		75	32 - 140	13	39
4,4'-DDD			0.0333	0.0263		ug/L		79	31 - 141	18	39
4,4'-DDE			0.0333	0.0249		ug/L		75	30 - 145	18	35
4,4'-DDT			0.0333	0.0287		ug/L		86	25 - 160	17	42
Dieldrin			0.0333	0.0258		ug/L		77	36 - 146	18	49
Endosulfan I			0.0333	0.0241		ug/L		72	45 - 153	17	28
Endosulfan II			0.0333	0.0266		ug/L		80	1 - 202	15	53
Endosulfan sulfate			0.0333	0.0275		ug/L		82	26 - 144	19	38
Endrin			0.0333	0.0281		ug/L		84	30 - 147	18	48
Endrin aldehyde			0.0333	0.0341		ug/L		102	60 - 140	16	30
Heptachlor			0.0333	0.0250		ug/L		75	34 - 140	14	43
Heptachlor epoxide			0.0333	0.0245		ug/L		74	37 - 142	16	26

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*58*		*20 - 139*

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 570-208417/1-A
Matrix: Water
Analysis Batch: 208664

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208417

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:03	1
Aroclor 1221	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:03	1
Aroclor 1232	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:03	1
Aroclor 1242	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:03	1
Aroclor 1248	ND		0.10	0.044	ug/L		01/20/22 05:44	01/21/22 15:03	1
Aroclor 1254	ND		0.10	0.052	ug/L		01/20/22 05:44	01/21/22 15:03	1
Aroclor 1260	ND		0.10	0.052	ug/L		01/20/22 05:44	01/21/22 15:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*70*		*20 - 154*	*01/20/22 05:44*	*01/21/22 15:03*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-664905/6
Matrix: Water
Analysis Batch: 664905

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			01/20/22 04:06	1

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

Lab Sample ID: LCS 440-664905/5
Matrix: Water
Analysis Batch: 664905

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	49.4		ug/L		99	90 - 110

Lab Sample ID: MRL 440-664905/4
Matrix: Water
Analysis Batch: 664905

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	1.00	1.09		ug/L		109	50 - 150

Lab Sample ID: 570-82078-A-1 MS
Matrix: Water
Analysis Batch: 664905

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND		50.0	49.8		ug/L		100	90 - 110

Lab Sample ID: 570-82078-A-1 MSD
Matrix: Water
Analysis Batch: 664905

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND		50.0	49.8		ug/L		100	90 - 110	0	10

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-664932/6
Matrix: Water
Analysis Batch: 664932

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.11	0.055	mg/L			01/20/22 11:42	1
Nitrite as N	ND		0.15	0.024	mg/L			01/20/22 11:42	1

Lab Sample ID: LCS 440-664932/5
Matrix: Water
Analysis Batch: 664932

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	1.13	1.09		mg/L		97	90 - 110
Nitrite as N	1.52	1.49		mg/L		98	90 - 110

Lab Sample ID: 570-82068-1 MS
Matrix: Water
Analysis Batch: 664932

Client Sample ID: Outfall011_20220119_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	1.5		1.13	2.62		mg/L		98	80 - 120
Nitrite as N	ND		1.52	1.53		mg/L		100	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 570-82068-1 MSD — **Client Sample ID: Outfall011_20220119_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664932

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	1.5		1.13	2.61		mg/L		98	80 - 120	0	20
Nitrite as N	ND		1.52	1.52		mg/L		100	80 - 120	1	20

Lab Sample ID: MB 440-664933/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664933

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			01/20/22 11:42	1
Fluoride	ND		0.50	0.20	mg/L			01/20/22 11:42	1
Sulfate	ND		0.50	0.25	mg/L			01/20/22 11:42	1

Lab Sample ID: LCS 440-664933/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664933

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.76		mg/L		95	90 - 110
Fluoride	5.00	4.78		mg/L		96	90 - 110
Sulfate	5.00	4.94		mg/L		99	90 - 110

Lab Sample ID: 570-82068-1 MS — **Client Sample ID: Outfall011_20220119_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664933

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	32	EY	5.00	37.8	EY BB	mg/L		119	80 - 120
Fluoride	ND		5.00	4.93		mg/L		99	80 - 120
Sulfate	30		5.00	35.1	BB	mg/L		106	80 - 120

Lab Sample ID: 570-82068-1 MSD — **Client Sample ID: Outfall011_20220119_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664933

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	32	EY	5.00	37.9	EY BB	mg/L		119	80 - 120	0	20
Fluoride	ND		5.00	4.89		mg/L		98	80 - 120	1	20
Sulfate	30		5.00	35.2	BB	mg/L		107	80 - 120	0	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-665039/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 665039

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			01/21/22 05:15	1

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: LCS 440-665039/5
Matrix: Water
Analysis Batch: 665039

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	25.1		ug/L		100	85 - 115

Lab Sample ID: MRL 440-665039/4
Matrix: Water
Analysis Batch: 665039

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	2.00	1.89	J,DX	ug/L		94	75 - 125

Lab Sample ID: MRL 440-665039/9
Matrix: Water
Analysis Batch: 665039

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.80	J,DX	ug/L		95	75 - 125

Lab Sample ID: 570-82063-J-1 MS
Matrix: Water
Analysis Batch: 665039

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	ND		25.0	24.6		ug/L		98	80 - 120

Lab Sample ID: 570-82063-J-1 MSD
Matrix: Water
Analysis Batch: 665039

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		25.0	24.3		ug/L		97	80 - 120	1	15

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-666169/1-A
Matrix: Water
Analysis Batch: 666240

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 666169

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		02/02/22 11:02	02/02/22 17:42	1
Barium	ND		10	2.2	ug/L		02/02/22 11:02	02/02/22 17:42	1
Beryllium	ND		2.0	0.44	ug/L		02/02/22 11:02	02/02/22 17:42	1
Boron	ND		50	25	ug/L		02/02/22 11:02	02/02/22 17:42	1
Chromium	ND		5.0	2.5	ug/L		02/02/22 11:02	02/02/22 17:42	1
Cobalt	ND		10	2.8	ug/L		02/02/22 11:02	02/02/22 17:42	1
Iron	ND		100	50	ug/L		02/02/22 11:02	02/02/22 17:42	1
Manganese	ND		20	6.8	ug/L		02/02/22 11:02	02/02/22 17:42	1
Nickel	ND		10	5.0	ug/L		02/02/22 11:02	02/02/22 17:42	1
Vanadium	ND		10	2.1	ug/L		02/02/22 11:02	02/02/22 17:42	1
Zinc	ND		20	12	ug/L		02/02/22 11:02	02/02/22 17:42	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-666169/2-A
Matrix: Water
Analysis Batch: 666240

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 666169

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	517		ug/L		103	85 - 115
Barium	500	509		ug/L		102	85 - 115
Beryllium	500	516		ug/L		103	85 - 115
Boron	500	502		ug/L		100	85 - 115
Chromium	500	520		ug/L		104	85 - 115
Cobalt	500	511		ug/L		102	85 - 115
Iron	500	500		ug/L		100	85 - 115
Manganese	500	512		ug/L		102	85 - 115
Nickel	500	509		ug/L		102	85 - 115
Vanadium	500	509		ug/L		102	85 - 115
Zinc	500	528		ug/L		106	85 - 115

Lab Sample ID: 440-294868-E-1-B MS
Matrix: Water
Analysis Batch: 666240

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 666169

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		500	577		ug/L		115	70 - 130
Barium	37		500	565		ug/L		106	70 - 130
Beryllium	0.70	J,DX	500	543		ug/L		109	70 - 130
Boron	1400		500	1900		ug/L		105	70 - 130
Chromium	3.9	J,DX	500	544		ug/L		108	70 - 130
Cobalt	ND		500	519		ug/L		104	70 - 130
Iron	47000		500	46000	BB	ug/L		-174	70 - 130
Manganese	6600		500	6890	BB	ug/L		64	70 - 130
Nickel	18		500	530		ug/L		103	70 - 130
Vanadium	ND		500	554		ug/L		111	70 - 130
Zinc	ND		500	523		ug/L		105	70 - 130

Lab Sample ID: 440-294868-E-1-C MSD
Matrix: Water
Analysis Batch: 666240

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 666169

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	562		ug/L		112	70 - 130	3	20
Barium	37		500	550		ug/L		103	70 - 130	3	20
Beryllium	0.70	J,DX	500	529		ug/L		106	70 - 130	3	20
Boron	1400		500	1810		ug/L		88	70 - 130	5	20
Chromium	3.9	J,DX	500	530		ug/L		105	70 - 130	3	20
Cobalt	ND		500	501		ug/L		100	70 - 130	4	20
Iron	47000		500	43700	BB	ug/L		-638	70 - 130	5	20
Manganese	6600		500	6560	BB	ug/L		-3	70 - 130	5	20
Nickel	18		500	515		ug/L		100	70 - 130	3	20
Vanadium	ND		500	539		ug/L		108	70 - 130	3	20
Zinc	ND		500	513		ug/L		103	70 - 130	2	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 440-665510/1-B
Matrix: Water
Analysis Batch: 665833

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 665547

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/26/22 17:34	01/27/22 13:20	1
Barium	ND		10	2.2	ug/L		01/26/22 17:34	01/27/22 13:20	1
Beryllium	ND		2.0	0.44	ug/L		01/26/22 17:34	01/27/22 13:20	1
Boron	ND		50	25	ug/L		01/26/22 17:34	01/27/22 13:20	1
Chromium	ND		5.0	2.5	ug/L		01/26/22 17:34	01/27/22 13:20	1
Cobalt	ND		10	2.8	ug/L		01/26/22 17:34	01/27/22 13:20	1
Iron	ND		100	50	ug/L		01/26/22 17:34	01/27/22 13:20	1
Manganese	ND		20	6.8	ug/L		01/26/22 17:34	01/27/22 13:20	1
Nickel	ND		10	5.0	ug/L		01/26/22 17:34	01/27/22 13:20	1
Vanadium	ND		10	2.1	ug/L		01/26/22 17:34	01/27/22 13:20	1
Zinc	ND		20	12	ug/L		01/26/22 17:34	01/27/22 13:20	1

Lab Sample ID: LCS 440-665510/2-B
Matrix: Water
Analysis Batch: 665833

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 665547

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	502		ug/L		100	85 - 115
Barium	500	496		ug/L		99	85 - 115
Beryllium	500	497		ug/L		99	85 - 115
Boron	500	493		ug/L		99	85 - 115
Chromium	500	524		ug/L		105	85 - 115
Cobalt	500	498		ug/L		100	85 - 115
Iron	500	477		ug/L		95	85 - 115
Manganese	500	501		ug/L		100	85 - 115
Nickel	500	512		ug/L		102	85 - 115
Vanadium	500	494		ug/L		99	85 - 115
Zinc	500	517		ug/L		103	85 - 115

Lab Sample ID: 570-82066-C-3-D MS
Matrix: Water
Analysis Batch: 665833

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 665547

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		500	495		ug/L		99	70 - 130
Barium	22		500	493		ug/L		94	70 - 130
Beryllium	ND		500	482		ug/L		96	70 - 130
Boron	94		500	574		ug/L		96	70 - 130
Chromium	ND		500	501		ug/L		100	70 - 130
Cobalt	ND		500	480		ug/L		96	70 - 130
Iron	ND		500	482		ug/L		96	70 - 130
Manganese	7.0	J,DX	500	483		ug/L		95	70 - 130
Nickel	ND		500	490		ug/L		98	70 - 130
Vanadium	ND		500	479		ug/L		96	70 - 130
Zinc	ND		500	504		ug/L		101	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 570-82066-C-3-E MSD
Matrix: Water
Analysis Batch: 665833

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 665547

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	505		ug/L		101	70 - 130	2	20
Barium	22		500	503		ug/L		96	70 - 130	2	20
Beryllium	ND		500	493		ug/L		99	70 - 130	2	20
Boron	94		500	584		ug/L		98	70 - 130	2	20
Chromium	ND		500	512		ug/L		102	70 - 130	2	20
Cobalt	ND		500	490		ug/L		98	70 - 130	2	20
Iron	ND		500	499		ug/L		100	70 - 130	3	20
Manganese	7.0	J,DX	500	494		ug/L		97	70 - 130	2	20
Nickel	ND		500	502		ug/L		100	70 - 130	2	20
Vanadium	ND		500	490		ug/L		98	70 - 130	2	20
Zinc	ND		500	517		ug/L		103	70 - 130	3	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-666168/1-A
Matrix: Water
Analysis Batch: 666236

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 666168

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		02/02/22 09:57	02/02/22 15:46	1
Cadmium	ND		1.0	0.25	ug/L		02/02/22 09:57	02/02/22 15:46	1
Copper	ND		2.0	0.50	ug/L		02/02/22 09:57	02/02/22 15:46	1
Lead	ND		1.0	0.50	ug/L		02/02/22 09:57	02/02/22 15:46	1
Antimony	ND		2.0	0.50	ug/L		02/02/22 09:57	02/02/22 15:46	1
Selenium	ND		2.0	0.50	ug/L		02/02/22 09:57	02/02/22 15:46	1
Thallium	ND		1.0	0.20	ug/L		02/02/22 09:57	02/02/22 15:46	1

Lab Sample ID: LCS 440-666168/2-A
Matrix: Water
Analysis Batch: 666236

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 666168

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	72.2		ug/L		90	85 - 115
Cadmium	80.0	75.0		ug/L		94	85 - 115
Copper	80.0	72.0		ug/L		90	85 - 115
Lead	80.0	73.9		ug/L		92	85 - 115
Antimony	80.0	75.4		ug/L		94	85 - 115
Selenium	80.0	76.5		ug/L		96	85 - 115
Thallium	80.0	71.6		ug/L		89	85 - 115

Lab Sample ID: 440-294627-A-2-B MS
Matrix: Water
Analysis Batch: 666236

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 666168

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	11.6	LN	ug/L		15	70 - 130
Cadmium	ND		80.0	80.0		ug/L		100	70 - 130
Copper	64		80.0	153		ug/L		112	70 - 130
Lead	1.8		80.0	80.6		ug/L		99	70 - 130

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 440-294627-A-2-B MS
Matrix: Water
Analysis Batch: 666236

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 666168

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		80.0	58.8		ug/L		74	70 - 130
Selenium	3.3		80.0	64.1		ug/L		76	70 - 130
Thallium	ND		80.0	76.7		ug/L		96	70 - 130

Lab Sample ID: 440-294627-A-2-C MSD
Matrix: Water
Analysis Batch: 666236

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 666168

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	11.4	LN	ug/L		14	70 - 130	2	20
Cadmium	ND		80.0	79.4		ug/L		99	70 - 130	1	20
Copper	64		80.0	148		ug/L		106	70 - 130	3	20
Lead	1.8		80.0	80.0		ug/L		98	70 - 130	1	20
Antimony	ND		80.0	59.0		ug/L		74	70 - 130	0	20
Selenium	3.3		80.0	65.9		ug/L		78	70 - 130	3	20
Thallium	ND		80.0	75.9		ug/L		95	70 - 130	1	20

Lab Sample ID: MB 440-665510/1-C
Matrix: Water
Analysis Batch: 665638

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 665552

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/26/22 15:00	01/27/22 11:50	1
Cadmium	ND		1.0	0.25	ug/L		01/26/22 15:00	01/27/22 11:50	1
Copper	ND		2.0	0.50	ug/L		01/26/22 15:00	01/27/22 11:50	1
Lead	ND		1.0	0.50	ug/L		01/26/22 15:00	01/27/22 11:50	1
Antimony	ND		2.0	0.50	ug/L		01/26/22 15:00	01/27/22 11:50	1
Selenium	ND		2.0	0.50	ug/L		01/26/22 15:00	01/27/22 11:50	1
Thallium	ND		1.0	0.20	ug/L		01/26/22 15:00	01/27/22 11:50	1

Lab Sample ID: LCS 440-665510/2-C
Matrix: Water
Analysis Batch: 665638

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 665552

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	72.2		ug/L		90	85 - 115
Cadmium	80.0	74.8		ug/L		93	85 - 115
Copper	80.0	72.1		ug/L		90	85 - 115
Lead	80.0	76.3		ug/L		95	85 - 115
Antimony	80.0	77.9		ug/L		97	85 - 115
Selenium	80.0	74.8		ug/L		94	85 - 115
Thallium	80.0	74.8		ug/L		93	85 - 115

Lab Sample ID: 570-82063-C-3-G MS
Matrix: Water
Analysis Batch: 665638

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 665552

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	74.9		ug/L		94	70 - 130
Cadmium	ND		80.0	78.4		ug/L		98	70 - 130

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-82063-C-3-G MS
Matrix: Water
Analysis Batch: 665638

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 665552

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Copper	3.0		80.0	78.5		ug/L		94	70 - 130
Lead	ND		80.0	80.0		ug/L		100	70 - 130
Antimony	0.52	J,DX	80.0	85.3		ug/L		106	70 - 130
Selenium	0.51	J,DX	80.0	80.9		ug/L		100	70 - 130
Thallium	ND		80.0	78.3		ug/L		98	70 - 130

Lab Sample ID: 570-82063-C-3-H MSD
Matrix: Water
Analysis Batch: 665638

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 665552

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	75.3		ug/L		94	70 - 130	0	20
Cadmium	ND		80.0	79.2		ug/L		99	70 - 130	1	20
Copper	3.0		80.0	79.0		ug/L		95	70 - 130	1	20
Lead	ND		80.0	80.5		ug/L		101	70 - 130	1	20
Antimony	0.52	J,DX	80.0	87.2		ug/L		108	70 - 130	2	20
Selenium	0.51	J,DX	80.0	82.9		ug/L		103	70 - 130	2	20
Thallium	ND		80.0	79.4		ug/L		99	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-210564/1-A
Matrix: Water
Analysis Batch: 210669

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 210564

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		02/01/22 10:46	02/01/22 15:10	1

Lab Sample ID: LCS 570-210564/2-A
Matrix: Water
Analysis Batch: 210669

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 210564

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	10.5		ug/L		105	85 - 115

Lab Sample ID: LCSD 570-210564/3-A
Matrix: Water
Analysis Batch: 210669

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 210564

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	10.0	10.4		ug/L		104	85 - 115	1	10

Lab Sample ID: 440-294471-A-1-D MS
Matrix: Water
Analysis Batch: 210669

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 210564

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		10.0	10.2		ug/L		102	70 - 130

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 440-294471-A-1-E MSD
Matrix: Water
Analysis Batch: 210669

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 210564

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	10.2		ug/L		102	70 - 130	0	10

Lab Sample ID: MB 570-210140/1-B
Matrix: Water
Analysis Batch: 210433

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 210150

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/28/22 14:30	01/31/22 18:06	1

Lab Sample ID: LCS 570-210140/2-B
Matrix: Water
Analysis Batch: 210433

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 210150

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	9.71		ug/L		97	85 - 115

Lab Sample ID: LCSD 570-210140/3-B
Matrix: Water
Analysis Batch: 210433

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 210150

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	10.0	9.79		ug/L		98	85 - 115	1	10

Lab Sample ID: 570-82063-A-3-D MS
Matrix: Water
Analysis Batch: 210433

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 210150

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		10.0	9.86		ug/L		99	70 - 130

Lab Sample ID: 570-82063-C-3-J MSD
Matrix: Water
Analysis Batch: 210433

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 210150

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	9.64		ug/L		96	70 - 130	2	10

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 440-664948/6
Matrix: Water
Analysis Batch: 664948

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	ND		0.10	0.05	NTU			01/20/22 10:58	1

Method: 180.1 - Turbidity, Nephelometric (Continued)

Lab Sample ID: MRL 440-664948/5
Matrix: Water
Analysis Batch: 664948

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	0.100	0.10		NTU		90	50 - 150

Lab Sample ID: 570-81864-G-1 DU
Matrix: Water
Analysis Batch: 664948

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Turbidity	4.7		4.9		NTU		3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-665096/1
Matrix: Water
Analysis Batch: 665096

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	3.0	mg/L			01/21/22 13:32	1

Lab Sample ID: LCS 440-665096/2
Matrix: Water
Analysis Batch: 665096

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	962		mg/L		96	90 - 110

Lab Sample ID: 440-294471-C-1 DU
Matrix: Water
Analysis Batch: 665096

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	400		394		mg/L		1	5

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-665407/1
Matrix: Water
Analysis Batch: 665407

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			01/25/22 15:21	1

Lab Sample ID: LCS 440-665407/2
Matrix: Water
Analysis Batch: 665407

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	1000	943		mg/L		94	85 - 115

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: 440-294354-B-1 DU
Matrix: Water
Analysis Batch: 665407

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	430			420		mg/L				2	5

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 440-665932/1-A
Matrix: Water
Analysis Batch: 665994

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 665932

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L		01/31/22 12:01	01/31/22 18:14	1

Lab Sample ID: LCS 440-665932/2-A
Matrix: Water
Analysis Batch: 665994

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 665932

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			100	93.8		ug/L		94	80 - 120		

Lab Sample ID: 570-82063-H-1-B MS
Matrix: Water
Analysis Batch: 665994

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 665932

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total	ND		100	93.7		ug/L		94	75 - 125		

Lab Sample ID: 570-82063-H-1-C MSD
Matrix: Water
Analysis Batch: 665994

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 665932

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		100	98.2		ug/L		98	75 - 125	5	20

Method: SM 4500 NH3 G - Ammonia

Lab Sample ID: MB 440-665813/10
Matrix: Water
Analysis Batch: 665813

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.200	0.100	mg/L			01/28/22 12:03	1

Lab Sample ID: LCS 440-665813/11
Matrix: Water
Analysis Batch: 665813

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia (as N)			5.00	5.250		mg/L		105	90 - 110		

Method: SM 4500 NH3 G - Ammonia (Continued)

Lab Sample ID: MRL 440-665813/9
Matrix: Water
Analysis Batch: 665813

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia (as N)			0.200	0.1860	J,DX	mg/L		93	50 - 150		

Lab Sample ID: 570-82097-Q-5 MS
Matrix: Water
Analysis Batch: 665813

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia (as N)	0.1590		5.00	4.160	LN	mg/L		80	90 - 110		

Lab Sample ID: 570-82097-Q-5 MSD
Matrix: Water
Analysis Batch: 665813

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.1590		5.00	4.150	LN	mg/L		80	90 - 110	0	15

Method: SM 5310D - Organic Carbon, Total (TOC)

Lab Sample ID: MB 570-208829/33
Matrix: Water
Analysis Batch: 208829

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon, Total Organic	ND		0.50	0.26	mg/L			01/20/22 11:41	1

Lab Sample ID: LCS 570-208829/34
Matrix: Water
Analysis Batch: 208829

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Carbon, Total Organic			5.00	5.42		mg/L		108	85 - 115		

Lab Sample ID: LCSD 570-208829/35
Matrix: Water
Analysis Batch: 208829

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon, Total Organic			5.00	5.43		mg/L		109	85 - 115	0	20

Lab Sample ID: 570-82066-Z-1 MS
Matrix: Water
Analysis Batch: 208829

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Carbon, Total Organic	10		5.00	15.4		mg/L		102	31 - 145		

Method: SM 5310D - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 570-82066-Z-1 MSD
Matrix: Water
Analysis Batch: 208829

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon, Total Organic	10		5.00	15.6		mg/L		105	31 - 145	1	20

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 440-665021/11
Matrix: Water
Analysis Batch: 665021

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Blue Active Substances	ND		0.10	0.050	mg/L			01/20/22 18:18	1

Lab Sample ID: LCS 440-665021/13
Matrix: Water
Analysis Batch: 665021

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Blue Active Substances	0.250	0.256		mg/L		102	90 - 110

Lab Sample ID: MRL 440-665021/10
Matrix: Water
Analysis Batch: 665021

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Blue Active Substances	0.100	0.113		mg/L		113	50 - 150

Lab Sample ID: 570-82068-1 MS
Matrix: Water
Analysis Batch: 665021

Client Sample ID: Outfall011_20220119_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Blue Active Substances	0.13		0.250	0.336		mg/L		81	75 - 125

Lab Sample ID: 570-82068-1 MSD
Matrix: Water
Analysis Batch: 665021

Client Sample ID: Outfall011_20220119_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylene Blue Active Substances	0.13		0.250	0.297	LN	mg/L		65	75 - 125	12	20

Method: SM5210B - BOD, 5 Day

Lab Sample ID: USB 440-665351/2
Matrix: Water
Analysis Batch: 665351

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			01/20/22 09:40	1

Method: SM5210B - BOD, 5 Day (Continued)

Lab Sample ID: LCS 440-665351/4
Matrix: Water
Analysis Batch: 665351

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Biochemical Oxygen Demand			199	197		mg/L		99	85 - 115		

Lab Sample ID: 570-82199-A-1 DU
Matrix: Water
Analysis Batch: 665351

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Biochemical Oxygen Demand	2000			1930		mg/L				3	20

GC/MS VOA

Analysis Batch: 210396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	8260B SIM	
MB 570-210396/8	Method Blank	Total/NA	Water	8260B SIM	
LCS 570-210396/4	Lab Control Sample	Total/NA	Water	8260B SIM	
LCSD 570-210396/5	Lab Control Sample Dup	Total/NA	Water	8260B SIM	

GC/MS Semi VOA

Prep Batch: 209053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	625	
MB 570-209053/1-A	Method Blank	Total/NA	Water	625	
LCS 570-209053/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-209053/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 209308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	625.1 SIM	209053
MB 570-209053/1-A	Method Blank	Total/NA	Water	625.1 SIM	209053

Analysis Batch: 209773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-209053/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	209053
LCSD 570-209053/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	209053

GC Semi VOA

Prep Batch: 208417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	608	
MB 570-208417/1-A	Method Blank	Total/NA	Water	608	
LCS 570-208417/2-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-208417/3-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 208660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	608.3	208417
MB 570-208417/1-A	Method Blank	Total/NA	Water	608.3	208417
LCS 570-208417/2-A	Lab Control Sample	Total/NA	Water	608.3	208417
LCSD 570-208417/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	208417

Analysis Batch: 208664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	608.3	208417
MB 570-208417/1-A	Method Blank	Total/NA	Water	608.3	208417

HPLC/IC

Analysis Batch: 664905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	218.6	
MB 440-664905/6	Method Blank	Total/NA	Water	218.6	
LCS 440-664905/5	Lab Control Sample	Total/NA	Water	218.6	

HPLC/IC (Continued)

Analysis Batch: 664905 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 440-664905/4	Lab Control Sample	Total/NA	Water	218.6	
570-82078-A-1 MS	Matrix Spike	Total/NA	Water	218.6	
570-82078-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	218.6	

Analysis Batch: 664932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	300.0	
MB 440-664932/6	Method Blank	Total/NA	Water	300.0	
LCS 440-664932/5	Lab Control Sample	Total/NA	Water	300.0	
570-82068-1 MS	Outfall011_20220119_Comp	Total/NA	Water	300.0	
570-82068-1 MSD	Outfall011_20220119_Comp	Total/NA	Water	300.0	

Analysis Batch: 664933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	300.0	
570-82068-1 - DL	Outfall011_20220119_Comp	Total/NA	Water	300.0	
MB 440-664933/6	Method Blank	Total/NA	Water	300.0	
LCS 440-664933/5	Lab Control Sample	Total/NA	Water	300.0	
570-82068-1 MS	Outfall011_20220119_Comp	Total/NA	Water	300.0	
570-82068-1 MSD	Outfall011_20220119_Comp	Total/NA	Water	300.0	

Analysis Batch: 665039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	314.0	
MB 440-665039/6	Method Blank	Total/NA	Water	314.0	
LCS 440-665039/5	Lab Control Sample	Total/NA	Water	314.0	
MRL 440-665039/4	Lab Control Sample	Total/NA	Water	314.0	
MRL 440-665039/9	Lab Control Sample	Total/NA	Water	314.0	
570-82063-J-1 MS	Matrix Spike	Total/NA	Water	314.0	
570-82063-J-1 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	

Analysis Batch: 665958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	NO3NO2 Calc	

Metals

Filtration Batch: 210140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-3	Outfall011_20220119_Comp_F	Dissolved	Water	Filtration	
MB 570-210140/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-210140/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-210140/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-82063-A-3-D MS	Matrix Spike	Dissolved	Water	Filtration	
570-82063-C-3-J MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

Prep Batch: 210150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-3	Outfall011_20220119_Comp_F	Dissolved	Water	245.1	210140
MB 570-210140/1-B	Method Blank	Dissolved	Water	245.1	210140
LCS 570-210140/2-B	Lab Control Sample	Dissolved	Water	245.1	210140

Metals (Continued)

Prep Batch: 210150 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 570-210140/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	210140
570-82063-A-3-D MS	Matrix Spike	Dissolved	Water	245.1	210140
570-82063-C-3-J MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	210140

Analysis Batch: 210433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-3	Outfall011_20220119_Comp_F	Dissolved	Water	245.1	210150
MB 570-210140/1-B	Method Blank	Dissolved	Water	245.1	210150
LCS 570-210140/2-B	Lab Control Sample	Dissolved	Water	245.1	210150
LCSD 570-210140/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	210150
570-82063-A-3-D MS	Matrix Spike	Dissolved	Water	245.1	210150
570-82063-C-3-J MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	210150

Prep Batch: 210564

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	245.1	
MB 570-210564/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-210564/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-210564/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
440-294471-A-1-D MS	Matrix Spike	Total/NA	Water	245.1	
440-294471-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 210669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	245.1	210564
MB 570-210564/1-A	Method Blank	Total/NA	Water	245.1	210564
LCS 570-210564/2-A	Lab Control Sample	Total/NA	Water	245.1	210564
LCSD 570-210564/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	210564
440-294471-A-1-D MS	Matrix Spike	Total/NA	Water	245.1	210564
440-294471-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	210564

Analysis Batch: 665281

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total Recoverable	Water	SM 2340B	

Analysis Batch: 665282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-3	Outfall011_20220119_Comp_F	Dissolved	Water	SM 2340B	

Filtration Batch: 665510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-3	Outfall011_20220119_Comp_F	Dissolved	Water	FILTRATION	
MB 440-665510/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-665510/1-C	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-665510/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-665510/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
570-82063-C-3-G MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-82063-C-3-H MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
570-82066-C-3-D MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-82066-C-3-E MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Metals

Prep Batch: 665547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-3	Outfall011_20220119_Comp_F	Dissolved	Water	200.2	665510
MB 440-665510/1-B	Method Blank	Dissolved	Water	200.2	665510
LCS 440-665510/2-B	Lab Control Sample	Dissolved	Water	200.2	665510
570-82066-C-3-D MS	Matrix Spike	Dissolved	Water	200.2	665510
570-82066-C-3-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	665510

Prep Batch: 665552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-3	Outfall011_20220119_Comp_F	Dissolved	Water	200.2	665510
MB 440-665510/1-C	Method Blank	Dissolved	Water	200.2	665510
LCS 440-665510/2-C	Lab Control Sample	Dissolved	Water	200.2	665510
570-82063-C-3-G MS	Matrix Spike	Dissolved	Water	200.2	665510
570-82063-C-3-H MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	665510

Analysis Batch: 665638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-3	Outfall011_20220119_Comp_F	Dissolved	Water	200.8	665552
MB 440-665510/1-C	Method Blank	Dissolved	Water	200.8	665552
LCS 440-665510/2-C	Lab Control Sample	Dissolved	Water	200.8	665552
570-82063-C-3-G MS	Matrix Spike	Dissolved	Water	200.8	665552
570-82063-C-3-H MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	665552

Analysis Batch: 665833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-3	Outfall011_20220119_Comp_F	Dissolved	Water	200.7 Rev 4.4	665547
MB 440-665510/1-B	Method Blank	Dissolved	Water	200.7 Rev 4.4	665547
LCS 440-665510/2-B	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	665547
570-82066-C-3-D MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	665547
570-82066-C-3-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	665547

Prep Batch: 666168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total Recoverable	Water	200.2	
MB 440-666168/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-666168/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
440-294627-A-2-B MS	Matrix Spike	Total Recoverable	Water	200.2	
440-294627-A-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Prep Batch: 666169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total Recoverable	Water	200.2	
MB 440-666169/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-666169/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
440-294868-E-1-B MS	Matrix Spike	Total Recoverable	Water	200.2	
440-294868-E-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 666236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total Recoverable	Water	200.8	666168
MB 440-666168/1-A	Method Blank	Total Recoverable	Water	200.8	666168
LCS 440-666168/2-A	Lab Control Sample	Total Recoverable	Water	200.8	666168

Metals (Continued)

Analysis Batch: 666236 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-294627-A-2-B MS	Matrix Spike	Total Recoverable	Water	200.8	666168
440-294627-A-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	666168

Analysis Batch: 666240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total Recoverable	Water	200.7 Rev 4.4	666169
MB 440-666169/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	666169
LCS 440-666169/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	666169
440-294868-E-1-B MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	666169
440-294868-E-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	666169

General Chemistry

Analysis Batch: 208829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	SM 5310D	
MB 570-208829/33	Method Blank	Total/NA	Water	SM 5310D	
LCS 570-208829/34	Lab Control Sample	Total/NA	Water	SM 5310D	
LCSD 570-208829/35	Lab Control Sample Dup	Total/NA	Water	SM 5310D	
570-82066-Z-1 MS	Matrix Spike	Total/NA	Water	SM 5310D	
570-82066-Z-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310D	

Analysis Batch: 664948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	180.1	
MB 440-664948/6	Method Blank	Total/NA	Water	180.1	
MRL 440-664948/5	Lab Control Sample	Total/NA	Water	180.1	
570-81864-G-1 DU	Duplicate	Total/NA	Water	180.1	

Analysis Batch: 665021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	SM 5540C	
MB 440-665021/11	Method Blank	Total/NA	Water	SM 5540C	
LCS 440-665021/13	Lab Control Sample	Total/NA	Water	SM 5540C	
MRL 440-665021/10	Lab Control Sample	Total/NA	Water	SM 5540C	
570-82068-1 MS	Outfall011_20220119_Comp	Total/NA	Water	SM 5540C	
570-82068-1 MSD	Outfall011_20220119_Comp	Total/NA	Water	SM 5540C	

Analysis Batch: 665096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	SM 2540C	
MB 440-665096/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-665096/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-294471-C-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 665351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	SM5210B	
USB 440-665351/2	Method Blank	Total/NA	Water	SM5210B	
LCS 440-665351/4	Lab Control Sample	Total/NA	Water	SM5210B	
570-82199-A-1 DU	Duplicate	Total/NA	Water	SM5210B	

General Chemistry

Analysis Batch: 665407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	SM 2540D	
MB 440-665407/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-665407/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-294354-B-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Analysis Batch: 665813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	SM 4500 NH3 G	
MB 440-665813/10	Method Blank	Total/NA	Water	SM 4500 NH3 G	
LCS 440-665813/11	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
MRL 440-665813/9	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
570-82097-Q-5 MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 G	
570-82097-Q-5 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 G	

Prep Batch: 665932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	Distill/CN	
MB 440-665932/1-A	Method Blank	Total/NA	Water	Distill/CN	
LCS 440-665932/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
570-82063-H-1-B MS	Matrix Spike	Total/NA	Water	Distill/CN	
570-82063-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	Distill/CN	

Analysis Batch: 665994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	SM 4500 CN E	665932
MB 440-665932/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	665932
LCS 440-665932/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	665932
570-82063-H-1-B MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	665932
570-82063-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	665932

Analysis Batch: 666262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	218.6 CR3	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	25 mL	25 mL	210396	01/31/22 18:38	AH8S	ECL 2
	Instrument ID: GCMSFFF									
Total/NA	Prep	625			1027.3 mL	2 mL	209053	01/24/22 09:57	H1SH	ECL 1
Total/NA	Analysis	625.1 SIM		1			209308	01/26/22 23:57	ULLI	ECL 1
	Instrument ID: GCMSJJJ									
Total/NA	Prep	608			1500 mL	1 mL	208417	01/20/22 05:44	H1SH	ECL 1
Total/NA	Analysis	608.3		1			208660	01/21/22 11:42	UHHN	ECL 1
	Instrument ID: GC44									
Total/NA	Prep	608			1500 mL	1 mL	208417	01/20/22 05:44	H1SH	ECL 1
Total/NA	Analysis	608.3		1			208664	01/21/22 15:39	UHHN	ECL 1
	Instrument ID: GC58									
Total/NA	Analysis	218.6		1			664905	01/20/22 08:42	YO8L	IRV 2
	Instrument ID: IC-33									
Total/NA	Analysis	300.0		1	5 mL	1.0 mL	664932	01/20/22 17:17	NIH3	IRV 2
	Instrument ID: IC-27									
Total/NA	Analysis	300.0		1	5 mL	1.0 mL	664933	01/20/22 17:17	NIH3	IRV 2
	Instrument ID: IC-27									
Total/NA	Analysis	300.0	DL	5	5 mL	1.0 mL	664933	01/20/22 18:06	NIH3	IRV 2
	Instrument ID: IC-27									
Total/NA	Analysis	314.0		1			665039	01/21/22 08:21	YO8L	IRV 2
	Instrument ID: IC-24									
Total/NA	Analysis	NO3NO2 Calc		1			665958	01/31/22 13:54	PN8W	IRV 2
	Instrument ID: NOEQUIP									
Total Recoverable	Prep	200.2			25 mL	25 mL	666169	02/02/22 11:02		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			666240	02/02/22 18:07	K1UV	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	666168	02/02/22 09:57		IRV 2
Total Recoverable	Analysis	200.8		1			666236	02/02/22 16:20	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total/NA	Prep	245.1			50 mL	100 mL	210564	02/01/22 10:46	VWJ7	ECL 4
Total/NA	Analysis	245.1		1			210669	02/01/22 15:32	VWJ7	ECL 1
	Instrument ID: HG7									
Total Recoverable	Analysis	SM 2340B		1			665281	02/03/22 17:47	P1R	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	180.1		1			664948	01/20/22 10:58	W1BQ	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	218.6 CR3		1			666262	02/03/22 10:24	PN8W	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	665096	01/21/22 13:33	VY3D	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540D		1	600 mL	1000 mL	665407	01/25/22 15:21	HBR9	IRV 2
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Distill/CN			50 mL	50 mL	665932	01/31/22 12:01	GG0B	IRV 2
Total/NA	Analysis	SM 4500 CN E		1			665994	01/31/22 18:14	GG0B	IRV 2
	Instrument ID: Genesys30-5									
Total/NA	Analysis	SM 4500 NH3 G		1	0.8 mL	8.0 mL	665813	01/28/22 13:35	GG0B	IRV 2
	Instrument ID: LACHAT01									
Total/NA	Analysis	SM 5310D		1	40 mL	40 mL	208829	01/20/22 14:17	CY2M	ECL 4
	Instrument ID: TOC12									
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	665021	01/20/22 18:18	GG0B	IRV 2
	Instrument ID: Genesys30-5									
Total/NA	Analysis	SM5210B		1			665351	01/20/22 18:44	VY3D	IRV 2
	Instrument ID: BOD 10									

Client Sample ID: Outfall011_20220119_Comp_F
Lab Sample ID: 570-82068-3
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			250 mL	250 mL	665510	01/26/22 14:34	C0YH	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	665547	01/26/22 17:34	C0YH	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			665833	01/27/22 13:35	P1R	IRV 2
	Instrument ID: ICP10									
Dissolved	Filtration	FILTRATION			250 mL	250 mL	665510	01/26/22 14:34	C0YH	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	665552	01/26/22 15:00	C0YH	IRV 2
Dissolved	Analysis	200.8		1			665638	01/27/22 12:03	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	210140	01/26/22 15:10	UIAS	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	210150	01/28/22 14:30	VWJ7	ECL 4
Dissolved	Analysis	245.1		1			210433	01/31/22 18:22	VWJ7	ECL 1
	Instrument ID: HG7									
Dissolved	Analysis	SM 2340B		1			665282	02/01/22 17:48	P1R	IRV 2
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-31-23
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
218.6 CR3		Water	Cr (III)
314.0		Water	Perchlorate

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method	Method Description	Protocol	Laboratory
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	ECL 2
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	40CFR136A	ECL 1
608.3	Organochlorine Pesticides in Water	40CFR136A	ECL 1
608.3	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	ECL 1
218.6	Chromium, Hexavalent (Ion Chromatography)	EPA	IRV 2
300.0	Anions, Ion Chromatography	MCAWW	IRV 2
314.0	Perchlorate (IC)	EPA	IRV 2
NO3NO2 Calc	Nitrogen, Nitrate-Nitrite	EPA	IRV 2
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	ECL 1
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	IRV 2
180.1	Turbidity, Nephelometric	MCAWW	IRV 2
218.6 CR3	Chromium, Trivalent (Calculation)	EPA	IRV 2
SM 2540C	Solids, Total Dissolved (TDS)	SM	IRV 2
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 2
SM 4500 CN E	Cyanide, Total (Low Level)	SM	IRV 2
SM 4500 NH3 G	Ammonia	SM	IRV 2
SM 5310D	Organic Carbon, Total (TOC)	SM	ECL 4
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	IRV 2
SM5210B	BOD, 5 Day	SM	IRV 2
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	ECL 4
5030C	Purge and Trap	SW846	ECL 2
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	ECL 1
625	Liquid-Liquid Extraction	40CFR136A	ECL 1
Distill/CN	Distillation, Cyanide	None	IRV 2
Filtration	Sample Filtration	None	ECL 4
FILTRATION	Sample Filtration	None	IRV 2

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Job ID: 570-82068-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-82068-1	Outfall011_20220119_Comp	Water	01/19/22 09:00	01/19/22 18:20
570-82068-3	Outfall011_20220119_Comp_F	Water	01/19/22 09:00	01/19/22 18:20

82068

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-82068 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 011 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)
Sampler: Adrian Mobeka	

									ANALYSIS REQUIRED																
									R/A	R	R	R	R/A	R	R	R	A	A	R					
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl-, F-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals: Mercury (E245.1)					Comments
Outfall 011	Outfall011_20220119_Comp	1/19/2022/0400	WM	500 mL Poly	1	HNO_3	80	No	X										X					
			WM	1 L Glass Amber	2	None	110	No		X														
			WM	1 L Poly	1	None	115	No			X													
			WM	500 mL Poly	2	None	120	No				X												
			WM	500 mL Poly	2	None	125	No					X											48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X										48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X								
			WM	1 L Glass Amber	2	None	250	No									X							
			WM	1 L Glass Amber	2	None	175	No										X						
			WM	1 L Poly	1	None	185	No							X									
	Outfall011_20220119_Comp_Extra	1/19/2022/0400	WM	1 L Glass Amber	2	None	110	No		H														Hold
			WM	500 mL Poly	2	None	120	No				H												Hold
			WM	500 mL Poly	2	None	125	No					H											Hold
			WM	1 L Glass Amber	2	None	250	No										H						Hold
			WM	1 L Glass Amber	2	None	175	No											H					Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
[signature]	1-19-2022/1400	H.A	[signature]	EC 1/19/22 1400	
Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
[signature]	01/19/22	1820 EC	[signature]	1/19/22 1820	
Relinquished By	Date/Time:	Company:	Received By	Date/Time:	

Turn-around time: (Check)
24 Hour: ____ 72 Hour: ____ 10 Day: __X__
48 Hour: ____ 5 Day: ____ Normal: ____

Sample Integrity: (Check)
Intact: ____ On Ice: ____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: ____ All Level IV: __X__

2 3|3.8, 1 9|3.4, 2 1|3.6

2/12/2022

2019-2020 Rainy Season
Version 5

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address:
Haley & Aldrich
5333 Mission Center Rd Suite 300
San Diego, CA 92108

Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446
17461 Derian Ave Suite #100
Irvine CA 92614
Tel: 949-260-3218

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Sampler: Adrian Mobeka

Project:
Boeing-SSFL NPDES
Permit 2022
Annual Outfall [001, 002, 011, 018]
Outfall 011
Comp

Project Manager: Katherine Miller
520.289.8606, 520.904.6944 (cell)

Field Manager: Mark Dominick
978.234.5033, 818.599.0702 (cell)

									R/A	R	R	R	A	A	A	A	R	QRSW	
									ANALYSIS REQUIRED										
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)		Comments
Outfall 011	Outfall011_20220119_Comp_F	1/19/2022 0900	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	2	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall011_20220119_Comp	1/19/2022* 0900	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			WM	1L Glass Amber	2	None	275	No											
	Outfall011_20220119_Comp_Extra	1/19/2022 0900	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	no # 1	None	255	No							H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	Company:
[signature]	1-19-2022 / 1400	H;A	[signature]	1119/22 1400	ECI
[signature]	01119/22 1820	ECI	[signature]	1/19/22 1820	

Turn-around time: (Check)
24 Hour: ____ 72 Hour: ____ 10 Day: __X__
48 Hour: ____ 5 Day: ____ Normal: ____

Sample Integrity: (Check)
Intact: ____ On Ice: ____

Store samples for 6 months.

Data Requirements: (Check)
No Level IV: ____ All Level IV: __X__

* Hand-delivered to ABC Labs in Ventura by H;A

2 3/3 8, 1 9/3.4 SCG

Eurofins Calscience
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152165 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82068-3
Address: 13715 Rider Trail North ,	Due Date Requested: 2/16/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall011_20220119_Comp (570-82068-1)	1/19/22	09:00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
1		1/20/22 1304				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

2/12/2022

ORIGIN ID:APVA (714) 895-5494
SAMPLE CONTROL
CALSCIENCE ENVIRONMENTAL LAB
7440 LINCOLN WAY

GARDEN GROVE, CA 92841
UNITED STATES US

SHIP DATE: 20JAN22
ACTWGT: 61.00 LB
CAD: 1533735/INET4460

BILL SENDER

TO **SAMPLE RECEIVING**
EUROFINS TESTAMERICA
13715 RIDER TRAIL NORTH

EARTH CITY MO 63045
(314) 298-8566
INV
PO

REF VP/82063,82066, 82068
DEPT

560J4/F289/FE4A

FedEx Express

J2210220105071uw

E

1 of 2

TRK# 0201 **7758 1398 4382**

MASTER

XN ALNA

FRI - 21 JAN 10:30A
PRIORITY OVERNIGHT

63045
STL
MO-US

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Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152240 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-82068-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 2/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall011_20220119_Comp (570-82068-1)	1/19/22	09:00 Pacific		Water			X		2	See QAS Boeing_w/u to zero, ug/L Use Boeing glassware
Outfall011_20220119_Comp_Extra (570-82068-2)	1/19/22	09:00 Pacific		Water				X	2	See QAS Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	1/20/22 1520				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/12/2022

ORIGIN ID:APVA (714) 895-5494
SAMPLE CONTROL
CALSCIENCE ENVIRONMENTAL LAB
7440 LINCOLN WAY

GARDEN GROVE, CA 92841
UNITED STATES US

SHIP DATE: 20JAN22
ACTWGT 59 00 LB
CAD 1533735/INET4460

BILL SENDER

TO SAMPLE RECEIVING
EUROFINS TESTAMERICA-W.SAC
880 RIVERSIDE PARKWAY

WEST SACRAMENTO CA 95605
(916) 373-5600 REF VP/82063,066,068, LT/82097
INV
PO: DEPT

56DJ4/F289/FE4A

FedEx Express

E

J221022010501uv

FRI - 21 JAN 10:30A
PRIORITY OVERNIGHT

1 of 2
TRK# 0201 7758 1579 8353
MASTER

95605
CA-US SMF

WD BLUA

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ORIGIN ID:APVA (714) 895-5494
SAMPLE CONTROL
CALSCIENCE ENVIRONMENTAL LAB
7440 LINCOLN WAY

GARDEN GROVE, CA 92841
UNITED STATES US

SHIP DATE: 20JAN22
ACTWGT: 59.00 LB
CAD: 1533735/INET4460

BILL SENDER

TO **SAMPLE RECEIVING**
EUROFINS TESTAMERICA-W.SAC
880 RIVERSIDE PARKWAY

WEST SACRAMENTO CA 95605
(916) 373-5600
INV:
PO:
DEPT:

REF: VP/82063.066.068, LT/82097

56DJ4/F289/FE4A

FedEx Express

J2210220105011w

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PRIORITY OVERNIGHT

2 of 2
MPS# 7758 1579 8364
0263
Mstr# 7758 1579 8353
0201

95605
SMF
CA-US

WD BLUA

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Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-152284 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82068-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 2/9/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V - MCAA
K - EDTA	W pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall011_20220119_Comp (570-82068-1)	1/19/22	09:00 Pacific		Water			X		1	Level IV needed
Outfall011_20220119_Comp_Extra (570-82068-2)	1/19/22	09:00 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	1/20/22 1637				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/12/2022

ORIGIN ID:APVA (714) 895-5494
SAMPLE CONTROL
CALSCIENCE ENVIRONMENTAL LAB
7440 LINCOLN WAY
GARDEN GROVE, CA 92841
UNITED STATES US

SHIP DATE: 20JAN22
ACTWGT: 35.00 LB
CAD: 1533735/INET4460

BILL SENDER

TO **SAMPLE RECEIVING**
WECK LABORATORIES, INC.
14859 EAST CLARK AVENUE

CITY OF INDUSTRY CA 91745
(626) 336-2139
INV:
PO:
REF: VP82062,66,68 TN / 82176
DEPT:

56DJ4/F289/FE4A

FedEx Express
J2210220105811w

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PRIORITY OVERNIGHT

TRK# 0201 **7758 1620 7190**

92 POCA

91745
CA-US LAX

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Eurofins Calscience
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-152108 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Environment Testing Southwest		Accreditations Required (See note): State Program - California		Job #: 570-82068-1
Address: 2841 Dow Avenue	Due Date Requested: 1/31/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #			
Email:	WO #			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site	SSOW#:			

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 200.7 Outfall 001/002/011 Totals List	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	SM5210B_BODCalc/ BOD, 5 Day	5540C/ Methylene Blue Active Substances (MBAS)	300_ORGFM_28D/ Chloride,Sulfate, Fluoride	300_ORGFMS/ (MOD) Nitrate + Nitrite as N	NO2NO3_Calc	314.0/ Perchlorate	180.1/ Turbidity	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall011_20220119_Comp (570-82068-1)	1/19/22	09 00 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X	X	X	11	run low level matrix spike when baseline is elevated, confirm hit w/spike 2X-5X hit
Outfall011_20220119_F (570-82068-3)	1/19/22	09 00 Pacific		Water																1	Filter w/in 24 hours, Filter within 24 hours

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing Southwest LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by:	01/20/22 0827	ETSW		1/20/22	ET
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time.	Company	Received by:	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 15/15 1/1/1

Ver 06/08/2021

IR 85

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82068-1

Login Number: 82068
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82068-1

Login Number: 82068
List Number: 2
Creator: Skinner, Alma D

List Source: Eurofins Calscience Tustin
List Creation: 01/20/22 08:27 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-82068-2
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/8/2022 10:33:50 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-82068-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-82068-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-82068-2

Comments
No additional comments.

Receipt
The samples were received on 1/19/2022 6:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.4º C, 3.6º C and 3.8º C.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method Chronic-Selenestrum: This method was subcontracted to Aquatic Bioassay & Consulting. The subcontract laboratory certification is different from that of the facility issuing the final report.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Method	Method Description	Protocol	Laboratory
EPA	Bioassay	EPA	Aquatic

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

Aquatic = Aquatic Bioassay & Consulting, 29 North Olive Street, Ventura, CA 93001

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-82068-1	Outfall011_20220119_Comp	Water	01/19/22 09:00	01/19/22 18:20

aquatic bioassay & consulting laboratories, inc

February 4, 2022

Mr. Virendra Patel
Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841-1432

Dear Mr. Patel:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013.* Results were as follows:

CLIENT:	Eurofins Calscience
SAMPLE I.D.:	Outfall 011
DATE RECEIVED:	19 Jan - 2022
ABC LAB. NO.:	CSE0122.087

CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY

IWC = 100.00 %

TST RESULT

GROWTH = FAIL % EFFECT = 24.40 %

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 01 Feb-22 09:33 (p 1 of 1)
Test Code/ID: CSE0122.087 / 16-7212-7022

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	01-3090-3423	**Test Type:**	Cell Growth	**Analyst:**	Beth Maturino		
Start Date:	20 Jan-22 09:24	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	24 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	4d 3h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	7d
Sample ID:	18-0094-0771	**Code:**	CSE0122.087	**Project:**	Boeing-SSFL NPDES		
Sample Date:	19 Jan-22 09:00	**Material:**	Sample Water	**Source:**	Bioassay Report		
Receipt Date:	19 Jan-22 15:55	**CAS (PC):**		**Station:**	Outfall 011		
Sample Age:	24h (5 °C)	**Client:**	Eurofins Calscience				

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result	S
16-7881-6907	Cell Density	TST-Welch's t Test	0.3927	100% failed cell density	1

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
16-7881-6907	Cell Density	Control CV	0.03656	<<	0.2	Yes	Passes Criteria
16-7881-6907	Cell Density	Control Resp	1.81E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	8	1.811E+6	1.755E+6	1.866E+6	1.663E+6	1.864E+6	2.340E+4	6.620E+4	3.66%	0.00%
100		8	1.369E+6	1.286E+6	1.452E+6	1.225E+6	1.549E+6	3.495E+4	9.886E+4	7.22%	24.40%

Cell Density Detail — MD5: 58D4D2FBA8CE4063DDA8F18374739319

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.864E+6	1.779E+6	1.803E+6	1.830E+6	1.850E+6	1.663E+6	1.858E+6	1.839E+6
100		1.314E+6	1.399E+6	1.349E+6	1.450E+6	1.549E+6	1.303E+6	1.225E+6	1.363E+6

CETIS Analytical Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	16-7881-6907	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	31 Jan-22 9:20	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:	31 Jan-22 9:15	**MD5 Hash:**	267CEA9B9B71C9CCF9CD64EB075C9BC	**Editor ID:**	004-190-922-1
Batch ID:	01-3090-3423	**Test Type:**	Cell Growth	**Analyst:**	Beth Maturino
Start Date:	20 Jan-22 09:24	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	24 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	4d 3h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 7d
Sample ID:	18-0094-0771	**Code:**	CSE0122.087	**Project:**	Boeing-SSFL NPDES
Sample Date:	19 Jan-22 09:00	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	19 Jan-22 15:55	**CAS (PC):**		**Station:**	Outfall 011
Sample Age:	24h (5 °C)	**Client:**	Eurofins Calscience		

Data Transform	Alt Hyp	TST_b	Comparison Result
Untransformed	C*b < T	0.75	100% failed cell density endpoint

TST-Welch's t Test

Control	vs	Conc-%	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:25%)
Negative Control		100	0.2796	0.6998	10	CDF	0.3927	Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.03656	<<	0.2	Yes	Passes Criteria
Control Resp	1.81E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	7.806E+11	7.806E+11	1	110.3	<1.0E-05	Significant Effect
Error	9.909E+10	7.078E+09	14			
Total	8.797E+11		15			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Levene Equality of Variance Test	0.9606	8.862	0.3437	Equal Variances
	Mod Levene Equality of Variance Test	0.9539	8.862	0.3453	Equal Variances
	Variance Ratio F Test	2.23	8.885	0.3119	Equal Variances
Distribution	Anderson-Darling A2 Test	0.3987	3.878	0.3697	Normal Distribution
	D'Agostino Skewness Test	0.008296	2.576	0.9934	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1312	0.2471	0.7142	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9548	0.8408	0.5699	Normal Distribution

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	8	1.811E+6	1.755E+6	1.866E+6	1.834E+6	1.663E+6	1.864E+6	2.340E+4	3.66%	0.00%
100		8	1.369E+6	1.286E+6	1.452E+6	1.356E+6	1.225E+6	1.549E+6	3.495E+4	7.22%	24.40%

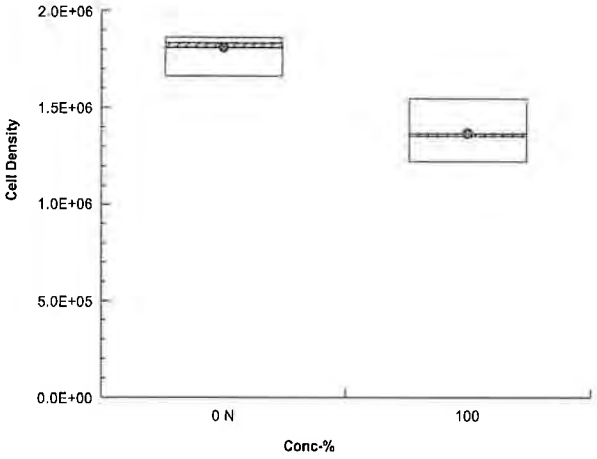
Cell Density Detail

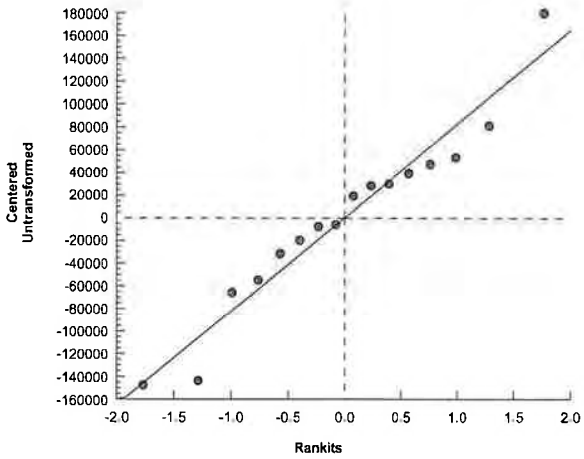
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.864E+6	1.779E+6	1.803E+6	1.830E+6	1.850E+6	1.663E+6	1.858E+6	1.839E+6
100		1.314E+6	1.399E+6	1.349E+6	1.450E+6	1.549E+6	1.303E+6	1.225E+6	1.363E+6

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	16-7881-6907	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	31 Jan-22 9:20	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:	31 Jan-22 9:15	**MD5 Hash:**	267CEA9B9B71C9CCF9CD64EB075C9BC	**Editor ID:**	004-190-922-1

Graphics





Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	01-3090-3423	**Test Type:**	Cell Growth	**Analyst:**	Beth Maturino	
Start Date:	20 Jan-22 09:24	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water	
Ending Date:	24 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable	
Test Length:	4d 3h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:** 7d

Sample ID:	18-0094-0771	**Code:**	CSE0122.087	**Project:**	Boeing-SSFL NPDES	
Sample Date:	19 Jan-22 09:00	**Material:**	Sample Water	**Source:**	Bioassay Report	
Receipt Date:	19 Jan-22 15:55	**CAS (PC):**		**Station:**	Outfall 011	
Sample Age:	24h (5 °C)	**Client:**	Eurofins Calscience			

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	63	---	---	63	63	---	0	---	0
100		1	35	---	---	35	35	---	0	---	0
Overall		2	49	-128.9	226.9	35	63	14	19.8	40.41%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	495.6	484.5	506.7	483	507	1.792	8.961	1.81%	0
100		5	366.8	359.7	373.9	362	376	1.144	5.718	1.56%	0
Overall		10	431.2	382.4	480	362	507	21.58	68.25	15.83%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	110	---	---	110	110	---	0	---	0
100		1	67	---	---	67	67	---	0	---	0
Overall		2	88.5	-184.7	361.7	67	110	21.5	30.41	34.36%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.94	7.829	8.051	7.8	8	0.01789	0.08944	1.13%	0
100		5	8.1	7.976	8.224	8	8.2	0.02	0.1	1.23%	0
Overall		10	8.02	7.932	8.108	7.8	8.2	0.03887	0.1229	1.53%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.96	25.85	26.07	25.8	26	0.01789	0.08943	0.34%	0
100		5	25.96	25.85	26.07	25.8	26	0.01789	0.08943	0.34%	0
Overall		10	25.96	25.9	26.02	25.8	26	0.02667	0.08433	0.32%	0 (0%)

Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		63					
100				35					

Conductivity-µmhos

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		483					
100				362					
0	N	2		507					
100				367					
0	N	3		496					
100				367					
0	N	4		492					
100				362					
0	N	5		500					
100				376					

Hardness (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		110					
100				67					

pH-Units

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.8					
100				8.1					
0	N	2		8					
100				8.2					
0	N	3		7.9					
100				8					
0	N	4		8					
100				8					
0	N	5		8					
100				8.2					

Temperature-°C

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		26					
100				26					
0	N	2		26					
100				26					
0	N	3		26					
100				26					
0	N	4		26					
100				26					
0	N	5		25.8					
100				25.8					

,687

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Temp. deg. C = 5.0 °C

Chlorine (mg/L) = 0.1

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 011 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)
Sampler: Adrian Mobeka	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R/A	R	R	R	A	A	A	A	R	QRSW	Comments
									Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), Ic-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DY-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals: Mercury (E245.1)		
Outfall 011	Outfall011_20220119_Comp_F	1/19/2022 0900	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall011_20220119_Comp	1/19/2022 0900 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.6 Gal Cube	1	None	225	No											
			WM	1 L Glass Amber	1	None	230	No		\	X								Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			WM	1L Glass Amber	2	None	275	No											
	Outfall011_20220119_Comp_Extra	1/19/2022 0900	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	also 2 of 1	None	255	No							H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By: Mark Dominick	Date/Time: 1-19-2022 / 1555	Company: H&A	Received By:	Date/Time: 1/19/22	1555
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time: 1/19/22	1555
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:	

Turn-around time: (Check)
24 Hour: ____ 72 Hour: ____ 10 Day: __X__
48 Hour: ____ 5 Day: ____ Normal: ____

Sample Integrity: (Check)
Intact: ____ On Ice: ____

Store samples for 6 months

Data Requirements: (Check)
No Level IV: ____ All Level IV: __X__

* Hand-delivered to ABC Labs in Ventura by H&A

aquatic bioassay & consulting laboratories, inc

CHRONIC SELENASTRUM GROWTH BIOASSAY

DATE: 6 January - 2021

STANDARD TOXICANT: Cadmium Chloride

NOEC = 20.00 ug/l

IC25 = 66.20 ug/l
IC50 = 136.00 ug/l

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 25 Jan-22 15:49 (p 1 of 1)
Test Code/ID: SEL010622 / 19-6068-6059

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	04-0871-6453	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	06 Jan-22 11:04	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	10 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	4d 1h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	7d
Sample ID:	05-8955-1529	**Code:**	SEL010622	**Project:**	REF TOX		
Sample Date:	06 Jan-22 11:04	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant		
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX		
Sample Age:	---	**Client:**	Internal Lab				

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	S
17-9444-3655	Cell Density	Dunnett Multiple Comparison Test		20	40	28.28	11.4%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	µg/L	95% LCL	95% UCL	S
11-8061-4337	Cell Density	Linear Interpolation (ICPIN)		IC10	32.99	26.76	53.2	1
				IC15	39.48	30.44	64.2	
				IC20	52.55	29.97	73.88	
				IC25	66.2	42.73	89.41	
				IC40	107.9	89.09	123.8	
				IC50	136	120.6	153.4	

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
11-8061-4337	Cell Density	Control CV	0.04156	<<	0.2	Yes	Passes Criteria
17-9444-3655	Cell Density	Control CV	0.04156	<<	0.2	Yes	Passes Criteria
11-8061-4337	Cell Density	Control Resp	1.76E+6	1000000	>>	Yes	Passes Criteria
17-9444-3655	Cell Density	Control Resp	1.76E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.762E+6	1.645E+6	1.879E+6	1.667E+6	1.845E+6	3.661E+4	7.322E+4	4.16%	0.00%
20		4	1.885E+6	1.579E+6	2.191E+6	1.656E+6	2.068E+6	9.618E+4	1.924E+5	10.20%	-6.99%
40		4	1.543E+6	1.325E+6	1.760E+6	1.419E+6	1.737E+6	6.832E+4	1.366E+5	8.86%	12.44%
80		4	1.276E+6	1.115E+6	1.436E+6	1.177E+6	1.391E+6	5.052E+4	1.010E+5	7.92%	27.61%
140		4	8.855E+5	7.462E+5	1.025E+6	7.730E+5	9.700E+5	4.378E+4	8.756E+4	9.89%	49.74%
180		4	6.262E+5	5.237E+5	7.288E+5	5.490E+5	6.930E+5	3.223E+4	6.445E+4	10.29%	64.46%

Cell Density Detail — MD5: 5D32D8382C52FB4CF0B1C96FCCD75F44

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.761E+6	1.667E+6	1.845E+6	1.775E+6
20		2.018E+6	2.068E+6	1.656E+6	1.799E+6
40		1.737E+6	1.419E+6	1.523E+6	1.492E+6
80		1.328E+6	1.206E+6	1.391E+6	1.177E+6
140		7.730E+5	9.370E+5	9.700E+5	8.620E+5
180		6.930E+5	6.630E+5	6.000E+5	5.490E+5

Analyst: _____ QA: PASS
2/8/2022

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	17-9444-3655	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:58	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1
Edit Date:	23 Jan-22 16:55	**MD5 Hash:**	4FF39683B6F639A44296592E1864B33C	**Editor ID:**	000-189-126-0
Batch ID:	04-0871-6453	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	06 Jan-22 11:04	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	10 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	4d 1h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 7d
Sample ID:	05-8955-1529	**Code:**	SEL010622	**Project:**	REF TOX
Sample Date:	06 Jan-22 11:04	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	20	40	28.28	---	200300	11.37%

Dunnett Multiple Comparison Test

Control	vs	Conc-µg/L	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		20	-1.481	2.407	2E+05	6	CDF	0.9956	Non-Significant Effect
		40*	2.635	2.407	2E+05	6	CDF	0.0322	Significant Effect
		80*	5.847	2.407	2E+05	6	CDF	6.1E-05	Significant Effect
		140*	10.53	2.407	2E+05	6	CDF	2.7E-05	Significant Effect
		180*	13.65	2.407	2E+05	6	CDF	2.7E-05	Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control CV	0.04156	<<	0.2	Yes	Passes Criteria
Control Resp	1.76E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	4.944E+12	9.888E+11	5	71.42	<1.0E-05	Significant Effect
Error	2.492E+11	1.384E+10	18			
Total	5.193E+12		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	4.689	15.09	0.4549	Equal Variances
	Levene Equality of Variance Test	2.608	4.248	0.0607	Equal Variances
	Mod Levene Equality of Variance Test	1.896	4.248	0.1452	Equal Variances
Distribution	Anderson-Darling A2 Test	0.2084	3.878	0.9044	Normal Distribution
	D'Agostino Kurtosis Test	0.08814	2.576	0.9298	Normal Distribution
	D'Agostino Skewness Test	0.03132	2.576	0.9750	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	0.008749	9.21	0.9956	Normal Distribution
	Kolmogorov-Smirnov D Test	0.08117	0.2056	1.0000	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9814	0.884	0.9200	Normal Distribution

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.762E+6	1.645E+6	1.879E+6	1.768E+6	1.667E+6	1.845E+6	3.661E+4	4.16%	0.00%
20		4	1.885E+6	1.579E+6	2.191E+6	1.908E+6	1.656E+6	2.068E+6	9.618E+4	10.20%	-6.99%
40		4	1.543E+6	1.325E+6	1.760E+6	1.508E+6	1.419E+6	1.737E+6	6.832E+4	8.86%	12.44%
80		4	1.276E+6	1.115E+6	1.436E+6	1.267E+6	1.177E+6	1.391E+6	5.052E+4	7.92%	27.61%
140		4	8.855E+5	7.462E+5	1.025E+6	8.995E+5	7.730E+5	9.700E+5	4.378E+4	9.89%	49.74%
180		4	6.262E+5	5.237E+5	7.288E+5	6.315E+5	5.490E+5	6.930E+5	3.223E+4	10.29%	64.46%

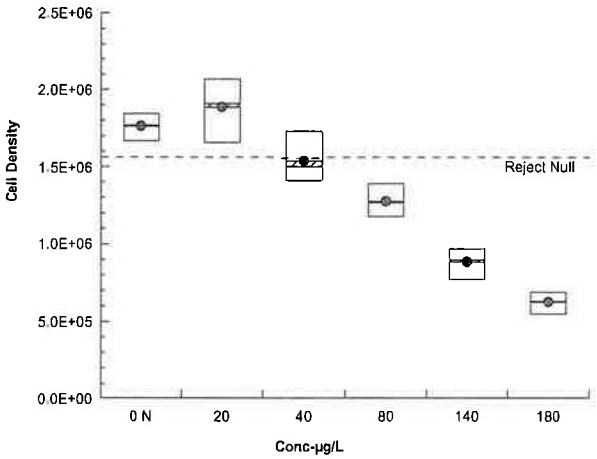
Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

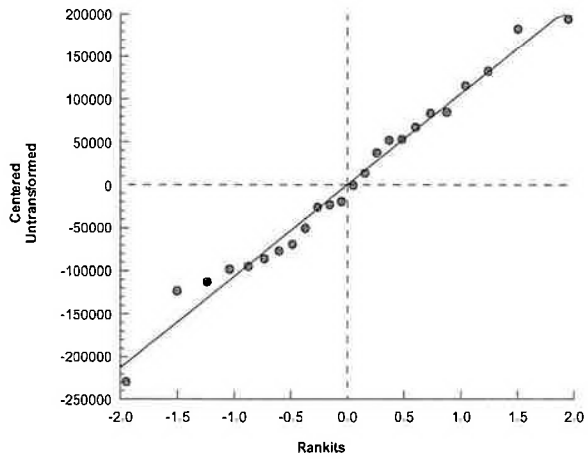
Analysis ID:	17-9444-3655	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:58	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1
Edit Date:	23 Jan-22 16:55	**MD5 Hash:**	4FF39683B6F639A44296592E1864B33C	**Editor ID:**	000-189-126-0

Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.761E+6	1.667E+6	1.845E+6	1.775E+6
20		2.018E+6	2.068E+6	1.656E+6	1.799E+6
40		1.737E+6	1.419E+6	1.523E+6	1.492E+6
80		1.328E+6	1.206E+6	1.391E+6	1.177E+6
140		7.730E+5	9.370E+5	9.700E+5	8.620E+5
180		6.930E+5	6.630E+5	6.000E+5	5.490E+5

Graphics





CETIS Analytical Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	11-8061-4337	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:58	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	23 Jan-22 16:55	**MD5 Hash:**	4FF39683B6F639A44296592E1864B33C	**Editor ID:**	000-189-126-0
Batch ID:	04-0871-6453	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	06 Jan-22 11:04	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	10 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	4d 1h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 7d
Sample ID:	05-8955-1529	**Code:**	SEL010622	**Project:**	REF TOX
Sample Date:	06 Jan-22 11:04	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.04156	<<	0.2	Yes	Passes Criteria
Control Resp	1.76E+6	1000000	>>	Yes	Passes Criteria

Point Estimates

Level	µg/L	95% LCL	95% UCL
IC10	32.99	26.76	53.2
IC15	39.48	30.44	64.2
IC20	52.55	29.97	73.88
IC25	66.2	42.73	89.41
IC40	107.9	89.09	123.8
IC50	136	120.6	153.4

Cell Density Summary

			Calculated Variate						Isotonic Variate	
Conc-µg/L	**Code**	**Count**	**Mean**	**Median**	**Min**	**Max**	**CV%**	**%Effect**	**Mean**	**%Effect**
0	N	4	1.762E+6	1.768E+6	1.667E+6	1.845E+6	4.16%	0.00%	1.824E+6	0.00%
20		4	1.885E+6	1.908E+6	1.656E+6	2.068E+6	10.20%	-6.99%	1.824E+6	0.00%
40		4	1.543E+6	1.508E+6	1.419E+6	1.737E+6	8.86%	12.44%	1.543E+6	15.40%
80		4	1.276E+6	1.267E+6	1.177E+6	1.391E+6	7.92%	27.61%	1.276E+6	30.06%
140		4	8.855E+5	8.995E+5	7.730E+5	9.700E+5	9.89%	49.74%	8.855E+5	51.44%
180		4	6.262E+5	6.315E+5	5.490E+5	6.930E+5	10.29%	64.46%	6.262E+5	65.66%

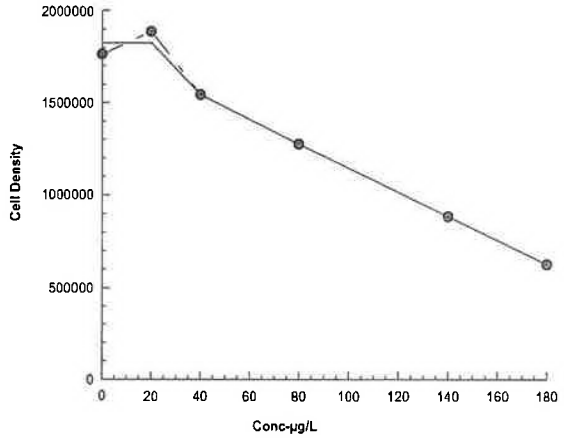
Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.761E+6	1.667E+6	1.845E+6	1.775E+6
20		2.018E+6	2.068E+6	1.656E+6	1.799E+6
40		1.737E+6	1.419E+6	1.523E+6	1.492E+6
80		1.328E+6	1.206E+6	1.391E+6	1.177E+6
140		7.730E+5	9.370E+5	9.700E+5	8.620E+5
180		6.930E+5	6.630E+5	6.000E+5	5.490E+5

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	11-8061-4337	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:58	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	23 Jan-22 16:55	**MD5 Hash:**	4FF39683B6F639A44296592E1864B33C	**Editor ID:**	000-189-126-0

Graphics



Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	04-0871-6453	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	06 Jan-22 11:04	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	10 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	4d 1h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	7d

Sample ID:	05-8955-1529	**Code:**	SEL010622	**Project:**	REF TOX
Sample Date:	06 Jan-22 11:04	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	57	---	---	57	57	---	0	---	0
20		1	57	---	---	57	57	---	0	---	0
40		1	57	---	---	57	57	---	0	---	0
80		1	60	---	---	60	60	---	0	---	0
140		1	49	---	---	49	49	---	0	---	0
180		1	51	---	---	51	51	---	0	---	0
Overall		6	55.17	50.74	59.59	49	60	1.721	4.215	7.64%	0 (0%)

Conductivity-µmhos

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	469.2	458.2	480.2	460	484	1.774	8.871	1.89%	0
20		5	481	466.3	495.7	474	502	2.362	11.81	2.46%	0
40		5	465.4	462.5	468.3	462	468	0.4604	2.302	0.49%	0
80		5	445.8	439.3	452.3	440	453	1.053	5.263	1.18%	0
140		5	431.4	427	435.8	426	435	0.7014	3.507	0.81%	0
180		5	397.8	388.9	406.7	391	409	1.438	7.19	1.81%	0
Overall		30	448.4	437.6	459.3	391	502	5.303	29.04	6.48%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	109	---	---	109	109	---	0	---	0
20		1	122	---	---	122	122	---	0	---	0
40		1	137	---	---	137	137	---	0	---	0
80		1	141	---	---	141	141	---	0	---	0
140		1	126	---	---	126	126	---	0	---	0
180		1	125	---	---	125	125	---	0	---	0
Overall		6	126.7	114.7	138.6	109	141	4.652	11.4	9.00%	0 (0%)

pH-Units

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.9	7.812	7.988	7.8	8	0.01414	0.0707	0.89%	0
20		5	7.82	7.658	7.982	7.7	8	0.02608	0.1304	1.67%	0
40		5	7.8	7.648	7.952	7.7	8	0.0245	0.1225	1.57%	0
80		5	7.78	7.618	7.942	7.7	8	0.02608	0.1304	1.68%	0
140		5	7.76	7.593	7.927	7.7	8	0.02683	0.1342	1.73%	0
180		5	7.76	7.593	7.927	7.7	8	0.02683	0.1342	1.73%	0
Overall		30	7.803	7.758	7.849	7.7	8	0.02222	0.1217	1.56%	0 (0%)

Temperature-°C

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
20		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
40		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
80		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
140		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
180		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
Overall		30	25.8	25.65	25.95	25	26	0.07428	0.4068	1.58%	0 (0%)

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		57					
20				57					
40				57					
80				60					
140				49					
180				51					

Conductivity-µmhos

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		460					
20				477					
40				467					
80				449					
140				426					
180				391					
0	N	2		467					
20				477					
40				462					
80				440					
140				430					
180				392					
0	N	3		468					
20				475					
40				465					
80				442					
140				433					
180				399					
0	N	4		467					
20				474					
40				465					
80				445					
140				435					
180				398					
0	N	5		484					
20				502					
40				468					
80				453					
140				433					
180				409					

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		109					
20				122					
40				137					
80				141					
140				126					
180				125					

Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

pH-Units

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.8					
20				7.7					
40				7.7					
80				7.7					
140				7.7					
180				7.7					
0	N	2		7.9					
20				7.7					
40				7.7					
80				7.7					
140				7.7					
180				7.7					
0	N	3		7.9					
20				7.8					
40				7.8					
80				7.7					
140				7.7					
180				7.7					
0	N	4		7.9					
20				7.9					
40				7.8					
80				7.8					
140				7.7					
180				7.7					
0	N	5		8					
20				8					
40				8					
80				8					
140				8					
180				8					

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Temperature-°C

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		26					
20				26					
40				26					
80				26					
140				26					
180				26					
0	N	2		26					
20				26					
40				26					
80				26					
140				26					
180				26					
0	N	3		26					
20				26					
40				26					
80				26					
140				26					
180				26					
0	N	4		26					
20				26					
40				26					
80				26					
140				26					
180				26					
0	N	5		25					
20				25					
40				25					
80				25					
140				25					
180				25					

82068

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-82068 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 011 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218	**Project Manager:** Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	**Field Manager:** Mark Dominick 978.234.5033, 818.599.0702 (cell)
Sampler: Adrian Mobeka	

									R/A	R	R	R	R/A	R	R	R	A	A	R					
									ANALYSIS REQUIRED															
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl-, F-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals: Mercury (E245.1)					Comments
Outfall 011	Outfall011_20220119_Comp	1/19/2022/0400	WM	500 mL Poly	1	HNO_3	80	No	X										X					
			WM	1 L Glass Amber	2	None	110	No		X														
			WM	1 L Poly	1	None	115	No			X													
			WM	500 mL Poly	2	None	120	No				X												
			WM	500 mL Poly	2	None	125	No					X											48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X										48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X								
			WM	1 L Glass Amber	2	None	250	No									X							
			WM	1 L Glass Amber	2	None	175	No										X						
			WM	1 L Poly	1	None	185	No							X									
	Outfall011_20220119_Comp_Extra	1/19/2022/0900	WM	1 L Glass Amber	2	None	110	No		H														Hold
			WM	500 mL Poly	2	None	120	No				H												Hold
			WM	500 mL Poly	2	None	125	No					H											Hold
			WM	1 L Glass Amber	2	None	250	No										H						Hold
			WM	1 L Glass Amber	2	None	175	No											H					Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	Company:
[signature]	1-19-2022/1400	H.A	[signature]	1/19/22 1400	EC
[signature]	01/19/22	1820 EC	[signature]	1/19/22	1820

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

23/3.8, 19/3.4, 21/3.6

2/8/2022

2019-2020 Rainy Season
Version 5

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address:
Haley & Aldrich
5333 Mission Center Rd Suite 300
San Diego, CA 92108

Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446
17461 Derian Ave Suite #100
Irvine CA 92614
Tel: 949-260-3218

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Sampler: Adrian Mobeka

Project:
Boeing-SSFL NPDES
Permit 2022
Annual Outfall [001, 002, 011, 018]
Outfall 011
Comp

Project Manager: Katherine Miller
520.289.8606, 520.904.6944 (cell)

Field Manager: Mark Dominick
978.234.5033, 818.599.0702 (cell)

									R/A	R	R	R	A	A	A	A	R	QRSW		
									ANALYSIS REQUIRED											
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)		Comments
Outfall 011	Outfall011_20220119_Comp_F	1/19/2022 0900	WM	1 L Poly	1	None	190	No	X											Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	2	None	320	No									X			Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall011_20220119_Comp	1/19/2022 * 0900	WM	500 mL Poly	1	NaOH	220	No		X										
			WM	2.5 Gal Cube	1	None	225	No		\	X									Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No												
			WM	1 Gal Cube	6	None	235	No				X								Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X							
			WM	1 L Glass Amber	1	HCl	245	No						X						
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X					
			WM	500 mL Poly	1	None	260	No								X				
			WM	1L Glass Amber	2	None	275	No												
	Outfall011_20220119_Comp_Extra	1/19/2022 0900	WM	40 mL VOA	3	HCl	240	No					H							Hold
			WM	1 L Glass Amber	not 1	None	255	No							H					Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company	Received By	Date/Time:	Company
[signature]	1-19-2022 / 1400	H;A	[signature]	1119/22 1400	ECI
[signature]	01119/22 1820	ECI	[signature]	1/19/22 1820	

Turn-around time: (Check)
24 Hour: ____ 72 Hour: ____ 10 Day: __X__
48 Hour: ____ 5 Day: ____ Normal: ____

Sample Integrity: (Check)
Intact: ____ On Ice: ____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: ____ All Level IV: __X__

* Hand-delivered to ABC Labs in Ventura by H;A

23/38, 19/3.4 SCG

Eurofins Calscience
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152165 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82068-3
Address: 13715 Rider Trail North ,	Due Date Requested: 2/16/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall011_20220119_Comp (570-82068-1)	1/19/22	09:00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
Relinquished by: [signature]	Date/Time: 1/20/22 1304				
Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

2/8/2022

ORIGIN ID:APVA (714) 895-5494
SAMPLE CONTROL
CALSCIENCE ENVIRONMENTAL LAB
7440 LINCOLN WAY

GARDEN GROVE, CA 92841
UNITED STATES US

SHIP DATE: 20JAN22
ACTWGT 61 00 LB
CAD 1533735/INET4460

BILL SENDER

TO **SAMPLE RECEIVING**
EUROFINS TESTAMERICA
13715 RIDER TRAIL NORTH

EARTH CITY MO 63045
(314) 298-8566
INV
PO

REF VP/82063,82066, 82068
DEPT

560J4/F289/FE4A

FedEx Express

J2210220105071uw

FRI - 21 JAN 10:30A
PRIORITY OVERNIGHT

1 of 2
TRK# 0201 **7758 1398 4382**
MASTER

XN ALNA

63045
MO-US **STL**

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Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152240 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-82068-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 2/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall011_20220119_Comp (570-82068-1)	1/19/22	09:00 Pacific		Water			X		2	See QAS Boeing_w/u to zero, ug/L Use Boeing glassware
Outfall011_20220119_Comp_Extra (570-82068-2)	1/19/22	09:00 Pacific		Water				X	2	See QAS Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	1/20/22 1520				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/8/2022

ORIGIN ID:APVA (714) 895-5494
SAMPLE CONTROL
CALSCIENCE ENVIRONMENTAL LAB
7440 LINCOLN WAY
GARDEN GROVE, CA 92841
UNITED STATES US

SHIP DATE: 20JAN22
ACTWGT: 59.00 LB
CAD: 1533735/INET4460

BILL SENDER

TO **SAMPLE RECEIVING**
EUROFINS TESTAMERICA-W.SAC
880 RIVERSIDE PARKWAY
WEST SACRAMENTO CA 95605
(916) 373-5600
INV
PO DEPT

REF VP/82063.066.088, LT/82097

550J4/F289/FE4A

FedEx Express

J2210220195010ux

1 of 2

FRI - 21 JAN 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7758 1579 8353**
MASTER

WD BLUA

95605
CA-US **SMF**

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ORIGIN ID:APVA (714) 895-5494
SAMPLE CONTROL
CALSCIENCE ENVIRONMENTAL LAB
7440 LINCOLN WAY
GARDEN GROVE, CA 92841
UNITED STATES US

SHIP DATE: 20JAN22
ACTWGT 59.00 LB
CAD: 1533735/INET4460

BILL SENDER

TO **SAMPLE RECEIVING**
EUROFINS TESTAMERICA-W.SAC
880 RIVERSIDE PARKWAY
WEST SACRAMENTO CA 95605
(916) 373-5600
INV
PO
DEPT
REF: VP/82063,066,068, LT/82097

56DJ4/F289/FE4A

FedEx Express
J2210220105011uv

FRI - 21 JAN 10:30A
PRIORITY OVERNIGHT

2 of 2
MPS# 7758 1579 8364
Mstr# 7758 1579 8353

0263
0201

95605
SMF
CA-US

WD BLUA

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Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-152284 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82068-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 2/9/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V - MCAA
K - EDTA	W pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall011_20220119_Comp (570-82068-1)	1/19/22	09:00 Pacific		Water			X		1	Level IV needed
Outfall011_20220119_Comp_Extra (570-82068-2)	1/19/22	09:00 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	1/20/22 1637				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/8/2022

ORIGIN ID:APVA (714) 895-5494
SAMPLE CONTROL
CALSCIENCE ENVIRONMENTAL LAB
7440 LINCOLN WAY
GARDEN GROVE, CA 92841
UNITED STATES US

SHIP DATE: 20JAN22
ACTWGT: 35.00 LB
CAD: 1533735/INET4460

BILL SENDER

TO **SAMPLE RECEIVING**
WECK LABORATORIES, INC.
14859 EAST CLARK AVENUE

CITY OF INDUSTRY CA 91745
(626) 336-2139
INV:
PO:
REF: VP/82062,66,68 TN / 82176
DEPT:

56DJ4/F289/FE4A

FedEx Express
E
J2210220105811uv

FRI - 21 JAN 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7758 1620 7190**

92 POCA

91745
CA-US **LAX**

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Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152240.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-82068-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 2/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
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G - Amchlor	S - H2SO4
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I - Ice	U - Acetone
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L - EDA	Z - other (specify)

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Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall011_20220119_Comp (570-82068-1)	1/19/22	09:00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall011_20220119_Comp_Extra (570-82068-2)	1/19/22	09:00 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	1/20/22 1520		[signature]	01/21/2022 10:35	EET SAC
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ▲ Yes △ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.2 0.9

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82068-2

Login Number: 82068
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-82068-3
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/15/2022 4:00:27 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-82068-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Qualifiers

Rad

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-82068-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-82068-3

Comments
No additional comments.

Receipt
The samples were received on 1/19/2022 6:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.4º C, 3.6º C and 3.8º C.

RAD
Method 900.0: Gross alpha beta batch 547784
The gross alpha laboratory control sample (LCS) recovery is outside the upper QC limit indicating a potential positive bias for that analyte. This analyte was not observed above the RL in the associated samples; therefore the sample data is not adversely affected by this excursion. The data have been reported with this narrative.

(LCS 160-547784/2-A)

Method 900.0: Gross alpha beta batch 547784
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall011_20220119_Comp (570-82068-1), (LCS 160-547784/2-A), (LCSB 160-547784/3-A), (MB 160-547784/1-A), (570-82066-A-1-A), (570-82066-A-1-D DU), (570-82066-A-1-B MS) and (570-82066-A-1-C MSBT)

Method 901.1: Gamma Prep Batch 160-547763
Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211

Job ID: 570-82068-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Bi-214 Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall011_20220119_Comp (570-82068-1) and (570-82068-AE-1-B DU)

Method 903.0: Radium 226 batch 547785
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall011_20220119_Comp (570-82068-1), (LCS 160-547785/1-A), (LCSD 160-547785/2-A) and (MB 160-547785/9-A)

Method 904.0: Radium 228 batch 547792
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall011_20220119_Comp (570-82068-1), (LCS 160-547792/1-A), (LCSD 160-547792/2-A) and (MB 160-547792/9-A)

Method 905: Strontium 90 Batch 160-548204:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall011_20220119_Comp (570-82068-1), (LCS 160-548204/1-A), (LCSD 160-548204/2-A) and (MB 160-548204/12-A)

Method 906.0: Tritium in liquid batch 160-548411
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
Outfall011_20220119_Comp (570-82068-1), (LCS 160-548411/2-A), (MB 160-548411/1-A), (570-82063-AD-1-A), (570-82063-AD-1-B MS), (570-82926-T-2-A) and (570-82926-T-2-B DU)

Methods A-01-R, U-02-RC: Isotopic Uranium Batch 160-548205:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall011_20220119_Comp (570-82068-1), (LCS 160-548205/2-A), (MB 160-548205/1-A), (570-82063-AE-1-E) and (570-82063-AE-1-F DU)

Method ExtChrom: Uranium Prep Batch 160-548205

The following samples were prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall011_20220119_Comp

Job ID: 570-82068-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

(570-82068-1).

Method LSC_Dist_Susp: Tritium Prep Batch 548411:

The following sample had an unclear matrix: Outfall011_20220119_Comp (570-82068-1). The same was slightly tan in color and transparent.

Method PrecSep_0: Radium-228 Prep Batch 160-547792

The following samples were prepared at a reduced aliquot due to Matrix: Outfall011_20220119_Comp (570-82068-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-547785

The following samples were prepared at a reduced aliquot due to Matrix: Outfall011_20220119_Comp (570-82068-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-548204

The following samples were prepared at a reduced aliquot due to Matrix: Outfall011_20220119_Comp (570-82068-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1

No Detections.

This Detection Summary does not include radiochemical test results.

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall011_20220119_Comp **Lab Sample ID: 570-82068-1**
Date Collected: 01/19/22 09:00 **Matrix: Water**
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.550	U *	1.39	1.39	3.00	2.47	pCi/L	01/24/22 10:54	01/27/22 07:50	1
Gross Beta	**2.81**		0.966	1.01	4.00	1.31	pCi/L	01/24/22 10:54	01/27/22 07:50	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall011_20220119_Comp
Date Collected: 01/19/22 09:00
Date Received: 01/19/22 18:20

Lab Sample ID: 570-82068-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-2.33	U	11.4	11.4	20.0	13.1	pCi/L	01/24/22 07:18	01/28/22 17:35	1
Potassium-40	19.6	U	118	118		159	pCi/L	01/24/22 07:18	01/28/22 17:35	1

Method: 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall011_20220119_Comp **Lab Sample ID: 570-82068-1**
Date Collected: 01/19/22 09:00 **Matrix: Water**
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0262	U	0.0877	0.0877	1.00	0.199	pCi/L	01/24/22 10:55	02/15/22 08:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.1*		*40 - 110*	*01/24/22 10:55*	*02/15/22 08:12*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall011_20220119_Comp
Date Collected: 01/19/22 09:00
Date Received: 01/19/22 18:20

Lab Sample ID: 570-82068-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.352	U	0.342	0.344	1.00	0.554	pCi/L	01/24/22 11:14	02/11/22 12:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.1*		*40 - 110*	*01/24/22 11:14*	*02/11/22 12:04*	*1*
Y Carrier	*82.6*		*40 - 110*	*01/24/22 11:14*	*02/11/22 12:04*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall011_20220119_Comp
Date Collected: 01/19/22 09:00
Date Received: 01/19/22 18:20

Lab Sample ID: 570-82068-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	-0.139	U	0.281	0.281	3.00	0.527	pCi/L	01/26/22 12:42	02/07/22 17:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*81.4*		*40 - 110*	*01/26/22 12:42*	*02/07/22 17:49*	*1*
Y Carrier	*68.4*		*40 - 110*	*01/26/22 12:42*	*02/07/22 17:49*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-123	U	184	185	500	354	pCi/L	01/27/22 11:07	02/07/22 17:00	1

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall011_20220119_Comp
Date Collected: 01/19/22 09:00
Date Received: 01/19/22 18:20

Lab Sample ID: 570-82068-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.322		0.212	0.212	1.00	0.189	pCi/L	01/26/22 13:01	02/01/22 20:54	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*84.3*		*30 - 110*	*01/26/22 13:01*	*02/01/22 20:54*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
570-82068-1	Outfall011_20220119_Comp	89.1
LCS 160-547785/1-A	Lab Control Sample	91.9
LCSD 160-547785/2-A	Lab Control Sample Dup	94.7
MB 160-547785/9-A	Method Blank	96.5

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-82068-1	Outfall011_20220119_Comp	89.1	82.6
LCS 160-547792/1-A	Lab Control Sample	91.9	80.7
LCSD 160-547792/2-A	Lab Control Sample Dup	94.7	81.1
MB 160-547792/9-A	Method Blank	96.5	85.6

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Sr	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-82068-1	Outfall011_20220119_Comp	81.4	68.4
LCS 160-548204/1-A	Lab Control Sample	83.4	74.0
LCSD 160-548204/2-A	Lab Control Sample Dup	80.3	78.1
MB 160-548204/12-A	Method Blank	80.5	83.0

Tracer/Carrier Legend

Sr = Sr Carrier
Y = Y Carrier

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		U-232
Lab Sample ID	Client Sample ID	(30-110)
570-82068-1	Outfall011_20220119_Comp	84.3
570-82063-AE-1-F DU	Duplicate	100
LCS 160-548205/2-A	Lab Control Sample	77.7
MB 160-548205/1-A	Method Blank	77.5

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-547784/1-A
Matrix: Water
Analysis Batch: 548200

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 547784

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.1946	U	0.661	0.662	3.00	1.20	pCi/L	01/24/22 10:54	01/26/22 12:58	1
Gross Beta	0.5967	U	0.540	0.543	4.00	0.862	pCi/L	01/24/22 10:54	01/26/22 12:58	1

Lab Sample ID: LCS 160-547784/2-A
Matrix: Water
Analysis Batch: 548980

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547784

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	66.30	*	9.33	3.00	2.31	pCi/L	131	75 - 125

Lab Sample ID: LCSB 160-547784/3-A
Matrix: Water
Analysis Batch: 548200

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547784

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.6	76.99		8.23	4.00	0.877	pCi/L	102	75 - 125

Lab Sample ID: 570-82066-A-1-B MS
Matrix: Water
Analysis Batch: 548373

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 547784

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	0.304	U *	50.6	48.03		7.09	3.00	2.14	pCi/L	94	60 - 140

Lab Sample ID: 570-82066-A-1-C MSBT
Matrix: Water
Analysis Batch: 548373

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 547784

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	3.69		75.5	75.74		8.11	4.00	1.18	pCi/L	95	60 - 140

Lab Sample ID: 570-82066-A-1-D DU
Matrix: Water
Analysis Batch: 548373

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 547784

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	0.304	U *	0.2032	U *	1.24	3.00	2.28	pCi/L	0.04	1
Gross Beta	3.69		3.074		0.826	4.00	0.919	pCi/L	0.35	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-547763/1-A
Matrix: Water
Analysis Batch: 548903

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 547763

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-2.826	U	12.0	12.0	20.0	15.0	pCi/L	01/24/22 07:18	01/28/22 19:17	1
Potassium-40	60.57	U	89.4	89.7		142	pCi/L	01/24/22 07:18	01/28/22 19:17	1

Lab Sample ID: LCS 160-547763/2-A
Matrix: Water
Analysis Batch: 548448

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547763

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium-241	135000	142500		17000		455	pCi/L	105	75 - 125
Cesium-137	42000	43220		5150	20.0	96.4	pCi/L	103	75 - 125
Cobalt-60	20700	21620		2580		44.4	pCi/L	104	75 - 125

Lab Sample ID: 570-82068-1 DU
Matrix: Water
Analysis Batch: 548454

Client Sample ID: Outfall011_20220119_Comp
Prep Type: Total/NA
Prep Batch: 547763

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Cesium-137	-2.33	U	2.568	U	9.11	20.0	11.0	pCi/L	0.24	1
Potassium-40	19.6	U	52.26	U	93.4		98.4	pCi/L	0.15	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-547785/9-A
Matrix: Water
Analysis Batch: 550642

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 547785

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.1043	U	0.110	0.111	1.00	0.261	pCi/L	01/24/22 10:55	02/15/22 08:12	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.5*		*40 - 110*	*01/24/22 10:55*	*02/15/22 08:12*	*1*

Lab Sample ID: LCS 160-547785/1-A
Matrix: Water
Analysis Batch: 550642

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547785

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.1	14.66		1.60	1.00	0.250	pCi/L	97	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.9*		*40 - 110*

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-547785/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 550642 — **Prep Batch: 547785**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	13.82		1.51	1.00	0.213	pCi/L	91	75 - 125	0.27	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*94.7*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-547792/9-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 550058 — **Prep Batch: 547792**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.1594	U	0.269	0.269	1.00	0.510	pCi/L	01/24/22 11:14	02/11/22 12:04	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.5*		*40 - 110*	*01/24/22 11:14*	*02/11/22 12:04*	*1*
Y Carrier	*85.6*		*40 - 110*	*01/24/22 11:14*	*02/11/22 12:04*	*1*

Lab Sample ID: LCS 160-547792/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 550030 — **Prep Batch: 547792**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			11.8	14.28		1.63	1.00	0.443	pCi/L	121	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.9*		*40 - 110*
Y Carrier	*80.7*		*40 - 110*

Lab Sample ID: LCSD 160-547792/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 550030 — **Prep Batch: 547792**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			11.8	14.82		1.67	1.00	0.472	pCi/L	125	75 - 125	0.16	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*94.7*		*40 - 110*
Y Carrier	*81.1*		*40 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-548204/12-A
Matrix: Water
Analysis Batch: 549596

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 548204

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.1820	U	0.202	0.202	3.00	0.331	pCi/L	01/26/22 12:42	02/07/22 17:49	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*80.5*		*40 - 110*	*01/26/22 12:42*	*02/07/22 17:49*	*1*
Y Carrier	*83.0*		*40 - 110*	*01/26/22 12:42*	*02/07/22 17:49*	*1*

Lab Sample ID: LCS 160-548204/1-A
Matrix: Water
Analysis Batch: 549596

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 548204

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Strontium-90			7.55	7.201		0.814	3.00	0.351	pCi/L	95	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*83.4*		*40 - 110*
Y Carrier	*74.0*		*40 - 110*

Lab Sample ID: LCSD 160-548204/2-A
Matrix: Water
Analysis Batch: 549596

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 548204

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Strontium-90			7.55	7.467		0.833	3.00	0.352	pCi/L	99	75 - 125	0.16	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*80.3*		*40 - 110*
Y Carrier	*78.1*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-548411/1-A
Matrix: Water
Analysis Batch: 549743

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 548411

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-77.93	U	182	182	500	338	pCi/L	01/27/22 11:07	02/07/22 14:22	1

Lab Sample ID: LCS 160-548411/2-A
Matrix: Water
Analysis Batch: 549743

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 548411

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			2230	2063		385	500	346	pCi/L	92	75 - 125		

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 570-82063-AD-1-B MS
Matrix: Water
Analysis Batch: 549743

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 548411

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium	22.5	U	2220	2153		397	500	352	pCi/L	96	60 - 140		

Lab Sample ID: 570-82926-T-2-B DU
Matrix: Water
Analysis Batch: 549743

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 548411

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	-212	U		-36.04	U	192	500	351	pCi/L			0.49	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-548205/1-A
Matrix: Water
Analysis Batch: 549064

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 548205

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.01715	U	0.06677	0.06677	1.00	0.132	pCi/L	01/26/22 13:01	02/01/22 20:54	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*77.5*		*30 - 110*	*01/26/22 13:01*	*02/01/22 20:54*	*1*

Lab Sample ID: LCS 160-548205/2-A
Matrix: Water
Analysis Batch: 549065

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 548205

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Uranium-234			12.7	12.72		1.42	1.00	0.121	pCi/L	100	75 - 125		
Uranium-238			13.0	13.44		1.48	1.00	0.128	pCi/L	103	75 - 125		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*77.7*		*30 - 110*

Lab Sample ID: 570-82063-AE-1-F DU
Matrix: Water
Analysis Batch: 549072

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 548205

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Total Uranium	2.58			2.827		0.465	1.00	0.161	pCi/L			0.27	1

Tracer	*DU %Yield*	*DU Qualifier*	*Limits*
Uranium-232	*100*		*30 - 110*

Rad

Prep Batch: 547763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-547763/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-547763/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-82068-1 DU	Outfall011_20220119_Comp	Total/NA	Water	Fill_Geo-0	

Prep Batch: 547784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	Evaporation	
MB 160-547784/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-547784/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-547784/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-82066-A-1-B MS	Matrix Spike	Total/NA	Water	Evaporation	
570-82066-A-1-C MSBT	Matrix Spike	Total/NA	Water	Evaporation	
570-82066-A-1-D DU	Duplicate	Total/NA	Water	Evaporation	

Prep Batch: 547785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	PrecSep-21	
MB 160-547785/9-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-547785/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-547785/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 547792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	PrecSep_0	
MB 160-547792/9-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-547792/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-547792/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 548204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	PrecSep-7	
MB 160-548204/12-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-548204/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-548204/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Prep Batch: 548205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	ExtChrom	
MB 160-548205/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-548205/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
570-82063-AE-1-F DU	Duplicate	Total/NA	Water	ExtChrom	

Prep Batch: 548411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-548411/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-548411/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
570-82063-AD-1-B MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	
570-82926-T-2-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			150.04 mL	1.0 g	547784	01/24/22 10:54	ASG	TAL SL
Total/NA	Analysis	900.0		1	1.0 mL	1.0 mL	548373	01/27/22 07:50	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	547763	01/24/22 07:18	LTC	TAL SL
Total/NA	Analysis	901.1		1			548448	01/28/22 17:35	CAH	TAL SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			750.18 mL	1.0 g	547785	01/24/22 10:55	LPS	TAL SL
Total/NA	Analysis	903.0		1			550642	02/15/22 08:12	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			750.18 mL	1.0 g	547792	01/24/22 11:14	LPS	TAL SL
Total/NA	Analysis	904.0		1			550058	02/11/22 12:04	FLC	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep-7			749.04 mL	1.0 g	548204	01/26/22 12:42	HRT	TAL SL
Total/NA	Analysis	905		1			549596	02/07/22 17:49	FLC	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	LSC_Dist_Susp			100.11 mL	1.0 g	548411	01/27/22 11:07	BAL	TAL SL
Total/NA	Analysis	906.0		1			549743	02/07/22 17:00	JLP	TAL SL
	Instrument ID: LSC3180									
Total/NA	Prep	ExtChrom			299.87 mL	1.0 mL	548205	01/26/22 13:01	MLO	TAL SL
Total/NA	Analysis	A-01-R		1			549077	02/01/22 20:54	CLP	TAL SL
	Instrument ID: ALPHAVISION									

Laboratory References:
TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-82068-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	TAL SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	TAL SL

Protocol References:

DOE = U.S. Department of Energy
EPA = US Environmental Protection Agency
None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-82068-1	Outfall011_20220119_Comp	Water	01/19/22 09:00	01/19/22 18:20

82068

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-82068 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 011 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218	**Project Manager: Katherine Miller** 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	**Field Manager: Mark Dominick** 978.234.5033, 818.599.0702 (cell)
Sampler: Adrian Mobeka	

									ANALYSIS REQUIRED																
									R/A	R	R	R	R/A	R	R	R	A	A	R					
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- F- SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals: Mercury (E245.1)					Comments
Outfall 011	Outfall011_20220119_Comp	1/19/2022 0400	WM	500 mL Poly	1	HNO_3	80	No	X										X					
			WM	1 L Glass Amber	2	None	110	No		X														
			WM	1 L Poly	1	None	115	No			X													
			WM	500 mL Poly	2	None	120	No				X												
			WM	500 mL Poly	2	None	125	No					X											48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X										48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X								
			WM	1 L Glass Amber	2	None	250	No									X							
			WM	1 L Glass Amber	2	None	175	No										X						
			WM	1 L Poly	1	None	185	No							X									
	Outfall011_20220119_Comp_Extra	1/19/2022 0900	WM	1 L Glass Amber	2	None	110	No		H														Hold
			WM	500 mL Poly	2	None	120	No				H												Hold
			WM	500 mL Poly	2	None	125	No					H											Hold
			WM	1 L Glass Amber	2	None	250	No										H						Hold
			WM	1 L Glass Amber	2	None	175	No											H					Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
	1-19-2022/1400	H.A		EC 1/19/22 1400	
Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
	01/19/22	1820 EC		1/19/22 1820	
Relinquished By	Date/Time:	Company:	Received By	Date/Time:	

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

2 3|3.8, 1 9|3.4, 2 1|3.6

2/15/2022

2019-2020 Rainy Season
Version 5

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address:
Haley & Aldrich
5333 Mission Center Rd Suite 300
San Diego, CA 92108

Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446
17461 Derian Ave Suite #100
Irvine CA 92614
Tel: 949-260-3218

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Sampler: Adrian Mobeka

Project:
Boeing-SSFL NPDES
Permit 2022
Annual Outfall [001, 002, 011, 018]
Outfall 011
Comp

Project Manager: Katherine Miller
520.289.8606, 520.904.6944 (cell)

Field Manager: Mark Dominick
978.234.5033, 818.599.0702 (cell)

									R/A	R	R	R	A	A	A	A	R	QRSW		
									ANALYSIS REQUIRED											
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)		Comments
Outfall 011	Outfall011_20220119_Comp_F	1/19/2022 / 0900	WM	1 L Poly	1	None	190	No	X											Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	2	None	320	No									X			Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall011_20220119_Comp	1/19/2022 * / 0900	WM	500 mL Poly	1	NaOH	220	No		X										
			WM	2.5 Gal Cube	1	None	225	No		\	X									Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No												
			WM	1 Gal Cube	6	None	235	No				X								Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X							
			WM	1 L Glass Amber	1	HCl	245	No						X						
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X					
			WM	500 mL Poly	1	None	260	No								X				
			WM	1L Glass Amber	2	None	275	No												
	Outfall011_20220119_Comp_Extra	1/19/2022 / 0900	WM	40 mL VOA	3	HCl	240	No					H							Hold
			WM	1 L Glass Amber	no # 1	None	255	No							H					Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company	Received By	Date/Time:	Company
[signature]	1-19-2022 / 1400	H;A	[signature]	1119/22 1400	ECI
[signature]	01119/22 1820	ECI	[signature]	1/19/22 1820	

Turn-around time: (Check)
24 Hour: ____ 72 Hour: ____ 10 Day: X
48 Hour: ____ 5 Day: ____ Normal: ____

Sample Integrity: (Check)
Intact: ____ On Ice: ____

Store samples for 6 months.

Data Requirements: (Check)
No Level IV: ____ All Level IV: X

* Hand-delivered to ABC Labs in Ventura by H;A

2 3/3 8, 1 9/3.4 SCG

Eurofins Calscience
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152165 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82068-3
Address: 13715 Rider Trail North ,	Due Date Requested: 2/16/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall011_20220119_Comp (570-82068-1)	1/19/22	09:00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
1		1/20/22 1304				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

2/15/2022

ORIGIN ID:APVA (714) 895-5494
SAMPLE CONTROL
CALSCIENCE ENVIRONMENTAL LAB
7440 LINCOLN WAY

GARDEN GROVE, CA 92841
UNITED STATES US

SHIP DATE: 20JAN22
ACTWGT: 61.00 LB
CAD: 1533735/INET4460

BILL SENDER

TO **SAMPLE RECEIVING**
EUROFINS TESTAMERICA
13715 RIDER TRAIL NORTH

EARTH CITY MO 63045
(314) 298-8566
INV
PO

REF VP/82063,82066, 82068
DEPT

560J4/F289/FE4A

FedEx Express

J2210220105071uw

1 of 2

TRK# 0201 **7758 1398 4382**

FRI - 21 JAN 10:30A
PRIORITY OVERNIGHT

MASTER

XN ALNA

63045
STL
MO-US

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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex com FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim Limitations found in the current FedEx Service Guide apply Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value Recovery cannot exceed actual documented loss Maximum for items of extraordinary value is $1,000, e g jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide Written claims must be filed within strict time limits, see current FedEx Service Guide

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Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152240 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-82068-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 2/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall011_20220119_Comp (570-82068-1)	1/19/22	09:00 Pacific		Water			X		2	See QAS Boeing_w/u to zero, ug/L Use Boeing glassware
Outfall011_20220119_Comp_Extra (570-82068-2)	1/19/22	09:00 Pacific		Water				X	2	See QAS Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time: 1/20/22 1520	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/15/2022

ORIGIN ID:APVA (714) 895-5494
SAMPLE CONTROL
CALSCIENCE ENVIRONMENTAL LAB
7440 LINCOLN WAY
GARDEN GROVE, CA 92841
UNITED STATES US

SHIP DATE: 20JAN22
ACTWGT: 59.00 LB
CAD: 1533735/INET4460

BILL SENDER

TO **SAMPLE RECEIVING**
EUROFINS TESTAMERICA-W.SAC
880 RIVERSIDE PARKWAY
WEST SACRAMENTO CA 95605
(916) 373-5600
INV
PO DEPT

REF VP82063,066,068, LT82097

550.J4/F289/FE4A

FedEx Express
J2210220195010ue

1 of 2

TRK# 0201 **7758 1579 8353**

FRI - 21 JAN 10:30A
PRIORITY OVERNIGHT

MASTER

WD BLUA

95605
CA-US SMF

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Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-152284 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82068-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 2/9/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V - MCAA
K - EDTA	W pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall011_20220119_Comp (570-82068-1)	1/19/22	09:00 Pacific		Water			X		1	Level IV needed
Outfall011_20220119_Comp_Extra (570-82068-2)	1/19/22	09:00 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/20/22 1637	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/15/2022

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Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82068-3

Login Number: 82068
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82068-3

Login Number: 82068
List Number: 3
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 01/21/22 02:18 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-82068-4
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/22/2022 6:36:03 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-82068-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-82068-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Job ID: 570-82068-4

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-82068-4

Comments
No additional comments.

Receipt
The samples were received on 1/19/2022 6:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.4º C, 3.6º C and 3.8º C.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument DFS 1 exceeded this criteria: Outfall011_20220119_Comp (570-82068-1), (CCV 320-565138/31), (LCS 320-560219/2-A), (LCSD 320-560219/3-A) and (MB 320-560219/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000023	J,DX q MB	0.000052	0.00000063	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000033	J,DX MB	0.000052	0.00000042	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000068	J,DX MB	0.000052	0.00000042	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000029	J,DX MB	0.000052	0.00000049	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.00000096	J,DX q MB	0.000052	0.00000044	ug/L	1		1613B	Total/NA
OCDD	0.000042	J,DX MB	0.00010	0.0000010	ug/L	1		1613B	Total/NA
OCDF	0.0000038	J,DX MB	0.00010	0.00000055	ug/L	1		1613B	Total/NA
Total TCDF	0.0000023	J,DX q MB	0.000010	0.00000055	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000037	J,DX q MB	0.000052	0.00000087	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000023	J,DX q MB	0.000052	0.00000063	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000033	J,DX MB	0.000052	0.00000042	ug/L	1		1613B	Total/NA
Total HpCDD	0.000013	J,DX q MB	0.000052	0.00000042	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000050	J,DX q MB	0.000052	0.00000044	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall011_20220119_Comp
Date Collected: 01/19/22 09:00
Date Received: 01/19/22 18:20

Lab Sample ID: 570-82068-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000095	ug/L		01/24/22 14:10	02/13/22 14:21	1
1,2,3,7,8-PeCDD	ND		0.000052	0.00000087	ug/L		01/24/22 14:10	02/13/22 14:21	1
1,2,3,7,8-PeCDF	ND		0.000052	0.00000065	ug/L		01/24/22 14:10	02/13/22 14:21	1
2,3,4,7,8-PeCDF	ND		0.000052	0.00000065	ug/L		01/24/22 14:10	02/13/22 14:21	1
1,2,3,4,7,8-HxCDD	**0.0000023**	**J,DX q MB**	0.000052	0.00000063	ug/L		01/24/22 14:10	02/13/22 14:21	1
1,2,3,6,7,8-HxCDD	ND		0.000052	0.00000077	ug/L		01/24/22 14:10	02/13/22 14:21	1
1,2,3,7,8,9-HxCDD	ND		0.000052	0.00000067	ug/L		01/24/22 14:10	02/13/22 14:21	1
1,2,3,4,7,8-HxCDF	ND		0.000052	0.00000042	ug/L		01/24/22 14:10	02/13/22 14:21	1
1,2,3,6,7,8-HxCDF	ND		0.000052	0.00000047	ug/L		01/24/22 14:10	02/13/22 14:21	1
1,2,3,7,8,9-HxCDF	**0.0000033**	**J,DX MB**	0.000052	0.00000042	ug/L		01/24/22 14:10	02/13/22 14:21	1
2,3,4,6,7,8-HxCDF	ND		0.000052	0.00000042	ug/L		01/24/22 14:10	02/13/22 14:21	1
1,2,3,4,6,7,8-HpCDD	**0.0000068**	**J,DX MB**	0.000052	0.00000042	ug/L		01/24/22 14:10	02/13/22 14:21	1
1,2,3,4,6,7,8-HpCDF	**0.0000029**	**J,DX MB**	0.000052	0.00000049	ug/L		01/24/22 14:10	02/13/22 14:21	1
1,2,3,4,7,8,9-HpCDF	**0.00000096**	**J,DX q MB**	0.000052	0.00000044	ug/L		01/24/22 14:10	02/13/22 14:21	1
OCDD	**0.000042**	**J,DX MB**	0.00010	0.0000010	ug/L		01/24/22 14:10	02/13/22 14:21	1
OCDF	**0.0000038**	**J,DX MB**	0.00010	0.00000055	ug/L		01/24/22 14:10	02/13/22 14:21	1
Total TCDD	ND		0.000010	0.00000095	ug/L		01/24/22 14:10	02/13/22 14:21	1
Total TCDF	**0.0000023**	**J,DX q MB**	0.000010	0.00000055	ug/L		01/24/22 14:10	02/13/22 14:21	1
Total PeCDD	**0.0000037**	**J,DX q MB**	0.000052	0.00000087	ug/L		01/24/22 14:10	02/13/22 14:21	1
Total PeCDF	ND		0.000052	0.00000065	ug/L		01/24/22 14:10	02/13/22 14:21	1
Total HxCDD	**0.0000023**	**J,DX q MB**	0.000052	0.00000063	ug/L		01/24/22 14:10	02/13/22 14:21	1
Total HxCDF	**0.0000033**	**J,DX MB**	0.000052	0.00000042	ug/L		01/24/22 14:10	02/13/22 14:21	1
Total HpCDD	**0.000013**	**J,DX q MB**	0.000052	0.00000042	ug/L		01/24/22 14:10	02/13/22 14:21	1
Total HpCDF	**0.0000050**	**J,DX q MB**	0.000052	0.00000044	ug/L		01/24/22 14:10	02/13/22 14:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*82*		*25 - 164*	*01/24/22 14:10*	*02/13/22 14:21*	*1*
13C-2,3,7,8-TCDF	*87*		*24 - 169*	*01/24/22 14:10*	*02/13/22 14:21*	*1*
13C-1,2,3,7,8-PeCDD	*92*		*25 - 181*	*01/24/22 14:10*	*02/13/22 14:21*	*1*
13C-1,2,3,7,8-PeCDF	*92*		*24 - 185*	*01/24/22 14:10*	*02/13/22 14:21*	*1*
13C-2,3,4,7,8-PeCDF	*105*		*21 - 178*	*01/24/22 14:10*	*02/13/22 14:21*	*1*
13C-1,2,3,4,7,8-HxCDD	*104*		*32 - 141*	*01/24/22 14:10*	*02/13/22 14:21*	*1*
13C-1,2,3,6,7,8-HxCDD	*75*		*28 - 130*	*01/24/22 14:10*	*02/13/22 14:21*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall011_20220119_Comp **Lab Sample ID: 570-82068-1**
Date Collected: 01/19/22 09:00 **Matrix: Water**
Date Received: 01/19/22 18:20

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8-HxCDF	104		26 - 152	01/24/22 14:10	02/13/22 14:21	1
13C-1,2,3,6,7,8-HxCDF	81		26 - 123	01/24/22 14:10	02/13/22 14:21	1
13C-1,2,3,7,8,9-HxCDF	87		29 - 147	01/24/22 14:10	02/13/22 14:21	1
13C-2,3,4,6,7,8-HxCDF	82		28 - 136	01/24/22 14:10	02/13/22 14:21	1
13C-1,2,3,4,6,7,8-HpCDD	92		23 - 140	01/24/22 14:10	02/13/22 14:21	1
13C-1,2,3,4,6,7,8-HpCDF	89		28 - 143	01/24/22 14:10	02/13/22 14:21	1
13C-1,2,3,4,7,8,9-HpCDF	111		26 - 138	01/24/22 14:10	02/13/22 14:21	1
13C-OCDD	96		17 - 157	01/24/22 14:10	02/13/22 14:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	97		35 - 197	01/24/22 14:10	02/13/22 14:21	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.00000041	ug/L		01/24/22 14:10	02/17/22 12:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*93*		*24 - 169*	*01/24/22 14:10*	*02/17/22 12:07*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*96*		*35 - 197*	*01/24/22 14:10*	*02/17/22 12:07*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	**Client Sample ID**	**37TCDD (35-197)**
570-82068-1	Outfall011_20220119_Comp	97
570-82068-1 - RA	Outfall011_20220119_Comp	96
MB 320-560219/1-A	Method Blank	105
MB 320-560219/1-A - RA	Method Blank	102

Surrogate Legend
37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	**Client Sample ID**	**37TCDD (31-191)**
LCS 320-560219/2-A	Lab Control Sample	97
LCSD 320-560219/3-A	Lab Control Sample Dup	99

Surrogate Legend
37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-82068-1	Outfall011_20220119_Comp	82	87	92	92	105	104	75	104
570-82068-1 - RA	Outfall011_20220119_Comp		93						
MB 320-560219/1-A	Method Blank	66	70	73	73	84	85	61	86
MB 320-560219/1-A - RA	Method Blank		81						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-82068-1	Outfall011_20220119_Comp	81	87	82	92	89	111	96
570-82068-1 - RA	Outfall011_20220119_Comp							
MB 320-560219/1-A	Method Blank	67	73	69	76	73	88	77
MB 320-560219/1-A - RA	Method Blank							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-560219/2-A	Lab Control Sample	66	69	74	71	84	96	73	100
LCSD 320-560219/3-A	Lab Control Sample Dup	74	77	88	83	101	104	74	103

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-560219/2-A	Lab Control Sample	81	74	81	79	83	89	70
LCSD 320-560219/3-A	Lab Control Sample Dup	81	86	83	91	89	106	90

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-560219/1-A
Matrix: Water
Analysis Batch: 565138

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 560219

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000013	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,7,8-PeCDD	ND		0.000050	0.0000012	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,7,8-PeCDF	0.00000442	J,DX	0.000050	0.0000010	ug/L		01/24/22 14:10	02/13/22 10:22	1
2,3,4,7,8-PeCDF	0.00000287	J,DX	0.000050	0.0000010	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,4,7,8-HxCDD	0.00000330	J,DX	0.000050	0.00000081	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,6,7,8-HxCDD	0.00000323	J,DX	0.000050	0.0000011	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,7,8,9-HxCDD	0.00000258	J,DX q	0.000050	0.00000089	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,4,7,8-HxCDF	0.00000671	J,DX	0.000050	0.00000085	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,6,7,8-HxCDF	0.00000500	J,DX	0.000050	0.00000093	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,7,8,9-HxCDF	0.00000523	J,DX	0.000050	0.00000087	ug/L		01/24/22 14:10	02/13/22 10:22	1
2,3,4,6,7,8-HxCDF	0.00000230	J,DX	0.000050	0.00000088	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,4,6,7,8-HpCDD	0.00000638	J,DX	0.000050	0.00000047	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,4,6,7,8-HpCDF	0.0000184	J,DX	0.000050	0.00000076	ug/L		01/24/22 14:10	02/13/22 10:22	1
1,2,3,4,7,8,9-HpCDF	0.00000763	J,DX	0.000050	0.00000071	ug/L		01/24/22 14:10	02/13/22 10:22	1
OCDD	0.0000232	J,DX	0.00010	0.0000013	ug/L		01/24/22 14:10	02/13/22 10:22	1
OCDF	0.0000399	J,DX	0.00010	0.00000079	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total TCDD	ND		0.000010	0.0000013	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total TCDF	0.00000620	J,DX q	0.000010	0.00000093	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total PeCDD	0.00000506	J,DX	0.000050	0.0000012	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total PeCDF	0.00000729	J,DX	0.000050	0.0000010	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total HxCDD	0.00000911	J,DX q	0.000050	0.00000081	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total HxCDF	0.0000229	J,DX q	0.000050	0.00000085	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total HpCDD	0.0000114	J,DX	0.000050	0.00000047	ug/L		01/24/22 14:10	02/13/22 10:22	1
Total HpCDF	0.0000311	J,DX	0.000050	0.00000071	ug/L		01/24/22 14:10	02/13/22 10:22	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*66*		*25 - 164*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-2,3,7,8-TCDF	*70*		*24 - 169*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-1,2,3,7,8-PeCDD	*73*		*25 - 181*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-1,2,3,7,8-PeCDF	*73*		*24 - 185*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-2,3,4,7,8-PeCDF	*84*		*21 - 178*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-1,2,3,4,7,8-HxCDD	*85*		*32 - 141*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-1,2,3,6,7,8-HxCDD	*61*		*28 - 130*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-1,2,3,4,7,8-HxCDF	*86*		*26 - 152*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-1,2,3,6,7,8-HxCDF	*67*		*26 - 123*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-1,2,3,7,8,9-HxCDF	*73*		*29 - 147*	*01/24/22 14:10*	*02/13/22 10:22*	*1*
13C-2,3,4,6,7,8-HxCDF	*69*		*28 - 136*	*01/24/22 14:10*	*02/13/22 10:22*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-560219/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 565138 **Prep Batch: 560219**

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	76		23 - 140	01/24/22 14:10	02/13/22 10:22	1
13C-1,2,3,4,6,7,8-HpCDF	73		28 - 143	01/24/22 14:10	02/13/22 10:22	1
13C-1,2,3,4,7,8,9-HpCDF	88		26 - 138	01/24/22 14:10	02/13/22 10:22	1
13C-OCDD	77		17 - 157	01/24/22 14:10	02/13/22 10:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	105		35 - 197	01/24/22 14:10	02/13/22 10:22	1

Lab Sample ID: LCS 320-560219/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 565138 **Prep Batch: 560219**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD			0.000200	0.000239		ug/L		120	67 - 158		
2,3,7,8-TCDF			0.000200	0.000240	MB	ug/L		120	75 - 158		
1,2,3,7,8-PeCDD			0.00100	0.00118		ug/L		118	70 - 142		
1,2,3,7,8-PeCDF			0.00100	0.00116	MB	ug/L		116	80 - 134		
2,3,4,7,8-PeCDF			0.00100	0.000979	MB	ug/L		98	68 - 160		
1,2,3,4,7,8-HxCDD			0.00100	0.000940	MB	ug/L		94	70 - 164		
1,2,3,6,7,8-HxCDD			0.00100	0.00112	MB	ug/L		112	76 - 134		
1,2,3,7,8,9-HxCDD			0.00100	0.00107	MB	ug/L		107	64 - 162		
1,2,3,4,7,8-HxCDF			0.00100	0.00101	MB	ug/L		101	72 - 134		
1,2,3,6,7,8-HxCDF			0.00100	0.00112	MB	ug/L		112	84 - 130		
1,2,3,7,8,9-HxCDF			0.00100	0.00110	MB	ug/L		110	78 - 130		
2,3,4,6,7,8-HxCDF			0.00100	0.00112	MB	ug/L		112	70 - 156		
1,2,3,4,6,7,8-HpCDD			0.00100	0.00108	MB	ug/L		108	70 - 140		
1,2,3,4,6,7,8-HpCDF			0.00100	0.00113	MB	ug/L		113	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000899	MB	ug/L		90	78 - 138		
OCDD			0.00200	0.00207	MB	ug/L		103	78 - 144		
OCDF			0.00200	0.00210	MB	ug/L		105	63 - 170		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	66		20 - 175
13C-2,3,7,8-TCDF	69		22 - 152
13C-1,2,3,7,8-PeCDD	74		21 - 227
13C-1,2,3,7,8-PeCDF	71		21 - 192
13C-2,3,4,7,8-PeCDF	84		13 - 328
13C-1,2,3,4,7,8-HxCDD	96		21 - 193
13C-1,2,3,6,7,8-HxCDD	73		25 - 163
13C-1,2,3,4,7,8-HxCDF	100		19 - 202
13C-1,2,3,6,7,8-HxCDF	81		21 - 159
13C-1,2,3,7,8,9-HxCDF	74		17 - 205
13C-2,3,4,6,7,8-HxCDF	81		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	79		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	83		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	89		20 - 186
13C-OCDD	70		13 - 199

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-560219/2-A
Matrix: Water
Analysis Batch: 565138

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 560219

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	97		31 - 191

Lab Sample ID: LCSD 320-560219/3-A
Matrix: Water
Analysis Batch: 565138

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 560219

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000228		ug/L		114	67 - 158	5	50
2,3,7,8-TCDF			0.000200	0.000241	MB	ug/L		120	75 - 158	0	50
1,2,3,7,8-PeCDD			0.00100	0.00114		ug/L		114	70 - 142	3	50
1,2,3,7,8-PeCDF			0.00100	0.00113	MB	ug/L		113	80 - 134	2	50
2,3,4,7,8-PeCDF			0.00100	0.000990	MB	ug/L		99	68 - 160	1	50
1,2,3,4,7,8-HxCDD			0.00100	0.000941	MB	ug/L		94	70 - 164	0	50
1,2,3,6,7,8-HxCDD			0.00100	0.00115	MB	ug/L		115	76 - 134	3	50
1,2,3,7,8,9-HxCDD			0.00100	0.00110	MB	ug/L		110	64 - 162	3	50
1,2,3,4,7,8-HxCDF			0.00100	0.00101	MB	ug/L		101	72 - 134	0	50
1,2,3,6,7,8-HxCDF			0.00100	0.00112	MB	ug/L		112	84 - 130	0	50
1,2,3,7,8,9-HxCDF			0.00100	0.00111	MB	ug/L		111	78 - 130	2	50
2,3,4,6,7,8-HxCDF			0.00100	0.00111	MB	ug/L		111	70 - 156	0	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.00106	MB	ug/L		106	70 - 140	2	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.00109	MB	ug/L		109	82 - 122	4	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000918	MB	ug/L		92	78 - 138	2	50
OCDD			0.00200	0.00209	MB	ug/L		105	78 - 144	1	50
OCDF			0.00200	0.00217	MB	ug/L		109	63 - 170	3	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	74		20 - 175
13C-2,3,7,8-TCDF	77		22 - 152
13C-1,2,3,7,8-PeCDD	88		21 - 227
13C-1,2,3,7,8-PeCDF	83		21 - 192
13C-2,3,4,7,8-PeCDF	101		13 - 328
13C-1,2,3,4,7,8-HxCDD	104		21 - 193
13C-1,2,3,6,7,8-HxCDD	74		25 - 163
13C-1,2,3,4,7,8-HxCDF	103		19 - 202
13C-1,2,3,6,7,8-HxCDF	81		21 - 159
13C-1,2,3,7,8,9-HxCDF	86		17 - 205
13C-2,3,4,6,7,8-HxCDF	83		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	91		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	89		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	106		20 - 186
13C-OCDD	90		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	99		31 - 191

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-560219/1-A
Matrix: Water
Analysis Batch: 566566

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 560219

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	0.00000338	J,DX	0.000010	0.00000039	ug/L		01/24/22 14:10	02/17/22 08:17	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF - RA	*81*		*24 - 169*	*01/24/22 14:10*	*02/17/22 08:17*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD - RA	*102*		*35 - 197*	*01/24/22 14:10*	*02/17/22 08:17*	*1*

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Specialty Organics

Prep Batch: 560219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1 - RA	Outfall011_20220119_Comp	Total/NA	Water	1613B	
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	1613B	
MB 320-560219/1-A - RA	Method Blank	Total/NA	Water	1613B	
MB 320-560219/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-560219/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-560219/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 565138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1	Outfall011_20220119_Comp	Total/NA	Water	1613B	560219
MB 320-560219/1-A	Method Blank	Total/NA	Water	1613B	560219
LCS 320-560219/2-A	Lab Control Sample	Total/NA	Water	1613B	560219
LCSD 320-560219/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	560219

Analysis Batch: 566566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-82068-1 - RA	Outfall011_20220119_Comp	Total/NA	Water	1613B	560219
MB 320-560219/1-A - RA	Method Blank	Total/NA	Water	1613B	560219

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Client Sample ID: Outfall011_20220119_Comp
Lab Sample ID: 570-82068-1
Date Collected: 01/19/22 09:00
Matrix: Water
Date Received: 01/19/22 18:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B	RA		970.2 mL	20.0 uL	560219	01/24/22 14:10	CGB	TAL SAC
Total/NA	Analysis	1613B	RA	1			566566	02/17/22 12:07	DB	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	1613B			970.2 mL	20.0 uL	560219	01/24/22 14:10	CGB	TAL SAC
Total/NA	Analysis	1613B		1			565138	02/13/22 14:21	GRB	TAL SAC
	Instrument ID: DFS 1									

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-82068-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-23
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-30-23
Hawaii	State	<cert No.>	01-29-23
Illinois	NELAP	200060	03-18-22
Kansas	NELAP	E-10375	02-28-22
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22 *
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-23
Oregon	NELAP	4040	01-29-23
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-22
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-82068-1	Outfall011_20220119_Comp	Water	01/19/22 09:00	01/19/22 18:20

82068

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-82068 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 011 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218	**Project Manager:** Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	**Field Manager:** Mark Dominick 978.234.5033, 818.599.0702 (cell)
Sampler: Adrian Mobeka	

									R/A	R	R	R	R/A	R	R	R	A	A	R					
									ANALYSIS REQUIRED															
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- F- SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals: Mercury (E245.1)					Comments
Outfall 011	Outfall011_20220119_Comp	1/19/2022/0400	WM	500 mL Poly	1	HNO_3	80	No	X										X					
			WM	1 L Glass Amber	2	None	110	No		X														
			WM	1 L Poly	1	None	115	No			X													
			WM	500 mL Poly	2	None	120	No				X												
			WM	500 mL Poly	2	None	125	No					X											48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X										48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X								
			WM	1 L Glass Amber	2	None	250	No									X							
			WM	1 L Glass Amber	2	None	175	No										X						
			WM	1 L Poly	1	None	185	No							X									
	Outfall011_20220119_Comp_Extra	1/19/2022/0900	WM	1 L Glass Amber	2	None	110	No		H														Hold
			WM	500 mL Poly	2	None	120	No				H												Hold
			WM	500 mL Poly	2	None	125	No					H											Hold
			WM	1 L Glass Amber	2	None	250	No										H						Hold
			WM	1 L Glass Amber	2	None	175	No											H					Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	1-19-2022/1400	H.A		EQ 1/19/22 1400
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	01/19/22	1820 EQ		1/19/22 1820
Relinquished By	Date/Time:	Company:	Received By	Date/Time:

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

2 3|3.8, 1 9|3.4, 2 1|3.6

2/22/2022

2019-2020 Rainy Season
Version 5

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:	ANALYSIS REQUIRED
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 011 Comp	R/A R R R A A A A R QRSW
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218		
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)	
Sampler: Adrian Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)		Comments
Outfall 011	Outfall011_20220119_Comp_F	1/19/2022 0900	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	2	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall011_20220119_Comp	1/19/2022* 0900	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No											Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No		\	X								
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			WM	1L Glass Amber	2	None	275	No											
	Outfall011_20220119_Comp_Extra	1/19/2022 0900	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	no # 1	None	255	No							H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company	Received By	Date/Time:	Company
[signature]	1-19-2022 / 1400	H;A	[signature]	1119/22 1400	ECI
[signature]	01119/22 1820	ECI	[signature]	1/19/22 1820	

Turn-around time: (Check)
24 Hour: ____ 72 Hour: ____ 10 Day: __X__
48 Hour: ____ 5 Day: ____ Normal: ____

Sample Integrity: (Check)
Intact: ____ On Ice: ____

Store samples for 6 months.

Data Requirements: (Check)
No Level IV: ____ All Level IV: __X__

* Hand-delivered to ABC Labs in Ventura by H;A

23/38, 19/3.4 SCG

Eurofins Calscience
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152165 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82068-3
Address: 13715 Rider Trail North ,	Due Date Requested: 2/16/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall011_20220119_Comp (570-82068-1)	1/19/22	09:00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
1	Relinquished by: [signature]	Date/Time: 1/20/22 1304	Company	Received by:	Date/Time:	Company
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

ORIGIN ID:APVA (714) 895-5494
SAMPLE CONTROL
CALSCIENCE ENVIRONMENTAL LAB
7440 LINCOLN WAY

GARDEN GROVE, CA 92841
UNITED STATES US

SHIP DATE: 20JAN22
ACTWGT: 61.00 LB
CAD: 1533735/INET4460

BILL SENDER

TO **SAMPLE RECEIVING**
EUROFINS TESTAMERICA
13715 RIDER TRAIL NORTH

EARTH CITY MO 63045
(314) 298-8566
INV
PO

REF VP/82063,82066, 82068
DEPT

560J4/F289/FE4A

FedEx Express

J2210220105071uw

E

1 of 2

TRK# 0201 **7758 1398 4382**

MASTER

XN ALNA

FRI - 21 JAN 10:30A
PRIORITY OVERNIGHT

63045
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MO-US

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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex com FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim Limitations found in the current FedEx Service Guide apply Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value Recovery cannot exceed actual documented loss Maximum for items of extraordinary value is $1,000, e g jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide Written claims must be filed within strict time limits, see current FedEx Service Guide

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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152240 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-82068-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 2/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall011_20220119_Comp (570-82068-1)	1/19/22	09:00 Pacific		Water			X		2	See QAS Boeing_w/u to zero, ug/L Use Boeing glassware
Outfall011_20220119_Comp_Extra (570-82068-2)	1/19/22	09:00 Pacific		Water				X	2	See QAS Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/22/2022

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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim Limitations found in the current FedEx Service Guide apply Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide Written claims must be filed within strict time limits, see current FedEx Service Guide

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Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-152284 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82068-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 2/9/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V - MCAA
K - EDTA	W pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall011_20220119_Comp (570-82068-1)	1/19/22	09:00 Pacific		Water			X		1	Level IV needed
Outfall011_20220119_Comp_Extra (570-82068-2)	1/19/22	09:00 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/20/22 1637	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

ORIGIN ID:APVA (714) 895-5494
SAMPLE CONTROL
CALSCIENCE ENVIRONMENTAL LAB
7440 LINCOLN WAY
GARDEN GROVE, CA 92841
UNITED STATES US

SHIP DATE: 20JAN22
ACTWGT: 35.00 LB
CAD: 1533735/INET4460

BILL SENDER

TO **SAMPLE RECEIVING**
WECK LABORATORIES, INC.
14859 EAST CLARK AVENUE

CITY OF INDUSTRY CA 91745
(626) 336-2139
INV:
PO:
REF VP/82062,66,68 TN / 82176
DEPT:

56DJ4/F289/FE4A

FedEx Express
J2210220105811uv

FRI - 21 JAN 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7758 1620 7190**

92 POCA

91745
CA-US **LAX**

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Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82068-4

Login Number: 82068
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82068-4

Login Number: 82068
List Number: 4
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 01/21/22 02:27 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.0c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-82068-5
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/26/2022 1:11:52 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-82068-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-82068-5

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-82068-5

Comments
No additional comments.

Receipt
The samples were received on 1/19/2022 6:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.4º C, 3.6º C and 3.8º C.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method Weck-Hydrazine: This method was subcontracted to Weck Laboratories, Inc.. The subcontract laboratory certification is different from that of the facility issuing the final report.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method	Method Description	Protocol	Laboratory
Subcontract	Weck-Hydrazine	None	Weck Lab

Protocol References:

None = None

Laboratory References:

Weck Lab = Weck Laboratories, Inc., 14859 E. Clark Avenue, City of Industry, CA 91745

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-82068-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-82068-1	Outfall011_20220119_Comp	Water	01/19/22 09:00	01/19/22 18:20

WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Work Orders:	2A21044	**Report Date:**	2/25/2022
		Received Date:	1/21/2022
Project:	570-82068-2	**Turnaround Time:**	Normal
		Phones:	(949) 261-1022
		Fax:	(949) 260-3297
Attn:	Virendra Patel	**P.O. #:**	570-82068-2
Client:	Eurofins Calscience - Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	**Billing Code:**	

Dear Virendra Patel,

Enclosed are the results of analyses for samples received 1/21/22 with the Chain-of-Custody document. The samples were received in good condition, at 2.9 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Sample Results

Sample: Outfall011_20220119_(Comp (570-82068-1) — Sampled: 01/19/22 9:00 by Client

2A21044-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 8315M			**Instr:** LCMS03				
Batch ID: W2B0680 **Preparation:** Microextraction			**Prepared:** 02/09/22 12:13				**Analyst:** kan
Monomethylhydrazine (MMH)	ND	0.31	2.0	ug/l	1	02/09/22	

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

Quality Control Results

Hydrazine by LCMS

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Blank (W2B0680-BLK1)					**Prepared & Analyzed: 02/09/22**						
Monomethylhydrazine (MMH)	ND	0.31	2.0	ug/l							
LCS (W2B0680-BS1)					**Prepared & Analyzed: 02/09/22**						
Monomethylhydrazine (MMH)	22.3	0.31	2.0	ug/l	20.0		112	50-150			
Matrix Spike (W2B0680-MS1)		**Source: 2A21039-01**			**Prepared & Analyzed: 02/09/22**						
Monomethylhydrazine (MMH)	24.5	0.31	2.0	ug/l	20.0	*ND*	123	50-150			
Matrix Spike Dup (W2B0680-MSD1)		**Source: 2A21039-01**			**Prepared & Analyzed: 02/09/22**						
Monomethylhydrazine (MMH)	22.5	0.31	2.0	ug/l	20.0	*ND*	113	50-150	9	30	

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

Notes and Definitions

Item	Definition
%REC	Percent Recovery
Dil	Dilution
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

Analyses Accreditation Summary

Analyte	CAS #	Not By NELAP	ANAB ISO 17025
EPA 8315M in Water			
Monomethylhydrazine (MMH)	60-34-4	✓	

Reviewed by:

Rahul R. Nair
Project Manager

ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • LACSD #10143 • NJ-DEP #CA015 • NV-DEP #NAC 445A • SCAQMD #93LA1006

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

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www.wecklabs.com

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California	
Address: 14859 E. Clark Avenue, ,	Due Date Requested: 2/9/2022	Analysis Requested	
City: City of Industry	TAT Requested (days):		
State, Zip: CA, 91745			
Phone:	PO #:		
Email:	WO #:		
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446		
Site:	SSOW#:		

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck-Hydrazine)/ Weck-Hydrazine	SUB (Weck-Hydrazine)/ Weck-Hydrazine (Hold)
			Preservation Code:					
Outfall011_20220119_Comp (570-82068-1)	1/19/22	09:00 Pacific		Water			X	
Outfall011_20220119_Comp_Extra (570-82068-2)	1/19/22	09:00 Pacific		Water				X

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample ship laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance t

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are re
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 1/20/22 1637	Company	Received by: Date/Time:
Relinquished by:	Date/Time:	Company	Received by: Date/Time:

2/26/2022

ORATORIES, INC.

Sample Receipt Checklist

Weck WKO: 2A21044
Logged by: Jerico B.
Checked by: JB

Date/Time Received: 01/21/22 @ 10:25
# of Samples: 02
Delivered by: Fedex

sk	Yes	No	N/A	Comments
OC present at receipt?	☒	☐		
OC properly completed?	☒	☐		
OC matches sample labels?	☒	☐		
	☐	☐		
oject Manager notified?	☐	☐	☒	
mple Temperature	2.9°C			
mples received on ice?	☒	☐		
e Type (Blue/Wet)	WET			
l samples intact?	☒	☐		
mples in proper containers?	☒	☐		
fficient sample volume?	☒	☐		
mples intact?	☒	☐		
eceived within holding time?	☒	☐		
	☐	☐		
oject Manager notified?	☐	☐	☒	
mple labels checked for correct preservation?	☒	☐	☐	
OC Headspace: none, <6mm/<Pea size? 24.2, 524.3, 624.1, 8260, 1666 P/T, LUFT	☐	☐	☒	
H verified upon receipt? etals <2; H2SO4 pres tests <2; 522<4; TOC <2; 608.3 5-9	☐	☐	☒	
ee Chlorine Tested <0.1	☐	☐	☒	
&G pH <2 verified?	☐	☐	☐	pH paper Lot#
				pH Reading:
H adjusted for O&G	☐	☐	☐	Acid Lot#
				Amt added:
roject Manager notified?	☐	☐	☒	

82068

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-82068 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 011 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218	**Project Manager:** Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	**Field Manager:** Mark Dominick 978.234.5033, 818.599.0702 (cell)
Sampler: Adrian Mobeka	

									R/A	R	R	R	R/A	R	R	R	A	A	R					
									ANALYSIS REQUIRED															
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl-, F-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals: Mercury (E245.1)					Comments
Outfall 011	Outfall011_20220119_Comp	1/19/2022/0400	WM	500 mL Poly	1	HNO_3	80	No	X										X					
			WM	1 L Glass Amber	2	None	110	No		X														
			WM	1 L Poly	1	None	115	No			X													
			WM	500 mL Poly	2	None	120	No				X												
			WM	500 mL Poly	2	None	125	No					X											48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X										48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X								
			WM	1 L Glass Amber	2	None	250	No									X							
			WM	1 L Glass Amber	2	None	175	No										X						
			WM	1 L Poly	1	None	185	No							X									
	Outfall011_20220119_Comp_Extra	1/19/2022/0900	WM	1 L Glass Amber	2	None	110	No		H														Hold
			WM	500 mL Poly	2	None	120	No				H												Hold
			WM	500 mL Poly	2	None	125	No					H											Hold
			WM	1 L Glass Amber	2	None	250	No										H						Hold
			WM	1 L Glass Amber	2	None	175	No											H					Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	1-19-2022/1400	H.A		EC 1/19/22 1400
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	01/19/22	1820 EC		1/19/22 1820
Relinquished By	Date/Time:	Company:	Received By	Date/Time:

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

2 3|3.8, 1 9|3.4, 2 1|3.6

2/26/2022

2019-2020 Rainy Season
Version 5

82068

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:	R/A	R	R	R	A	A	A	A	R	QRSW	ANALYSIS REQUIRED	
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 011 Comp	Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)		Comments
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)												
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)												
Sampler: Adrian Mobeka													

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD														
Outfall 011	Outfall011_20220119_Comp_F	1/19/2022 0900	WM	1 L Poly	1	None	190	No	X													Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	2	None	320	No												X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall011_20220119_Comp	1/19/2022 * 0900	WM	500 mL Poly	1	NaOH	220	No		X												
			WM	2.5 Gal Cube	1	None	225	No		\	X											Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No														
			WM	1 Gal Cube	6	None	235	No				X										Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X									
			WM	1 L Glass Amber	1	HCl	245	No						X								
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X							
			WM	500 mL Poly	1	None	260	No										X				
			WM	1L Glass Amber	2	None	275	No														
	Outfall011_20220119_Comp_Extra	1/19/2022 0900	WM	40 mL VOA	3	HCl	240	No					H									Hold
			WM	1 L Glass Amber	no # 1	None	255	No								H						Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company	Received By	Date/Time:	Company
[signature]	1-19-2022 / 1400	H;A	[signature]	1119/22 1400	ECI
[signature]	01119/22 1820	ECI	[signature]	1/19/22 1820	

Turn-around time: (Check)
24 Hour: ____ 72 Hour: ____ 10 Day: __X__
48 Hour: ____ 5 Day: ____ Normal: ____

Sample Integrity: (Check)
Intact: ____ On Ice: ____

Store samples for 6 months.

Data Requirements: (Check)
No Level IV: ____ All Level IV: __X__

* Hand-delivered to ABC Labs in Ventura by H;A

2 3/3 8, 1 9/3.4 SCG

2/26/2022

2019-2020 Rainy Season
Version 5

Eurofins Calscience
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152165 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82068-3
Address: 13715 Rider Trail North ,	Due Date Requested: 2/16/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall011_20220119_Comp (570-82068-1)	1/19/22	09:00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
Relinquished by: [signature]	Date/Time: 1/20/22 1304				
Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

ORIGIN ID:APVA (714) 895-5494
SAMPLE CONTROL
CALSCIENCE ENVIRONMENTAL LAB
7440 LINCOLN WAY

GARDEN GROVE, CA 92841
UNITED STATES US

SHIP DATE: 20JAN22
ACTWGT: 61.00 LB
CAD: 1533735/INET4460

BILL SENDER

TO **SAMPLE RECEIVING**
EUROFINS TESTAMERICA
13715 RIDER TRAIL NORTH

EARTH CITY MO 63045
(314) 298-8566
INV
PO

REF VP/82063,82066, 82068
DEPT

560J4/F289/FE4A

FedEx Express

J2210220105071uw

E

1 of 2

TRK# 0201 **7758 1398 4382**

MASTER

XN ALNA

FRI - 21 JAN 10:30A
PRIORITY OVERNIGHT

63045
STL
MO-US

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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex com FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim Limitations found in the current FedEx Service Guide apply Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value Recovery cannot exceed actual documented loss Maximum for items of extraordinary value is $1,000, e g jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide Written claims must be filed within strict time limits, see current FedEx Service Guide

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Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-152240 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-82068-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 2/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall011_20220119_Comp (570-82068-1)	1/19/22	09:00 Pacific		Water			X		2	See QAS Boeing_w/u to zero, ug/L Use Boeing glassware
Outfall011_20220119_Comp_Extra (570-82068-2)	1/19/22	09:00 Pacific		Water				X	2	See QAS Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	1/20/22 1520				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/26/2022

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ORIGIN ID:APVA (714) 895-5494
SAMPLE CONTROL
CALSCIENCE ENVIRONMENTAL LAB
7440 LINCOLN WAY

GARDEN GROVE, CA 92841
UNITED STATES US

SHIP DATE: 20JAN22
ACTWGT 59.00 LB
CAD: 1533735/INET4460

BILL SENDER

TO **SAMPLE RECEIVING**
EUROFINS TESTAMERICA-W.SAC
880 RIVERSIDE PARKWAY

WEST SACRAMENTO CA 95605
(916) 373-5600
INV:
PO:
DEPT

REF: VP/82063.066.068, LT/82097

56DJ4/F289/FE4A

FedEx Express

J2210220105011w

FRI - 21 JAN 10:30A
PRIORITY OVERNIGHT

2 of 2
MPS# 7758 1579 8364
0263
Mstr# 7758 1579 8353
0201

95605
SMF
CA-US

WD BLUA

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Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-152284 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-82068-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 2/9/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V - MCAA
K - EDTA	W pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall011_20220119_Comp (570-82068-1)	1/19/22	09:00 Pacific		Water			X		1	Level IV needed
Outfall011_20220119_Comp_Extra (570-82068-2)	1/19/22	09:00 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive, Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	1/20/22 1637				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/26/2022

ORIGIN ID:APVA (714) 895-5494
SAMPLE CONTROL
CALSCIENCE ENVIRONMENTAL LAB
7440 LINCOLN WAY

GARDEN GROVE, CA 92841
UNITED STATES US

SHIP DATE: 20JAN22
ACTWGT: 35.00 LB
CAD: 1533735/INET4460

BILL SENDER

TO **SAMPLE RECEIVING**
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92 POCA

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Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-82068-5

Login Number: 82068
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80528-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab
Revision: 2

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/26/2022 2:19:09 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-80528-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80528-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80528-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 1/20/2022. The report (revision 2) is being revised due to: The PDF report has been revised to include the analyte list requested on the COC.

Receipt
The samples were received on 1/3/2022 4:48 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.4º C.

GC/MS VOA
Method 624.1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 440-663938 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 2540F: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: Outfall018_20220103_Grab (570-80528-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 1664A: The reference method requires samples to be preserved to a pH of 2. The following sample was received with insufficient preservation at a pH of 6: Outfall018_20220103_Grab (570-80528-1). The sample(s) was preserved to the appropriate pH in the laboratory.
1664

Method 1664A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-206211. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.
1664

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method 9223- Colilert 18 - E. Coli - level 4 required: This method was subcontracted to Enthalpy Analytical - Barkley. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80528-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Client Sample ID: Outfall018_20220103_Grab
Lab Sample ID: 570-80528-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C13-C28	0.040	J,DX	0.049	0.036	mg/L	1		8015B	Total/NA
Specific Conductance	180		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: TB-20220103
Lab Sample ID: 570-80528-3

No Detections.

This Detection Summary does not include radiochemical test results.

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall018_20220103_Grab
Lab Sample ID: 570-80528-1
Date Collected: 01/03/22 09:20
Matrix: Water
Date Received: 01/03/22 16:48

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/06/22 22:11	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/06/22 22:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			01/06/22 22:11	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/06/22 22:11	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/06/22 22:11	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/06/22 22:11	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	0.58	ug/L			01/06/22 22:11	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/06/22 22:11	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/06/22 22:11	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/06/22 22:11	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/06/22 22:11	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/06/22 22:11	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/06/22 22:11	1
Acrolein	ND		5.0	4.6	ug/L			01/06/22 22:11	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/06/22 22:11	1
Benzene	ND		0.50	0.28	ug/L			01/06/22 22:11	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/06/22 22:11	1
Bromoform	ND		1.0	0.25	ug/L			01/06/22 22:11	1
Bromomethane	ND		0.50	0.22	ug/L			01/06/22 22:11	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/06/22 22:11	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/06/22 22:11	1
Chloroethane	ND		1.0	0.29	ug/L			01/06/22 22:11	1
Chloroform	ND		0.50	0.19	ug/L			01/06/22 22:11	1
Chloromethane	ND		0.50	0.30	ug/L			01/06/22 22:11	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/06/22 22:11	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/06/22 22:11	1
Cyclohexane	ND		2.0	0.79	ug/L			01/06/22 22:11	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/06/22 22:11	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/06/22 22:11	1
m,p-Xylene	ND		1.0	0.17	ug/L			01/06/22 22:11	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/06/22 22:11	1
Naphthalene	ND		1.0	0.33	ug/L			01/06/22 22:11	1
o-Xylene	ND		0.50	0.15	ug/L			01/06/22 22:11	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/06/22 22:11	1
Toluene	ND		0.50	0.23	ug/L			01/06/22 22:11	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/06/22 22:11	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/06/22 22:11	1
Trichloroethene	ND		0.50	0.17	ug/L			01/06/22 22:11	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			01/06/22 22:11	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/06/22 22:11	1
Xylenes, Total	ND		1.0	0.17	ug/L			01/06/22 22:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*60 - 140*		*01/06/22 22:11*	*1*
Dibromofluoromethane (Surr)	*111*		*60 - 140*		*01/06/22 22:11*	*1*
Toluene-d8 (Surr)	*106*		*60 - 140*		*01/06/22 22:11*	*1*

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: TB-20220103
Date Collected: 01/03/22 09:20
Date Received: 01/03/22 16:48

Lab Sample ID: 570-80528-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/06/22 21:42	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/06/22 21:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			01/06/22 21:42	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/06/22 21:42	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/06/22 21:42	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/06/22 21:42	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	0.58	ug/L			01/06/22 21:42	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/06/22 21:42	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/06/22 21:42	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/06/22 21:42	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/06/22 21:42	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/06/22 21:42	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/06/22 21:42	1
Acrolein	ND		5.0	4.6	ug/L			01/06/22 21:42	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/06/22 21:42	1
Benzene	ND		0.50	0.28	ug/L			01/06/22 21:42	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/06/22 21:42	1
Bromoform	ND		1.0	0.25	ug/L			01/06/22 21:42	1
Bromomethane	ND		0.50	0.22	ug/L			01/06/22 21:42	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/06/22 21:42	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/06/22 21:42	1
Chloroethane	ND		1.0	0.29	ug/L			01/06/22 21:42	1
Chloroform	ND		0.50	0.19	ug/L			01/06/22 21:42	1
Chloromethane	ND		0.50	0.30	ug/L			01/06/22 21:42	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/06/22 21:42	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/06/22 21:42	1
Cyclohexane	ND		2.0	0.79	ug/L			01/06/22 21:42	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/06/22 21:42	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/06/22 21:42	1
m,p-Xylene	ND		1.0	0.17	ug/L			01/06/22 21:42	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/06/22 21:42	1
Naphthalene	ND		1.0	0.33	ug/L			01/06/22 21:42	1
o-Xylene	ND		0.50	0.15	ug/L			01/06/22 21:42	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/06/22 21:42	1
Toluene	ND		0.50	0.23	ug/L			01/06/22 21:42	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/06/22 21:42	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/06/22 21:42	1
Trichloroethene	ND		0.50	0.17	ug/L			01/06/22 21:42	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			01/06/22 21:42	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/06/22 21:42	1
Xylenes, Total	ND		1.0	0.17	ug/L			01/06/22 21:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*60 - 140*		*01/06/22 21:42*	*1*
Dibromofluoromethane (Surr)	*107*		*60 - 140*		*01/06/22 21:42*	*1*
Toluene-d8 (Surr)	*109*		*60 - 140*		*01/06/22 21:42*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80528-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Method: 8015B - Gasoline Range Organics - (GC)

Client Sample ID: Outfall018_20220103_Grab
Lab Sample ID: 570-80528-1
Date Collected: 01/03/22 09:20
Matrix: Water
Date Received: 01/03/22 16:48

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		50	30	ug/L			01/06/22 17:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*20 - 144*		*01/06/22 17:04*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80528-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Method: 8015B - Diesel Range Organics (DRO) (GC)

Client Sample ID: Outfall018_20220103_Grab
Lab Sample ID: 570-80528-1
Date Collected: 01/03/22 09:20
Matrix: Water
Date Received: 01/03/22 16:48

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C28	0.040	J,DX	0.049	0.036	mg/L		01/04/22 10:35	01/04/22 23:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*81*		*53 - 151*	*01/04/22 10:35*	*01/04/22 23:46*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80528-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

General Chemistry

Client Sample ID: Outfall018_20220103_Grab
Lab Sample ID: 570-80528-1
Date Collected: 01/03/22 09:20
Matrix: Water
Date Received: 01/03/22 16:48

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	ND		1.4	0.71	mg/L		01/07/22 12:31	01/07/22 12:31	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	**180**		1.0	1.0	umhos/cm			01/04/22 11:54	1
Settleable Solids	ND	BU	0.10	0.10	mL/L/Hr			01/18/22 14:31	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Job ID: 570-80528-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(60-140)	(60-140)	(60-140)
570-80528-1	Outfall018_20220103_Grab	108	111	106
570-80528-1 MS	Outfall018_20220103_Grab	112	103	103
570-80528-1 MSD	Outfall018_20220103_Grab	108	103	104
570-80528-3	TB-20220103	104	107	109
LCS 440-663938/1004	Lab Control Sample	109	98	99
LCS 440-663938/1005	Lab Control Sample	99	107	109
MB 440-663938/6	Method Blank	100	107	111

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8015B - Gasoline Range Organics - (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		BFB1
Lab Sample ID	Client Sample ID	(20-144)
570-80528-1	Outfall018_20220103_Grab	74
570-80673-D-1 MS	Matrix Spike	97
570-80673-D-1 MSD	Matrix Spike Duplicate	95
LCS 570-205878/3	Lab Control Sample	96
LCSD 570-205878/4	Lab Control Sample Dup	97
MB 570-205878/6	Method Blank	71

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: 8015B - Diesel Range Organics (DRO) (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		OTCSN1
Lab Sample ID	Client Sample ID	(53-151)
570-80528-1	Outfall018_20220103_Grab	81
LCS 570-205334/2-A	Lab Control Sample	95
LCSD 570-205334/3-A	Lab Control Sample Dup	82
MB 570-205334/1-A	Method Blank	83

Surrogate Legend

OTCSN = n-Octacosane (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-663938/6
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/06/22 19:47	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/06/22 19:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			01/06/22 19:47	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/06/22 19:47	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/06/22 19:47	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/06/22 19:47	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	0.58	ug/L			01/06/22 19:47	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/06/22 19:47	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/06/22 19:47	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/06/22 19:47	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/06/22 19:47	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/06/22 19:47	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/06/22 19:47	1
Acrolein	ND		5.0	4.6	ug/L			01/06/22 19:47	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/06/22 19:47	1
Benzene	ND		0.50	0.28	ug/L			01/06/22 19:47	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/06/22 19:47	1
Bromoform	ND		1.0	0.25	ug/L			01/06/22 19:47	1
Bromomethane	ND		0.50	0.22	ug/L			01/06/22 19:47	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/06/22 19:47	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/06/22 19:47	1
Chloroethane	ND		1.0	0.29	ug/L			01/06/22 19:47	1
Chloroform	ND		0.50	0.19	ug/L			01/06/22 19:47	1
Chloromethane	ND		0.50	0.30	ug/L			01/06/22 19:47	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/06/22 19:47	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/06/22 19:47	1
Cyclohexane	ND		2.0	0.79	ug/L			01/06/22 19:47	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/06/22 19:47	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/06/22 19:47	1
m,p-Xylene	ND		1.0	0.17	ug/L			01/06/22 19:47	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/06/22 19:47	1
Naphthalene	ND		1.0	0.33	ug/L			01/06/22 19:47	1
o-Xylene	ND		0.50	0.15	ug/L			01/06/22 19:47	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/06/22 19:47	1
Toluene	ND		0.50	0.23	ug/L			01/06/22 19:47	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/06/22 19:47	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/06/22 19:47	1
Trichloroethene	ND		0.50	0.17	ug/L			01/06/22 19:47	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			01/06/22 19:47	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/06/22 19:47	1
Xylenes, Total	ND		1.0	0.17	ug/L			01/06/22 19:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*60 - 140*		*01/06/22 19:47*	*1*
Dibromofluoromethane (Surr)	*107*		*60 - 140*		*01/06/22 19:47*	*1*
Toluene-d8 (Surr)	*111*		*60 - 140*		*01/06/22 19:47*	*1*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-663938/1004
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	25.5		ug/L		102	69 - 151
1,1,2,2-Tetrachloroethane	25.0	31.0		ug/L		124	68 - 136
1,1,2-Trichloroethane	25.0	28.6		ug/L		114	75 - 136
1,1-Dichloroethane	25.0	26.9		ug/L		108	71 - 143
1,1-Dichloroethene	25.0	27.4		ug/L		109	19 - 212
1,2-Dichlorobenzene	25.0	24.5		ug/L		98	59 - 174
1,2-Dichloroethane	25.0	27.1		ug/L		108	72 - 137
1,2-Dichloropropane	25.0	28.0		ug/L		112	19 - 181
1,3-Dichlorobenzene	25.0	24.9		ug/L		100	75 - 144
1,4-Dichlorobenzene	25.0	24.7		ug/L		99	59 - 174
2-Chloroethyl vinyl ether	25.0	29.5		ug/L		118	10 - 252
Acrolein	24.7	28.7		ug/L		116	50 - 150
Acrylonitrile	250	300		ug/L		120	50 - 150
Benzene	25.0	25.5		ug/L		102	75 - 125
Bromodichloromethane	25.0	27.1		ug/L		108	50 - 140
Bromoform	25.0	23.8		ug/L		95	57 - 156
Bromomethane	25.0	28.2		ug/L		113	10 - 206
Carbon tetrachloride	25.0	25.4		ug/L		101	65 - 125
Chlorobenzene	25.0	24.9		ug/L		99	82 - 137
Chloroethane	25.0	29.4		ug/L		118	42 - 202
Chloroform	25.0	25.6		ug/L		102	68 - 121
Chloromethane	25.0	31.6		ug/L		127	10 - 230
cis-1,2-Dichloroethene	25.0	23.1		ug/L		93	60 - 140
cis-1,3-Dichloropropene	25.0	28.7		ug/L		115	5 - 195
Dibromochloromethane	25.0	25.7		ug/L		103	69 - 133
Ethylbenzene	25.0	24.1		ug/L		97	75 - 134
m,p-Xylene	25.0	23.5		ug/L		94	60 - 140
Methylene Chloride	25.0	25.0		ug/L		100	10 - 205
Naphthalene	25.0	23.6		ug/L		95	60 - 140
o-Xylene	25.0	23.5		ug/L		94	60 - 140
Tetrachloroethene	25.0	23.5		ug/L		94	70 - 130
Toluene	25.0	24.8		ug/L		99	75 - 134
trans-1,2-Dichloroethene	25.0	23.2		ug/L		93	70 - 130
trans-1,3-Dichloropropene	25.0	29.0		ug/L		116	38 - 162
Trichloroethene	25.0	22.7		ug/L		91	75 - 138
Trichlorofluoromethane	25.0	29.8		ug/L		119	45 - 158
Vinyl chloride	25.0	31.8		ug/L		127	10 - 218
Xylenes, Total	50.0	47.0		ug/L		94	

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*60 - 140*
Dibromofluoromethane (Surr)	*98*		*60 - 140*
Toluene-d8 (Surr)	*99*		*60 - 140*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-663938/1005
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2-Dichloro-1,1,2-trifluoroethane			25.0	23.3		ug/L		93	60 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*60 - 140*
Dibromofluoromethane (Surr)	*107*		*60 - 140*
Toluene-d8 (Surr)	*109*		*60 - 140*

Lab Sample ID: 570-80528-1 MS
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Outfall018_20220103_Grab
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,1,1-Trichloroethane	ND		25.0	25.9		ug/L		104	52 - 162		
1,1,2,2-Tetrachloroethane	ND		25.0	30.5		ug/L		122	46 - 157		
1,1,2-Trichloroethane	ND		25.0	27.8		ug/L		111	52 - 150		
1,1-Dichloroethane	ND		25.0	26.8		ug/L		107	59 - 155		
1,1-Dichloroethene	ND		25.0	29.6		ug/L		119	10 - 234		
1,2-Dichloro-1,1,2-trifluoroethane	ND		25.0	27.5		ug/L		110	60 - 140		
1,2-Dichlorobenzene	ND		25.0	24.2		ug/L		97	18 - 190		
1,2-Dichloroethane	ND		25.0	27.2		ug/L		109	49 - 155		
1,2-Dichloropropane	ND		25.0	28.0		ug/L		112	10 - 210		
1,3-Dichlorobenzene	ND		25.0	24.2		ug/L		97	59 - 156		
1,4-Dichlorobenzene	ND		25.0	24.6		ug/L		98	18 - 190		
2-Chloroethyl vinyl ether	ND		25.0	29.5		ug/L		118	10 - 305		
Acrolein	ND		24.7	18.4		ug/L		74	40 - 160		
Acrylonitrile	ND		250	273		ug/L		109	40 - 160		
Benzene	ND		25.0	25.9		ug/L		104	37 - 151		
Bromodichloromethane	ND		25.0	27.6		ug/L		110	35 - 155		
Bromoform	ND		25.0	24.9		ug/L		100	45 - 169		
Bromomethane	ND		25.0	29.4		ug/L		118	10 - 242		
Carbon tetrachloride	ND		25.0	27.3		ug/L		109	70 - 140		
Chlorobenzene	ND		25.0	25.4		ug/L		102	37 - 160		
Chloroethane	ND		25.0	30.1		ug/L		121	14 - 230		
Chloroform	ND		25.0	26.3		ug/L		105	51 - 138		
Chloromethane	ND		25.0	32.8		ug/L		131	10 - 273		
cis-1,2-Dichloroethene	ND		25.0	24.4		ug/L		98	60 - 140		
cis-1,3-Dichloropropene	ND		25.0	28.6		ug/L		115	10 - 227		
Dibromochloromethane	ND		25.0	26.1		ug/L		104	53 - 149		
Ethylbenzene	ND		25.0	25.4		ug/L		102	37 - 162		
m,p-Xylene	ND		25.0	24.4		ug/L		98	60 - 140		
Methylene Chloride	ND		25.0	24.5		ug/L		98	10 - 221		
Naphthalene	ND		25.0	23.3		ug/L		93	60 - 140		
o-Xylene	ND		25.0	24.9		ug/L		99	60 - 140		
Tetrachloroethene	ND		25.0	25.1		ug/L		100	64 - 148		
Toluene	ND		25.0	26.1		ug/L		104	47 - 150		
trans-1,2-Dichloroethene	ND		25.0	23.0		ug/L		92	54 - 156		
trans-1,3-Dichloropropene	ND		25.0	28.6		ug/L		114	17 - 183		
Trichloroethene	ND		25.0	23.5		ug/L		94	70 - 157		

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-80528-1 MS **Client Sample ID: Outfall018_20220103_Grab**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 663938

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	ND		25.0	30.9		ug/L		124	17 - 181
Vinyl chloride	ND		25.0	35.4		ug/L		142	10 - 251
Xylenes, Total	ND		50.0	49.3		ug/L		99	

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*60 - 140*
Dibromofluoromethane (Surr)	*103*		*60 - 140*
Toluene-d8 (Surr)	*103*		*60 - 140*

Lab Sample ID: 570-80528-1 MSD **Client Sample ID: Outfall018_20220103_Grab**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 663938

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		25.0	26.3		ug/L		105	52 - 162	2	36
1,1,2,2-Tetrachloroethane	ND		25.0	31.3		ug/L		125	46 - 157	3	61
1,1,2-Trichloroethane	ND		25.0	28.1		ug/L		112	52 - 150	1	45
1,1-Dichloroethane	ND		25.0	27.9		ug/L		112	59 - 155	4	40
1,1-Dichloroethene	ND		25.0	30.4		ug/L		121	10 - 234	2	32
1,2-Dichloro-1,1,2-trifluoroethane	ND		25.0	31.8		ug/L		127	60 - 140	14	35
1,2-Dichlorobenzene	ND		25.0	24.3		ug/L		97	18 - 190	1	57
1,2-Dichloroethane	ND		25.0	26.8		ug/L		107	49 - 155	1	49
1,2-Dichloropropane	ND		25.0	27.9		ug/L		112	10 - 210	0	55
1,3-Dichlorobenzene	ND		25.0	24.0		ug/L		96	59 - 156	1	43
1,4-Dichlorobenzene	ND		25.0	23.9		ug/L		96	18 - 190	3	57
2-Chloroethyl vinyl ether	ND		25.0	28.9		ug/L		116	10 - 305	2	71
Acrolein	ND		24.7	24.4		ug/L		99	40 - 160	28	60
Acrylonitrile	ND		250	303		ug/L		121	40 - 160	10	60
Benzene	ND		25.0	26.1		ug/L		104	37 - 151	1	61
Bromodichloromethane	ND		25.0	27.0		ug/L		108	35 - 155	2	56
Bromoform	ND		25.0	25.5		ug/L		102	45 - 169	2	42
Bromomethane	ND		25.0	28.3		ug/L		113	10 - 242	4	61
Carbon tetrachloride	ND		25.0	27.3		ug/L		109	70 - 140	0	41
Chlorobenzene	ND		25.0	24.4		ug/L		98	37 - 160	4	53
Chloroethane	ND		25.0	29.7		ug/L		119	14 - 230	1	78
Chloroform	ND		25.0	26.7		ug/L		107	51 - 138	1	54
Chloromethane	ND		25.0	31.7		ug/L		127	10 - 273	3	60
cis-1,2-Dichloroethene	ND		25.0	25.1		ug/L		101	60 - 140	3	35
cis-1,3-Dichloropropene	ND		25.0	28.6		ug/L		114	10 - 227	0	58
Dibromochloromethane	ND		25.0	25.3		ug/L		101	53 - 149	3	50
Ethylbenzene	ND		25.0	25.3		ug/L		101	37 - 162	0	63
m,p-Xylene	ND		25.0	23.3		ug/L		93	60 - 140	4	35
Methylene Chloride	ND		25.0	25.5		ug/L		102	10 - 221	4	28
Naphthalene	ND		25.0	23.6		ug/L		94	60 - 140	1	35
o-Xylene	ND		25.0	24.4		ug/L		97	60 - 140	2	35
Tetrachloroethene	ND		25.0	25.3		ug/L		101	64 - 148	1	39
Toluene	ND		25.0	25.8		ug/L		103	47 - 150	1	41
trans-1,2-Dichloroethene	ND		25.0	24.2		ug/L		97	54 - 156	5	45

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-80528-1 MSD **Client Sample ID: Outfall018_20220103_Grab**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 663938

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,3-Dichloropropene	ND		25.0	28.9		ug/L		115	17 - 183	1	86
Trichloroethene	ND		25.0	23.4		ug/L		94	70 - 157	0	48
Trichlorofluoromethane	ND		25.0	31.4		ug/L		125	17 - 181	1	84
Vinyl chloride	ND		25.0	35.2		ug/L		141	10 - 251	1	66
Xylenes, Total	ND		50.0	47.7		ug/L		95		3	

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*60 - 140*
Dibromofluoromethane (Surr)	*103*		*60 - 140*
Toluene-d8 (Surr)	*104*		*60 - 140*

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 570-205878/6 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 205878

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		50	30	ug/L			01/06/22 13:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*20 - 144*		*01/06/22 13:31*	*1*

Lab Sample ID: LCS 570-205878/3 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 205878

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (C4-C13)			1970	1780		ug/L		90	71 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*20 - 144*

Lab Sample ID: LCSD 570-205878/4 **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 205878

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)			1970	1830		ug/L		93	71 - 120	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*20 - 144*

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: 570-80673-D-1 MS
Matrix: Water
Analysis Batch: 205878

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (C4-C13)	ND		1970	2090		ug/L		106	54 - 125		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*20 - 144*

Lab Sample ID: 570-80673-D-1 MSD
Matrix: Water
Analysis Batch: 205878

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	ND		1970	2010		ug/L		102	54 - 125	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*20 - 144*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 570-205334/1-A
Matrix: Water
Analysis Batch: 205388

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205334

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C28	ND		0.050	0.036	mg/L		01/04/22 10:35	01/04/22 18:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*83*		*53 - 151*	*01/04/22 10:35*	*01/04/22 18:26*	*1*

Lab Sample ID: LCS 570-205334/2-A
Matrix: Water
Analysis Batch: 205388

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205334

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C28			4.00	4.00		mg/L		100	70 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane (Surr)	*95*		*53 - 151*

Lab Sample ID: LCSD 570-205334/3-A
Matrix: Water
Analysis Batch: 205388

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205334

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28			4.00	3.77		mg/L		94	70 - 131	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane (Surr)	*82*		*53 - 151*

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-206211/1-A
Matrix: Water
Analysis Batch: 206285

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 206211

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	ND		1.0	0.51	mg/L		01/07/22 12:31	01/07/22 12:31	1

Lab Sample ID: LCS 570-206211/2-A
Matrix: Water
Analysis Batch: 206285

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 206211

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
HEM: Oil and Grease			40.0	36.9		mg/L		92	78 - 114		

Lab Sample ID: LCSD 570-206211/3-A
Matrix: Water
Analysis Batch: 206285

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 206211

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM: Oil and Grease			40.0	38.4		mg/L		96	78 - 114	4	18

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 440-663757/3
Matrix: Water
Analysis Batch: 663757

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			01/04/22 11:54	1

Lab Sample ID: LCS 440-663757/4
Matrix: Water
Analysis Batch: 663757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Specific Conductance			687	671		umhos/cm		98	90 - 110		

Lab Sample ID: 570-80129-N-1 DU
Matrix: Water
Analysis Batch: 663757

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Specific Conductance	210			213		umhos/cm				0	5

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80528-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

GC/MS VOA

Analysis Batch: 663938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80528-1	Outfall018_20220103_Grab	Total/NA	Water	624.1	
570-80528-3	TB-20220103	Total/NA	Water	624.1	
MB 440-663938/6	Method Blank	Total/NA	Water	624.1	
LCS 440-663938/1004	Lab Control Sample	Total/NA	Water	624.1	
LCS 440-663938/1005	Lab Control Sample	Total/NA	Water	624.1	
570-80528-1 MS	Outfall018_20220103_Grab	Total/NA	Water	624.1	
570-80528-1 MSD	Outfall018_20220103_Grab	Total/NA	Water	624.1	

GC VOA

Analysis Batch: 205878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80528-1	Outfall018_20220103_Grab	Total/NA	Water	8015B	
MB 570-205878/6	Method Blank	Total/NA	Water	8015B	
LCS 570-205878/3	Lab Control Sample	Total/NA	Water	8015B	
LCSD 570-205878/4	Lab Control Sample Dup	Total/NA	Water	8015B	
570-80673-D-1 MS	Matrix Spike	Total/NA	Water	8015B	
570-80673-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B	

GC Semi VOA

Prep Batch: 205334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80528-1	Outfall018_20220103_Grab	Total/NA	Water	3510C	
MB 570-205334/1-A	Method Blank	Total/NA	Water	3510C	
LCS 570-205334/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 570-205334/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 205388

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80528-1	Outfall018_20220103_Grab	Total/NA	Water	8015B	205334
MB 570-205334/1-A	Method Blank	Total/NA	Water	8015B	205334
LCS 570-205334/2-A	Lab Control Sample	Total/NA	Water	8015B	205334
LCSD 570-205334/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	205334

General Chemistry

Prep Batch: 206211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80528-1	Outfall018_20220103_Grab	Total/NA	Water	1664A	
MB 570-206211/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-206211/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-206211/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

Analysis Batch: 206285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80528-1	Outfall018_20220103_Grab	Total/NA	Water	1664A	206211
MB 570-206211/1-A	Method Blank	Total/NA	Water	1664A	206211
LCS 570-206211/2-A	Lab Control Sample	Total/NA	Water	1664A	206211
LCSD 570-206211/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	206211

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80528-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

General Chemistry

Analysis Batch: 663757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80528-1	Outfall018_20220103_Grab	Total/NA	Water	SM 2510B	
MB 440-663757/3	Method Blank	Total/NA	Water	SM 2510B	
LCS 440-663757/4	Lab Control Sample	Total/NA	Water	SM 2510B	
570-80129-N-1 DU	Duplicate	Total/NA	Water	SM 2510B	

Analysis Batch: 664736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80528-1	Outfall018_20220103_Grab	Total/NA	Water	SM 2540F	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80528-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Client Sample ID: Outfall018_20220103_Grab
Lab Sample ID: 570-80528-1
Date Collected: 01/03/22 09:20
Matrix: Water
Date Received: 01/03/22 16:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	663938	01/06/22 22:11	N1A	IRV 2
	Instrument ID: GCMS13									
Total/NA	Analysis	8015B		1	5 mL	5 mL	205878	01/06/22 17:04	P1R	ECL 2
	Instrument ID: GC1									
Total/NA	Prep	3510C			253.6 mL	2.5 mL	205334	01/04/22 10:35	UFLU	ECL 1
Total/NA	Analysis	8015B		1			205388	01/04/22 23:46	A1W	ECL 1
	Instrument ID: GC93A									
Total/NA	Prep	1664A			718 mL	1000 mL	206211	01/07/22 12:31	UWEZ	ECL 1
Total/NA	Analysis	1664A		1			206285	01/07/22 12:31	L6IE	ECL 1
	Instrument ID: ICPMS05									
Total/NA	Analysis	SM 2510B		1			663757	01/04/22 11:54	VY3D	IRV 2
	Instrument ID: COND13									
Total/NA	Analysis	SM 2540F		1	1000 mL	1000 mL	664736	01/18/22 14:31	W1BQ	IRV 2
	Instrument ID: NOEQUIP									

Client Sample ID: TB-20220103
Lab Sample ID: 570-80528-3
Date Collected: 01/03/22 09:20
Matrix: Water
Date Received: 01/03/22 16:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	663938	01/06/22 21:42	N1A	IRV 2
	Instrument ID: GCMS13									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80528-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
624.1		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
624.1		Water	1,2-Dichloro-1,1,2-trifluoroethane
624.1		Water	cis-1,2-Dichloroethene
624.1		Water	Cyclohexane
624.1		Water	Naphthalene
624.1		Water	Xylenes, Total

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80528-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	IRV 2
8015B	Gasoline Range Organics - (GC)	SW846	ECL 2
8015B	Diesel Range Organics (DRO) (GC)	SW846	ECL 1
1664A	HEM and SGT-HEM	1664A	ECL 1
SM 2510B	Conductivity, Specific Conductance	SM	IRV 2
SM 2540F	Solids, Settleable	SM	IRV 2
Subcontract	9223- Colilert 18 - E. Coli - level 4 required	None	Enthalpy
1664A	HEM and SGT-HEM (Aqueous)	1664A	ECL 1
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ECL 1
5030C	Purge and Trap	SW846	ECL 2

Protocol References:

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80528-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80528-1	Outfall018_20220103_Grab	Water	01/03/22 09:20	01/03/22 16:48
570-80528-3	TB-20220103	Water	01/03/22 09:20	01/03/22 16:48

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 456329
Report Level: IV
Report Date: 01/25/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDES SSFL Outfall - Outfall 018 Grab - #570-80528

Authorized for release by:

Quynhgiao Le

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	Lab Job #: Project No: Location: Date Received:	456329 BOEING NPDES SSFL Boeing NPDES SSFL Outfall - Outfall 018 Grab - #570-80528 01/04/22

Sample ID	Lab ID	Collected	Matrix
OUTFALL018_20220103_GRAB (570-80528-1)	456329-001	01/03/22 09:20	Water

ENTHALPY ANALYTICAL

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Virendra Patel	Lab Job Number:	456329
	Project No:	BOEING NPDES SSFL
	Location:	Boeing NPDES SSFL Outfall - Outfall 018 Grab - #570-80528
	Date Received:	01/04/22

Total Coliform / E. coli by Quanti-Tray (SM 9223Bb):

This data package contains sample and QC results for one water sample, requested for the above referenced project on 01/04/22. The sample was received cold and intact.

No analytical problems were encountered.

Chain of Custody

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

456329

Chain of Custody Record

&702+(3+0-3&

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148795.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-80528-1
Address: 931 W. Barkley Ave, ,	Due Date Requested:			
City: Orange	TAT Requested (days): 10 days TAT			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Grab	Project #: 570-80528			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (9223- Colilert 18 - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall018_20220103_Grab (570-80528-1)	1/3/22	09:20 Pacific		Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4
									3.6/0.6

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: Victor M. ECI	Date/Time: 01/04/22 1535	Company ECI	Received by:	Date/Time: 1/4/22 1536	Company EA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Eurofins Calscience Project: Boeing NPDES

Date Received: 1/4/22 Sampler's Name Present: ☑ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2) Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 3.6 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 0.6 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓		
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	✓		
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?	✓		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✓
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 5 Explanations/Comments

samples expired.

Section 6

For discrepancies, how was the Project Manager notified? ☑ Verbal PM Initials: QL Date/Time 1/4/22

☑ Email (email sent to/on): _____ / _____

@ 1/4/22

Project Manager's response:

Completed By: _____ Date: 1/4/22

Enthalpy Analytical, a subsidiary of Montrose Environmental Group ,Inc.
931 W. Barkley Ave, Orange, CA 92868 • T: (714) 771-6900 • F: (714) 538-1209
www.enthalpy.com/socal

Quynhgiao Le

From: Patel, Virendra <Virendra.Patel@eurofinset.com> on behalf of Patel, Virendra
Sent: Tuesday, January 04, 2022 4:38 PM
To: Quynhgiao Le
Subject: [EXTERNAL] RE: Eurofins - 570-80528

Please continue outside hold time. Thank you!

Best Regards,

Virendra Patel
Project Manager

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
P: +1 714 895 5494
F: +1 714 894 7501

Email: Virendra.Patel@eurofinsET.com
Website: www.eurofinsUS.com/Calscience

For up-to-date business information, visit our website and follow us on Facebook and LinkedIn.

From: Quynhgiao Le <quynhgiao.le@enthalpy.com>
Sent: Tuesday, January 4, 2022 4:37 PM
To: Patel, Virendra <Virendra.Patel@eurofinset.com>
Subject: Eurofins - 570-80528
Importance: High

EXTERNAL EMAIL*

Hi Virendra,

The attached sample received is out of hold time. Please let me know if you'd like to proceed with the analysis. Thanks!

Quynhgiao Le
Project Manager Assistant
ENTHALPY ANALYTICAL
931 W. Barkley Ave., Orange, CA 92868
O: 714.771.6900 X 9929
Quynhgiao.Le@enthalpy.com

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https://enthalpy.com/news-events/

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 456329 **Project#:** BOEING NPDES SSFL

Client: Eurofins Calscience Tustin **Location:** Boeing NPDES SSFL Outfall - Outfal...

Field ID:	OUTFALL018_20220103_GRAB (570-80528-1)	**Batch#:**	281192	**Analyzed:**	01/05/22 12:48
Lab ID:	456329-001	**Sampled:**	01/03/22 09:20	**Prep:**	
Matrix:	Water	**Received:**	01/04/22	**Analysis:**	SM 9223Bb
Dil'n Fac:	1.000	**Prepared:**	01/04/22 17:30	**Analyst:**	LVL

Analyte	Result	RL	Units	Qual
Coliform, E. Coli	**6.0**	1.0	MPN/100ml	H

Legend

H: Holding time was exceeded

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: ST Prep Date/Time: 1/4/22 ~~1755~~ ST 1/27/22 1730 QC Batch ID: 281192 Batch Page 1 of 1

Read Analyst: M Read Date/Time 1/5/22 1248

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: HT510 Pipette Lot #: A103909, A103931 07/12026

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 1/4/22 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: A Incubator In, Temp/Time: 34.7 1755 Incubator Out, Temp/Time: 1248 34.9

Fecal Coliform: Water Bath ID: NA Water Bath In, Temp/Time: NA Water Bath Out, Temp/Time: NA

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
Eurofins		456329-001	1X	49	48	>2419.6	>2400	6	0	6.3	6					EC-01 1X
calscience		-001	10X	49	23	410.6	4100	0	0	<1	<10					↓ 10X
↓		-001	100X	22	5	35	3500	0	0	<1	<10					↓ 100X
		456331-001	1X	49	48	>2419.6	>2400	32	4	55.6	56					EC-02 1X
		-001	10X	~~32~~ 49	~~4~~ 27	517.2	5200	10	0	11.0	110 ++ 1/27/22					↓ 10X
		-001	100X	15	2	19.9	2000	0	0	<1	<100					↓ 100X
Quality Control		Culture ID														
Positive +/+ (E. Coli)		1/2/22		49	48	>2419.6	>2400	49	48	>2419.6	>2400					
Positive +/- (K. Pneumonia)		↓		49	48	>2419.6	>2400	0	0	<1.0	<1.0					
Negative -/- (P. Aeruginosa)				0	0	<1.0	<1.0	0	0	<1.0	<1.0					

M 1/10/22

M 1/10/22

Data Entered By: M 1/10/22 Data Reviewed By:

80528

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80528 Chain of Custody

VLJOUVKT

Client Name/Address:	Project:	ANALYSIS REQUIRED	Field Readings	Meter serial #
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108 Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 018 Grab	A A R R R R/Q/A A A A	Field Readings: (Include units) Time of Readings: 0920 DO 7.34 mg/L pH 7.49 pH unit Temp 70.2 °C/°F TRC 0.0 mg/L Field readings QC Checked by: Date/Time: 1-3-2022/0920	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)			
Sampler: Mark Dominick	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)			

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	MST-Bacteroidales, Human (SAM348-357) Source Molecular in Miami Lakes, FL	E. coli (SM9221) Enthalpy Analytical Orange CA	Settleable Solids (E160.5 (SM2540F))	Conductivity (SM2510B / E120 1)	Oil & Grease (E1664A-HEM)	VOCs + VOCs PP + xylenes, Freon 11 Freon 113, Freon 123A, Cyclohexane, cis-1,2-DCE (E624)	VOCs - only A+A+2CVE (E624)	TPH: gas (GRO(C4-C12)) (SW8015B)	TPH: dieseljet fuel (DRO (C13-C28)) (SW8015B)				Comments
Outfall 018	Outfall018_20220103_Grab	1/3/2022 0920	* WM	125mL Sterile Poly	1	None	5	No	X												Deliver to lab ASAP & hr hold time
			WM	125mL Sterile Poly	3	$Na_2S_2O_3$	10	No		X											Deliver to lab ASAP 8 hr hold time Need x, 10x, 100x dilutions
			WM	1 L Glass Amber	2	HCl	15	No					X								
			WM	40 mL VOA	3	HCl	45	No						X							
			WM	40 mL VOA	3	None	55	No							X						
			WM	40 mL VOA	3	HCl	60	No								X					
			WM	1 L Glass Amber	2	None	65	No									X				
			WM	L Poly	1	None	70	No			X										
			WM	500 mL Poly	1	None	75	No				X									
	Outfall018_20220103_Grab_Extra	1/3/2022 0920	WM	1 L Glass Amber	2	HCl	15	No					H								Hold
			WM	40 mL VOA	3	HCl	45	No						H							Hold
			WM	40 mL VOA	3	None	55	No							H						Hold
			WM	500 mL Poly	1	None	75	No				H									Hold
Trip Blanks	TB-20220103	1/3/2022 0920	WQ	40 mL VOA	2	HCl	45	No						X							
			WQ	40 mL VOA	2	None	55	No							X						

Legend: A=Annual, R=Routine, Q=Quarterly

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	1-3-2022	1330 H&A	ECI	1/3/22 1330
Victor M	1/3/22	1648 ECI		1/3/22 1648

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day __X__
48 Hour _____ 5 Day _____ Normal _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

* Shipped Separately via FedEx to Santa Malacar

2.5 4.4 SCS

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148851 1
Client Contact: Shipping/Receiving	Phone:	E Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80528-1
Address: 2841 Dow Avenue	Due Date Requested: 1/13/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Grab	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2540F/ Solids, Settleable	~~624_LL/624_Prep_3D~~ ~~PP+xylH118,11,128A+cyclohex+A+A+2CVE~~	2510B	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
Outfall018_20220103_Grab (570-80528-1)	1/3/22	09 20 Pacific		Water			X	X	X	2	Analyze on "Closed System only"

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*

Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2
Special Instructions/QC Requirements

Empty Kit Relinquished by	Date		Time		Method of Shipment:	
Relinquished by: [signature]	Date/Time: 01/04/22 1725	Company: ECI	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by: Olga Ornelas	Date/Time: 01/04/22 1725	Company: EET
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No		Cooler Temperature(s) °C and Other Remarks: 1.7/1.2 IR-90			

Ver 06 08 2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-149114 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest		Accreditations Required (See note): State Program - California		Job #: 570-80528-1
Address: 2841 Dow Avenue	Due Date Requested: 1/13/2022			
City: Tustin	TAT Requested (days)			
State Zip: CA 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Grab	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B NaOH	N None
C Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F MeOH	R Na2S2O3
G Amchlor	S H2SO4
H Ascorbic Acid	T - TSP Dodecahydrate
I Ice	U Acetone
J - DI Water	V MCAA
K EDTA	W pH 4-5
L EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	624.1_LL/624_Prep_3D PP+xyl+fr113,11,123A+cyclohex+A+A+2CVE (Hold)	2510B (Hold)	624.1_LL/624_Prep_3D PP+xyl+fr113,11,123A+cyclohex+A+A+2CVE	Total Number of containers	Special Instructions/Note
			Preservation Code:								
Outfall018_20220103_Grab_Extra (570-80528-2)	1/3/22	09 20 Pacific		Water			X	X		6	Analyze on 'Closed System only'
TB-20220103 (570-80528-3)	1/3/22	09 20 Pacific		Water					X	4	Analyze on 'Closed System only'

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		1/5/2022 19 00	ECI		1/5/2022 19 00	ECT
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 2.3/1.8 IR-90

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80528-1

Login Number: 80528
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80528-1

Login Number: 80528
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 01/04/22 05:54 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80528-1

Login Number: 80528
List Number: 3
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 01/06/22 10:16 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

LUMINULTRA®

15280 NW 79th Court, Suite 107 Miami Lakes, Florida 33016

ACCREDITED CERT#4126.01

Fecal Host Quantification ID Test Results Report

Detection and quantification of the fecal host associated gene biomarker by quantitative Polymerase Chain Reaction (qPCR) DNA analytical technology

ND: Not Detected DNQ: Detected, Not Quantifiable ROQ: Detected, Quantifiable

Submitter: Haley and Aldrich
Report Generated: January 14, 2022

SM #	Sample ID	Date Collected	Time Collected	Analysis Requested	Ct, Rep1	Ct, Rep2	Marker Quantified	Results Qualifier	LOD (Limit of detection)	LOQ (Limit of Quantification)	Result Unit
SM22A04141	Outfall011_20211230_Grab	12/30/2021	10:00 AM	Human_HF183	34.14	34.96	1.02E+02	DNQ	7.50E+01	2.50E+02	copies per 100ml
SM22A04142	Outfall018_20220103_Grab	1/3/2022	9:20 AM	Human_HF183	35.5	ND	0.00E+00	ND	7.50E+01	2.50E+02	copies per 100ml

Reported Results Authorized By: Anda Quintero, Quality Manager

Results reported herein apply only to the sample matrices as received.
Results reported herein relate to the genetic material extracted from the sample matrix processed and included in the analysis.

LUMINULTRA®

15280 NW 79th Court, Suite 107 Miami Lakes, Florida 33016

ACCREDITED CERT#4126.01

Fecal Host Quantification ID Test Results Report

Sample Processing and Analysis Information

Submitter: Haley and Aldrich
Report Generated: January 14, 2022

SM #	Sample ID	Analysis Requested	Sample Type	Processed Date	Extraction Date	Analysis Date	Amount Processed	Amount Processed Unit	Analytical Volume (ul)	PCR Plate ID	Sample Comments
SM22A04141	Outfall011_20211230_Grab	Human_HF183	Water	1/4/2022	1/10/2022	1/10/2022	200	ml	2	20220110_q02	
SM22A04142	Outfall018_20220103_Grab	Human_HF183	Water	1/4/2022	1/10/2022	1/10/2022	200	ml	2	20220110_q02	

Reported Results Authorized By: Anda Quintero, Quality Manager

Results reported herein apply only to the sample matrices as received.
Results reported herein relate to the genetic material extracted from the sample matrix processed and included in the analysis.

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15280 NW 79th Court, Suite 107 Miami Lakes, Florida 33016

ACCREDITED
CERT#4126.01

Fecal Host Quantification ID Test Results Report

qPCR Analysis QAQC information

Submitter: Haley and Aldrich
Report Generated: January 14, 2022

Analysis Requested	PCR Plate ID	Y-intercept	Slope	R^2	Efficiency %	NTC1 (no template control)	NTC2 (no template control)	NTC3 (no template control)	Positive control Ct (if applicable)	Comments
Human_HF183	20220110_q02	36.597	-3.439	1	95.325	ND	ND	ND		

Reported Results Authorized By: Anda Quintero, Quality Manager

Revision 2.1
Effective Date: 11/1/2021

Results reported herein apply only to the sample matrices as received.
Results reported herein relate to the genetic material extracted from the sample matrix processed and included in the analysis.

Laboratory Comments

Submitter: Haley and Aldrich
Report Generated: January 14, 2022

Non-Detect (ND) Results
In sample(s) classified as non-detect, the host-associated fecal gene biomarker(s) was either not detected in test replicates, one replicate was detected at a cycle threshold greater than 35 and the other was not, or one replicate was detected at a cycle threshold less than 35 and the other was not after repeated analysis.

Detected Not Quantified (DNQ) Results
In sample(s) classified as Detected Not Quantified (DNQ), the host-associated fecal biomarker was detected in both test replicates but in quantities below the limit of quantification (LOQ, see below). This result indicates that fecal indicators associated with the respective host was present in the sample(s) but in low concentrations, and the confidence of such quantification will be lower than that declared by the definition of LOQ.

Quantifiable Results (ROQ)
Sample results are within the range of quantification of calibration curves (standard curves) of a validation qPCR method. For most qPCR assays, the range is 1E1 to 1E5 copies/reaction. Copy number measurements reported are relative, not absolute, quantification.

LOD (Limit of Detection, lower)
A general consensus was reached around the definition of the LOD as the lowest amount of analyte, which can be detected with more than a stated percentage of confidence (95%), but, not necessarily quantified as an exact value. It must be noted that LOD is not a limiting value and therefore, that Ct vlaues below the LOD cannot automatically be considered as negative. From the definition of LOD, it is evident that values below LOD are absolutely valid in terms of microornanism prescence. However, the probabality of their repeated detection is lower than 95%.

LOQ (Limit of Quantification, lower)
The LOQ was defined as the smallest amount of analyte, which can be measured and quantified with defined precision and accuracy under the experimental conditions by the method under validation. Numerically, the LOQ is defined as the lowest concentration of analyte, which gives a predefined variability (coeffecient of variation, CV) of under 25%.

Inhibition check
A 1:10 dilution of the original sample is analyzed togther each time with the undiluted sample to evaluate the effect of PCR inhibition. If the sample is inhibited, where 1:10 dilution produces a high signal than undiluted sample, the 1:10 dilution results will be used for quantification. The use of 1:10 dilution sample results will be reflected in Analytical Volume(ul). For example, if the analytical volume for undiluted sample is 2ul, the analytical volume for 1:10 dilution will be 0.2ul.

Fecal Reference Samples
The client is encouraged to submit fecal samples from suspected sources in the surrounding area in order to gain a better understanding of the concentration of the host-associated biomarker with the regional population. A more precise interpretation would be available to the client with the submittal of such baseline samples.

Result Interpretations
The presence of the biomarker does not signify the presence or absence of that form of fecal pollution conclusively. The most reliable way to accurately test for contamination is to combine genetic testing with scientifically sound and adequate study design appropriate for the environmental quality questions to be answered or issues to be resolved.

Additional Testing
A portion of all samples has been frozen and will be archived for 3 months. The client is encouraged to perform additional tests on the sample(s) for other hosts suspected of contributing to the fecal contamination.

Qualitification Assay Results (Detected/Non-Detected only)
Such results are only reported as Detected or Non-Detected without quantification. Non-Detected results are defined as stated above, and Detected results are defined as detected Ct in both replicate qPCR reactions.

Limitation of Damages – Repayment of Service Price
It is agreed that in the event of breach of any warranty or breach of contract, or negligence of LuminUltra Technologies Inc, as well as its agents or representatives, the liability of the company shall be limited to the repayment, to the purchaser (submitter), of the individual analysis price paid by him/her to LuminUltra Technologies Inc. The company shall not be liable for any damages, either direct or consequentialLuminUltra Technologies Inc provides analytical services on a PRIME CONTRACT BASIS ONLY. Terms are available upon request. The sample(s) cited in this report may be used for research purposes after an archiving period of 3 months from the date of this report. Research includes, but is not limited to internal validation studies and peer-reviewed research publications. Anonymity of the sample(s), including the exact geographic location will be maintained by assigning an arbitrary internal reference. These anonymous samples will only be grouped by state / province of origin for research purposes. The client must contact LuminUltra Technologies Inc in writing within 10 days from the date of this report if he/she does not wish for their submitted sample(s) to be used for any type of future research.

DNA Analytical Method Explanation
Water Samples: Each submitted water sample is filtered through 0.45 micron membrane filter(s). Each filter is placed in a separate, sterile 2ml disposable tube containing a unique mix of beads and lysis buffer. The sample is homogenized for and the DNA extracted per kit manufacturer's protocol. Devitations to these procedures may occur at the client's request.

Non-Water Samples: Each non-water sample submitted by the client is processed as per internal laboratory extraction procedures. An extracted DNA sample is proceed directly to PCR analysis. Details available upon request.

Amplifications to detect the target gene biomarker were run in a final reaction volume of 20ul sample extract, forward primer, reverse primer, probe and an optimized buffer. All assays are run in duplicate. Quantification is achieved by extrapolating target gene copy numbers from a standard curve generated from serial dilutions of known gene copy numbers.

For quality control purposes, a positive control and a negative control, were run alongside the sample(s) to ensure a properly functioning reaction and reveal any false negatives or false positives.

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80545-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/8/2022 1:11:01 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
BA	Relative percent difference out of control
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

GC Semi VOA

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
PI	Primary and confirm results varied by > than 40% RPD

HPLC/IC

Qualifier	Qualifier Description
BA	Relative percent difference out of control
BB	Sample > 4X spike concentration
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LN	MS and/or MSD below acceptance limits. See Blank Spike (LCS)

Metals

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LR	LCS/LCSD recovery below method control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80545-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80545-1

Comments
No additional comments.

Receipt
The samples were received on 1/4/2022 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.3º C and 3.8º C.

GC/MS VOA
Method 8260B SIM: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-205888. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method 8260B SIM: The matrix spike duplicate (MSD) was analyzed outside of the 12-hour tune window. The associated laboratory control sample and duplicate (LCS/LCSD) were analyzed within the 12-hour tune window. Precision and accuracy met acceptance criteria.
(570-80835-D-1 MSD)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method 625.1 SIM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 570-205520 and analytical batch 570-205774 recovered outside control limits for the following analytes: Benzidine.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall018_20220104_Comp_F (570-80545-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall018_20220104_Comp_F (570-80545-3). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with insufficient time to filter within the HT.

01/06/21 @ 15:40 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall018_20220104_Comp_F (570-80545-3). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with insufficient time to filter within the HT.

Job ID: 570-80545-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

01/06/21 @ 16:17 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method SM 5310D: The following sample was analyzed outside of analytical holding time due to analysis requested after holding time expiration: Outfall018_20220104_Comp (570-80545-1).

Method 180.1: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: Outfall018_20220104_Comp (570-80545-1).

Method SM5210B: The glucose-glutamic acid standard (LCS) recovered outside the recovery limits specified in the method in analytical batch 440-664229. The method holding time had expired, therefore the analysis was not repeated. The data was qualified and reported.

Method SM5210B: The following sample underdepleted: Outfall018_20220104_Comp (570-80545-1). Results have been reported and may be biased high.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-205540. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 608LL

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-205520. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 625.1 Sim

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium, hexavalent	0.15	J,DX	0.20	0.019	ug/L	1		218.6	Total/NA
Chloride	5.4		2.0	0.72	mg/L	2		300.0	Total/NA
Nitrate as N	3.6		0.20	0.048	mg/L	2		300.0	Total/NA
Sulfate	72		2.0	0.47	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	3.6		0.20	0.071	mg/L	1		NO2NO3 Calc	Total/NA
Barium	13		10	2.2	ug/L	1		200.7 Rev 4.4	Total Recoverable
Boron	63		50	25	ug/L	1		200.7 Rev 4.4	Total Recoverable
Iron	100		100	50	ug/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	23		20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Copper	2.4		2.0	0.50	ug/L	1		200.8	Total Recoverable
Hardness, as CaCO3	56		0.91	0.17	mg/L	1		SM 2340B	Total Recoverable
Turbidity	3.2	BU	0.10	0.05	NTU	1		180.1	Total/NA
Total Dissolved Solids	200		10	3.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.0		1.1	0.53	mg/L	1		SM 2540D	Total/NA
Ammonia (as N)	0.845		0.200	0.100	mg/L	1		SM 4500 NH3 G	Total/NA
Carbon, Total Organic	6.1	BU	0.50	0.026	mg/L	1		SM 5310D	Total/NA

Client Sample ID: Outfall018_20220104_Comp_F
Lab Sample ID: 570-80545-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	11		10	2.2	ug/L	1		200.7 Rev 4.4	Dissolved
Boron	50		50	25	ug/L	1		200.7 Rev 4.4	Dissolved
Manganese	13	J,DX	20	6.8	ug/L	1		200.7 Rev 4.4	Dissolved
Copper	2.6		2.0	0.50	ug/L	1		200.8	Dissolved
Hardness, as CaCO3	52		0.91	0.17	mg/L	1		SM 2340B	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.55	ug/L			01/10/22 14:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dichlorobutane (Surr)	*122*		*67 - 133*		*01/10/22 14:36*	*1*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.24	0.16	ug/L		01/05/22 06:03	01/05/22 20:18	1
1,2-Dichlorobenzene	ND		0.24	0.16	ug/L		01/05/22 06:03	01/05/22 20:18	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.24	0.083	ug/L		01/05/22 06:03	01/05/22 20:18	1
1,3-Dichlorobenzene	ND		0.24	0.15	ug/L		01/05/22 06:03	01/05/22 20:18	1
1,4-Dichlorobenzene	ND		0.24	0.15	ug/L		01/05/22 06:03	01/05/22 20:18	1
2,4,6-Trichlorophenol	ND		1.2	0.081	ug/L		01/05/22 06:03	01/05/22 20:18	1
2,4-Dichlorophenol	ND		1.2	0.12	ug/L		01/05/22 06:03	01/05/22 20:18	1
2,4-Dimethylphenol	ND		0.24	0.16	ug/L		01/05/22 06:03	01/05/22 20:18	1
2,4-Dinitrophenol	ND		6.0	1.2	ug/L		01/05/22 06:03	01/05/22 20:18	1
2,4-Dinitrotoluene	ND		0.24	0.13	ug/L		01/05/22 06:03	01/05/22 20:18	1
2,6-Dinitrotoluene	ND		0.24	0.16	ug/L		01/05/22 06:03	01/05/22 20:18	1
2-Chloronaphthalene	ND		0.24	0.16	ug/L		01/05/22 06:03	01/05/22 20:18	1
2-Chlorophenol	ND		0.24	0.099	ug/L		01/05/22 06:03	01/05/22 20:18	1
2-Nitrophenol	ND		6.0	1.7	ug/L		01/05/22 06:03	01/05/22 20:18	1
3,3'-Dichlorobenzidine	ND		6.0	1.9	ug/L		01/05/22 06:03	01/05/22 20:18	1
4,6-Dinitro-2-methylphenol	ND		6.0	4.8	ug/L		01/05/22 06:03	01/05/22 20:18	1
4-Bromophenyl phenyl ether	ND		0.24	0.093	ug/L		01/05/22 06:03	01/05/22 20:18	1
4-Chloro-3-methylphenol	ND		1.2	0.14	ug/L		01/05/22 06:03	01/05/22 20:18	1
4-Chlorophenyl phenyl ether	ND		0.24	0.11	ug/L		01/05/22 06:03	01/05/22 20:18	1
4-Nitrophenol	ND		6.0	1.3	ug/L		01/05/22 06:03	01/05/22 20:18	1
Acenaphthene	ND		0.24	0.10	ug/L		01/05/22 06:03	01/05/22 20:18	1
Acenaphthylene	ND		0.24	0.10	ug/L		01/05/22 06:03	01/05/22 20:18	1
Anthracene	ND		0.24	0.087	ug/L		01/05/22 06:03	01/05/22 20:18	1
Benzidine	ND	BA	6.0	2.7	ug/L		01/05/22 06:03	01/05/22 20:18	1
Benzo[a]anthracene	ND		0.24	0.084	ug/L		01/05/22 06:03	01/05/22 20:18	1
Benzo[a]pyrene	ND		0.24	0.087	ug/L		01/05/22 06:03	01/05/22 20:18	1
Benzo[b]fluoranthene	ND		0.24	0.12	ug/L		01/05/22 06:03	01/05/22 20:18	1
Benzo[g,h,i]perylene	ND		0.24	0.15	ug/L		01/05/22 06:03	01/05/22 20:18	1
Benzo[k]fluoranthene	ND		0.24	0.092	ug/L		01/05/22 06:03	01/05/22 20:18	1
bis (2-chloroisopropyl) ether	ND		0.24	0.11	ug/L		01/05/22 06:03	01/05/22 20:18	1
Bis(2-chloroethoxy)methane	ND		0.24	0.17	ug/L		01/05/22 06:03	01/05/22 20:18	1
Bis(2-chloroethyl)ether	ND		0.24	0.12	ug/L		01/05/22 06:03	01/05/22 20:18	1
Bis(2-ethylhexyl) phthalate	ND		6.0	2.2	ug/L		01/05/22 06:03	01/05/22 20:18	1
Butyl benzyl phthalate	ND		6.0	0.68	ug/L		01/05/22 06:03	01/05/22 20:18	1
Chrysene	ND		0.24	0.069	ug/L		01/05/22 06:03	01/05/22 20:18	1
Dibenz(a,h)anthracene	ND		0.24	0.17	ug/L		01/05/22 06:03	01/05/22 20:18	1
Diethyl phthalate	ND		2.4	0.16	ug/L		01/05/22 06:03	01/05/22 20:18	1
Dimethyl phthalate	ND		2.4	0.087	ug/L		01/05/22 06:03	01/05/22 20:18	1
Di-n-butyl phthalate	ND		2.4	0.83	ug/L		01/05/22 06:03	01/05/22 20:18	1
Di-n-octyl phthalate	ND		6.0	0.77	ug/L		01/05/22 06:03	01/05/22 20:18	1
Fluoranthene	ND		0.24	0.12	ug/L		01/05/22 06:03	01/05/22 20:18	1
Fluorene	ND		0.24	0.097	ug/L		01/05/22 06:03	01/05/22 20:18	1
Hexachlorobenzene	ND		0.24	0.11	ug/L		01/05/22 06:03	01/05/22 20:18	1
Hexachlorobutadiene	ND		0.24	0.20	ug/L		01/05/22 06:03	01/05/22 20:18	1
Hexachlorocyclopentadiene	ND		0.24	0.12	ug/L		01/05/22 06:03	01/05/22 20:18	1
Hexachloroethane	ND		0.24	0.18	ug/L		01/05/22 06:03	01/05/22 20:18	1
Indeno[1,2,3-cd]pyrene	ND		0.24	0.15	ug/L		01/05/22 06:03	01/05/22 20:18	1
Isophorone	ND		0.24	0.11	ug/L		01/05/22 06:03	01/05/22 20:18	1
Naphthalene	ND		0.24	0.12	ug/L		01/05/22 06:03	01/05/22 20:18	1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Client Sample ID: Outfall018_20220104_Comp **Lab Sample ID: 570-80545-1**
Date Collected: 01/04/22 11:00 **Matrix: Water**
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		0.24	0.12	ug/L		01/05/22 06:03	01/05/22 20:18	1
N-Nitrosodimethylamine	ND		0.24	0.17	ug/L		01/05/22 06:03	01/05/22 20:18	1
N-Nitrosodi-n-propylamine	ND		0.24	0.075	ug/L		01/05/22 06:03	01/05/22 20:18	1
N-Nitrosodiphenylamine	ND		0.24	0.12	ug/L		01/05/22 06:03	01/05/22 20:18	1
Pentachlorophenol	ND		1.2	0.13	ug/L		01/05/22 06:03	01/05/22 20:18	1
Phenanthrene	ND		0.24	0.089	ug/L		01/05/22 06:03	01/05/22 20:18	1
Phenol	ND		0.24	0.091	ug/L		01/05/22 06:03	01/05/22 20:18	1
Pyrene	ND		0.24	0.096	ug/L		01/05/22 06:03	01/05/22 20:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*67*		*28 - 127*	*01/05/22 06:03*	*01/05/22 20:18*	*1*
2-Fluorobiphenyl (Surr)	*49*		*31 - 120*	*01/05/22 06:03*	*01/05/22 20:18*	*1*
2-Fluorophenol	*36*		*17 - 120*	*01/05/22 06:03*	*01/05/22 20:18*	*1*
Nitrobenzene-d5	*54*		*27 - 120*	*01/05/22 06:03*	*01/05/22 20:18*	*1*
Phenol-d6 (Surr)	*24*		*10 - 120*	*01/05/22 06:03*	*01/05/22 20:18*	*1*
p-Terphenyl-d14 (Surr)	*56*		*45 - 120*	*01/05/22 06:03*	*01/05/22 20:18*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall018_20220104_Comp
Date Collected: 01/04/22 11:00
Date Received: 01/04/22 17:00

Lab Sample ID: 570-80545-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00070	ug/L		01/05/22 08:38	01/06/22 12:27	1
alpha-BHC	ND		0.0013	0.00080	ug/L		01/05/22 08:38	01/06/22 12:27	1
beta-BHC	ND		0.0020	0.0017	ug/L		01/05/22 08:38	01/06/22 12:27	1
delta-BHC	ND		0.0013	0.0011	ug/L		01/05/22 08:38	01/06/22 12:27	1
gamma-BHC (Lindane)	ND		0.0013	0.00090	ug/L		01/05/22 08:38	01/06/22 12:27	1
Chlordane (technical)	ND		0.010	0.0065	ug/L		01/05/22 08:38	01/06/22 12:27	1
4,4'-DDD	ND		0.0013	0.00080	ug/L		01/05/22 08:38	01/06/22 12:27	1
4,4'-DDE	ND		0.0013	0.00050	ug/L		01/05/22 08:38	01/06/22 12:27	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		01/05/22 08:38	01/06/22 12:27	1
Dieldrin	ND		0.0013	0.00050	ug/L		01/05/22 08:38	01/06/22 12:27	1
Endosulfan I	ND		0.0013	0.00070	ug/L		01/05/22 08:38	01/06/22 12:27	1
Endosulfan II	ND		0.0013	0.00050	ug/L		01/05/22 08:38	01/06/22 12:27	1
Endosulfan sulfate	ND		0.0013	0.00060	ug/L		01/05/22 08:38	01/06/22 12:27	1
Endrin	ND		0.0013	0.00070	ug/L		01/05/22 08:38	01/06/22 12:27	1
Endrin aldehyde	ND		0.010	0.0051	ug/L		01/05/22 08:38	01/06/22 12:27	1
Heptachlor	ND		0.0013	0.00070	ug/L		01/05/22 08:38	01/06/22 12:27	1
Heptachlor epoxide	ND		0.0013	0.00040	ug/L		01/05/22 08:38	01/06/22 12:27	1
Toxaphene	ND		0.10	0.013	ug/L		01/05/22 08:38	01/06/22 12:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*26*	*PI*	*20 - 139*	*01/05/22 08:38*	*01/06/22 12:27*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		01/05/22 08:38	01/06/22 19:14	1
Aroclor 1221	ND		0.10	0.044	ug/L		01/05/22 08:38	01/06/22 19:14	1
Aroclor 1232	ND		0.10	0.044	ug/L		01/05/22 08:38	01/06/22 19:14	1
Aroclor 1242	ND		0.10	0.044	ug/L		01/05/22 08:38	01/06/22 19:14	1
Aroclor 1248	ND		0.10	0.044	ug/L		01/05/22 08:38	01/06/22 19:14	1
Aroclor 1254	ND		0.10	0.052	ug/L		01/05/22 08:38	01/06/22 19:14	1
Aroclor 1260	ND		0.10	0.052	ug/L		01/05/22 08:38	01/06/22 19:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*41*	*PI*	*20 - 154*	*01/05/22 08:38*	*01/06/22 19:14*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	0.15	J,DX	0.20	0.019	ug/L			01/04/22 23:24	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.4**		2.0	0.72	mg/L			01/05/22 15:53	2
Nitrite as N	ND		0.20	0.036	mg/L			01/05/22 15:53	2
Fluoride	ND		0.20	0.092	mg/L			01/05/22 15:53	2
Nitrate as N	**3.6**		0.20	0.048	mg/L			01/05/22 15:53	2
Sulfate	**72**		2.0	0.47	mg/L			01/05/22 15:53	2

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 314.0 - Perchlorate (IC)

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/05/22 18:34	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	3.6		0.20	0.071	mg/L			01/09/22 11:31	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/20/22 06:32	01/20/22 17:03	1
Barium	**13**		10	2.2	ug/L		01/20/22 06:32	01/20/22 17:03	1
Beryllium	ND		2.0	0.44	ug/L		01/20/22 06:32	01/20/22 17:03	1
Boron	**63**		50	25	ug/L		01/20/22 06:32	01/20/22 17:03	1
Chromium	ND		5.0	2.5	ug/L		01/20/22 06:32	01/20/22 17:03	1
Cobalt	ND		10	2.8	ug/L		01/20/22 06:32	01/20/22 17:03	1
Iron	**100**		100	50	ug/L		01/20/22 06:32	01/20/22 17:03	1
Manganese	**23**		20	6.8	ug/L		01/20/22 06:32	01/20/22 17:03	1
Nickel	ND		10	5.0	ug/L		01/20/22 06:32	01/20/22 17:03	1
Vanadium	ND		10	2.1	ug/L		01/20/22 06:32	01/20/22 17:03	1
Zinc	ND		20	12	ug/L		01/20/22 06:32	01/20/22 17:03	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: Outfall018_20220104_Comp_F
Lab Sample ID: 570-80545-3
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/06/22 17:20	01/07/22 21:34	1
Barium	**11**		10	2.2	ug/L		01/06/22 17:20	01/07/22 21:34	1
Beryllium	ND		2.0	0.44	ug/L		01/06/22 17:20	01/07/22 21:34	1
Boron	**50**		50	25	ug/L		01/06/22 17:20	01/07/22 21:34	1
Chromium	ND		5.0	2.5	ug/L		01/06/22 17:20	01/07/22 21:34	1
Cobalt	ND		10	2.8	ug/L		01/06/22 17:20	01/07/22 21:34	1
Iron	ND		100	50	ug/L		01/06/22 17:20	01/07/22 21:34	1
Manganese	**13**	**J,DX**	20	6.8	ug/L		01/06/22 17:20	01/07/22 21:34	1
Nickel	ND		10	5.0	ug/L		01/06/22 17:20	01/07/22 21:34	1
Vanadium	ND		10	2.1	ug/L		01/06/22 17:20	01/07/22 21:34	1
Zinc	ND		20	12	ug/L		01/06/22 17:20	01/07/22 21:34	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:39	1
Cadmium	ND		1.0	0.25	ug/L		01/20/22 06:46	01/20/22 13:39	1
Copper	**2.4**		2.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:39	1
Lead	ND		1.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:39	1
Antimony	ND		2.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:39	1
Selenium	ND		2.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:39	1
Thallium	ND		1.0	0.20	ug/L		01/20/22 06:46	01/20/22 13:39	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall018_20220104_Comp_F
Lab Sample ID: 570-80545-3
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:43	1
Cadmium	ND		1.0	0.25	ug/L		01/06/22 17:16	01/07/22 14:43	1
Copper	**2.6**		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:43	1
Lead	ND		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:43	1
Antimony	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:43	1
Selenium	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:43	1
Thallium	ND		1.0	0.20	ug/L		01/06/22 17:16	01/07/22 14:43	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 245.1 - Mercury (CVAA)

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/17/22 17:42	01/18/22 17:51	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall018_20220104_Comp_F
Lab Sample ID: 570-80545-3
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.25	0.12	ug/L		01/19/22 17:58	01/20/22 20:18	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	56		0.91	0.17	mg/L			01/21/22 13:30	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Client Sample ID: Outfall018_20220104_Comp_F
Lab Sample ID: 570-80545-3
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	52		0.91	0.17	mg/L			01/11/22 17:20	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

General Chemistry

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	**3.2**	**BU**	0.10	0.05	NTU			01/19/22 18:30	1
Cr (III)	ND		0.050	0.0069	mg/L			01/21/22 12:30	1
Total Dissolved Solids	**200**		10	3.0	mg/L			01/11/22 10:10	1
Total Suspended Solids	**4.0**		1.1	0.53	mg/L			01/05/22 19:16	1
Cyanide, Total	ND		0.0030	0.0014	mg/L		01/04/22 19:30	01/04/22 22:50	1
Ammonia (as N)	**0.845**		0.200	0.100	mg/L			01/07/22 11:41	1
Carbon, Total Organic	**6.1**	**BU**	0.50	0.026	mg/L			02/04/22 05:48	1
MBAS	ND		0.30	0.15	mg/L		01/04/22 21:00	01/04/22 22:17	1
Biochemical Oxygen Demand	ND	LR	3.0	3.0	mg/L			01/05/22 22:45	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	14DCBTN (67-133)								
570-80545-1	Outfall018_20220104_Comp	122								
570-80835-D-1 MS	Matrix Spike	114								
570-80835-D-1 MSD	Matrix Spike Duplicate	116								
LCS 570-206472/4	Lab Control Sample	107								
LCSD 570-206472/5	Lab Control Sample Dup	110								
MB 570-206472/8	Method Blank	121								

Surrogate Legend

14DCBTN = 1,4-Dichlorobutane (Surr)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TBP (28-127)	FBP (31-120)	2FP (17-120)	NBZ (27-120)	PHL6 (10-120)	TPHd14 (45-120)		
570-80545-1	Outfall018_20220104_Comp	67	49	36	54	24	56		
LCS 570-205520/2-A	Lab Control Sample	85	59	49	65	32	80		
LCSD 570-205520/3-A	Lab Control Sample Dup	81	65	50	67	33	79		
MB 570-205520/1-A	Method Blank	91	64	50	71	31	72		

Surrogate Legend

TBP = 2,4,6-Tribromophenol
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL6 = Phenol-d6 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	TCX1 (20-139)								
570-80545-1	Outfall018_20220104_Comp	26 PI								
LCS 570-205540/2-A	Lab Control Sample	42								
LCSD 570-205540/3-A	Lab Control Sample Dup	47								
MB 570-205540/1-A	Method Blank	66								

Surrogate Legend

TCX = Tetrachloro-m-xylene

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	DCB1 (20-154)								
570-80545-1	Outfall018_20220104_Comp	41 PI								
LCS 570-205540/4-A	Lab Control Sample	37								
LCSD 570-205540/5-A	Lab Control Sample Dup	34								

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC) (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	DCB1 (20-154)								
MB 570-205540/1-A	Method Blank	61								

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-206472/8
Matrix: Water
Analysis Batch: 206472

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.55	ug/L			01/10/22 13:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dichlorobutane (Surr)	*121*		*67 - 133*		*01/10/22 13:00*	*1*

Lab Sample ID: LCS 570-206472/4
Matrix: Water
Analysis Batch: 206472

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			20.0	20.6		ug/L		103	75 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dichlorobutane (Surr)	*107*		*67 - 133*

Lab Sample ID: LCSD 570-206472/5
Matrix: Water
Analysis Batch: 206472

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			20.0	20.0		ug/L		100	75 - 120	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dichlorobutane (Surr)	*110*		*67 - 133*

Lab Sample ID: 570-80835-D-1 MS
Matrix: Water
Analysis Batch: 206472

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane	ND		20.0	22.1		ug/L		110	75 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,4-Dichlorobutane (Surr)	*114*		*67 - 133*

Lab Sample ID: 570-80835-D-1 MSD
Matrix: Water
Analysis Batch: 206472

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	ND		20.0	21.3		ug/L		106	75 - 120	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,4-Dichlorobutane (Surr)	*116*		*67 - 133*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-205520/1-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205520

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.20	0.13	ug/L		01/05/22 06:03	01/05/22 17:08	1
1,2-Dichlorobenzene	ND		0.20	0.13	ug/L		01/05/22 06:03	01/05/22 17:08	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.20	0.069	ug/L		01/05/22 06:03	01/05/22 17:08	1
1,3-Dichlorobenzene	ND		0.20	0.13	ug/L		01/05/22 06:03	01/05/22 17:08	1
1,4-Dichlorobenzene	ND		0.20	0.13	ug/L		01/05/22 06:03	01/05/22 17:08	1
2,4,6-Trichlorophenol	ND		1.0	0.067	ug/L		01/05/22 06:03	01/05/22 17:08	1
2,4-Dichlorophenol	ND		1.0	0.097	ug/L		01/05/22 06:03	01/05/22 17:08	1
2,4-Dimethylphenol	ND		0.20	0.13	ug/L		01/05/22 06:03	01/05/22 17:08	1
2,4-Dinitrophenol	ND		5.0	0.99	ug/L		01/05/22 06:03	01/05/22 17:08	1
2,4-Dinitrotoluene	ND		0.20	0.11	ug/L		01/05/22 06:03	01/05/22 17:08	1
2,6-Dinitrotoluene	ND		0.20	0.13	ug/L		01/05/22 06:03	01/05/22 17:08	1
2-Chloronaphthalene	ND		0.20	0.14	ug/L		01/05/22 06:03	01/05/22 17:08	1
2-Chlorophenol	ND		0.20	0.082	ug/L		01/05/22 06:03	01/05/22 17:08	1
2-Nitrophenol	ND		5.0	1.4	ug/L		01/05/22 06:03	01/05/22 17:08	1
3,3'-Dichlorobenzidine	ND		5.0	1.6	ug/L		01/05/22 06:03	01/05/22 17:08	1
4,6-Dinitro-2-methylphenol	ND		5.0	4.0	ug/L		01/05/22 06:03	01/05/22 17:08	1
4-Bromophenyl phenyl ether	ND		0.20	0.077	ug/L		01/05/22 06:03	01/05/22 17:08	1
4-Chloro-3-methylphenol	ND		1.0	0.12	ug/L		01/05/22 06:03	01/05/22 17:08	1
4-Chlorophenyl phenyl ether	ND		0.20	0.090	ug/L		01/05/22 06:03	01/05/22 17:08	1
4-Nitrophenol	ND		5.0	1.1	ug/L		01/05/22 06:03	01/05/22 17:08	1
Acenaphthene	ND		0.20	0.086	ug/L		01/05/22 06:03	01/05/22 17:08	1
Acenaphthylene	ND		0.20	0.084	ug/L		01/05/22 06:03	01/05/22 17:08	1
Anthracene	ND		0.20	0.072	ug/L		01/05/22 06:03	01/05/22 17:08	1
Benzidine	ND		5.0	2.3	ug/L		01/05/22 06:03	01/05/22 17:08	1
Benzo[a]anthracene	ND		0.20	0.070	ug/L		01/05/22 06:03	01/05/22 17:08	1
Benzo[a]pyrene	ND		0.20	0.072	ug/L		01/05/22 06:03	01/05/22 17:08	1
Benzo[b]fluoranthene	ND		0.20	0.10	ug/L		01/05/22 06:03	01/05/22 17:08	1
Benzo[g,h,i]perylene	ND		0.20	0.13	ug/L		01/05/22 06:03	01/05/22 17:08	1
Benzo[k]fluoranthene	ND		0.20	0.077	ug/L		01/05/22 06:03	01/05/22 17:08	1
bis (2-chloroisopropyl) ether	ND		0.20	0.092	ug/L		01/05/22 06:03	01/05/22 17:08	1
Bis(2-chloroethoxy)methane	ND		0.20	0.15	ug/L		01/05/22 06:03	01/05/22 17:08	1
Bis(2-chloroethyl)ether	ND		0.20	0.098	ug/L		01/05/22 06:03	01/05/22 17:08	1
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		01/05/22 06:03	01/05/22 17:08	1
Butyl benzyl phthalate	ND		5.0	0.56	ug/L		01/05/22 06:03	01/05/22 17:08	1
Chrysene	ND		0.20	0.058	ug/L		01/05/22 06:03	01/05/22 17:08	1
Dibenz(a,h)anthracene	ND		0.20	0.14	ug/L		01/05/22 06:03	01/05/22 17:08	1
Diethyl phthalate	ND		2.0	0.13	ug/L		01/05/22 06:03	01/05/22 17:08	1
Dimethyl phthalate	ND		2.0	0.072	ug/L		01/05/22 06:03	01/05/22 17:08	1
Di-n-butyl phthalate	ND		2.0	0.69	ug/L		01/05/22 06:03	01/05/22 17:08	1
Di-n-octyl phthalate	ND		5.0	0.64	ug/L		01/05/22 06:03	01/05/22 17:08	1
Fluoranthene	ND		0.20	0.096	ug/L		01/05/22 06:03	01/05/22 17:08	1
Fluorene	ND		0.20	0.080	ug/L		01/05/22 06:03	01/05/22 17:08	1
Hexachlorobenzene	ND		0.20	0.094	ug/L		01/05/22 06:03	01/05/22 17:08	1
Hexachlorobutadiene	ND		0.20	0.17	ug/L		01/05/22 06:03	01/05/22 17:08	1
Hexachlorocyclopentadiene	ND		0.20	0.098	ug/L		01/05/22 06:03	01/05/22 17:08	1
Hexachloroethane	ND		0.20	0.15	ug/L		01/05/22 06:03	01/05/22 17:08	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.12	ug/L		01/05/22 06:03	01/05/22 17:08	1
Isophorone	ND		0.20	0.088	ug/L		01/05/22 06:03	01/05/22 17:08	1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: MB 570-205520/1-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205520

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.20	0.098	ug/L		01/05/22 06:03	01/05/22 17:08	1
Nitrobenzene	ND		0.20	0.097	ug/L		01/05/22 06:03	01/05/22 17:08	1
N-Nitrosodimethylamine	ND		0.20	0.14	ug/L		01/05/22 06:03	01/05/22 17:08	1
N-Nitrosodi-n-propylamine	ND		0.20	0.062	ug/L		01/05/22 06:03	01/05/22 17:08	1
N-Nitrosodiphenylamine	ND		0.20	0.096	ug/L		01/05/22 06:03	01/05/22 17:08	1
Pentachlorophenol	ND		1.0	0.11	ug/L		01/05/22 06:03	01/05/22 17:08	1
Phenanthrene	ND		0.20	0.074	ug/L		01/05/22 06:03	01/05/22 17:08	1
Phenol	ND		0.20	0.076	ug/L		01/05/22 06:03	01/05/22 17:08	1
Pyrene	ND		0.20	0.080	ug/L		01/05/22 06:03	01/05/22 17:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*91*		*28 - 127*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
2-Fluorobiphenyl (Surr)	*64*		*31 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
2-Fluorophenol	*50*		*17 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
Nitrobenzene-d5	*71*		*27 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
Phenol-d6 (Surr)	*31*		*10 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
p-Terphenyl-d14 (Surr)	*72*		*45 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*

Lab Sample ID: LCS 570-205520/2-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205520

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	20.0	11.5		ug/L		57	57 - 130
1,2-Dichlorobenzene	20.0	13.0		ug/L		65	41 - 100
1,2-Diphenylhydrazine(as Azobenzene)	20.0	13.4		ug/L		67	60 - 115
1,3-Dichlorobenzene	20.0	12.7		ug/L		64	39 - 100
1,4-Dichlorobenzene	20.0	13.0		ug/L		65	40 - 100
2,4,6-Trichlorophenol	20.0	16.3		ug/L		81	52 - 129
2,4-Dichlorophenol	20.0	14.3		ug/L		71	53 - 122
2,4-Dimethylphenol	20.0	14.1		ug/L		70	42 - 120
2,4-Dinitrophenol	20.0	14.4		ug/L		72	1 - 173
2,4-Dinitrotoluene	20.0	16.5		ug/L		82	48 - 127
2,6-Dinitrotoluene	20.0	16.9		ug/L		84	68 - 137
2-Chloronaphthalene	20.0	13.0		ug/L		65	65 - 120
2-Chlorophenol	20.0	15.7		ug/L		78	36 - 120
2-Nitrophenol	20.0	15.9		ug/L		79	45 - 167
3,3'-Dichlorobenzidine	20.0	17.3		ug/L		87	8 - 213
4,6-Dinitro-2-methylphenol	20.0	14.3		ug/L		72	53 - 130
4-Bromophenyl phenyl ether	20.0	14.5		ug/L		73	65 - 120
4-Chloro-3-methylphenol	20.0	14.9		ug/L		75	41 - 128
4-Chlorophenyl phenyl ether	20.0	14.2		ug/L		71	38 - 145
4-Nitrophenol	20.0	8.68		ug/L		43	13 - 129
Acenaphthene	20.0	13.5		ug/L		67	60 - 132
Acenaphthylene	20.0	15.4		ug/L		77	54 - 126
Anthracene	20.0	16.5		ug/L		83	43 - 120
Benzidine	20.0	3.04	J,DX	ug/L		15	10 - 124
Benzo[a]anthracene	20.0	18.1		ug/L		91	42 - 133

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCS 570-205520/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 205774 **Prep Batch: 205520**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]pyrene	20.0	19.4		ug/L		97	32 - 148
Benzo[b]fluoranthene	20.0	17.2		ug/L		86	42 - 140
Benzo[g,h,i]perylene	20.0	15.9		ug/L		80	1 - 195
Benzo[k]fluoranthene	20.0	17.2		ug/L		86	25 - 146
bis (2-chloroisopropyl) ether	20.0	17.2		ug/L		86	63 - 139
Bis(2-chloroethoxy)methane	20.0	13.5		ug/L		67	49 - 165
Bis(2-chloroethyl)ether	20.0	14.9		ug/L		75	43 - 126
Bis(2-ethylhexyl) phthalate	20.0	20.2		ug/L		101	29 - 137
Butyl benzyl phthalate	20.0	19.3		ug/L		97	1 - 140
Chrysene	20.0	15.8		ug/L		79	44 - 140
Dibenz(a,h)anthracene	20.0	15.7		ug/L		78	1 - 200
Diethyl phthalate	20.0	15.7		ug/L		79	1 - 120
Dimethyl phthalate	20.0	14.5		ug/L		72	1 - 120
Di-n-butyl phthalate	20.0	18.1		ug/L		90	8 - 120
Di-n-octyl phthalate	20.0	21.9		ug/L		109	19 - 132
Fluoranthene	20.0	17.4		ug/L		87	43 - 121
Fluorene	20.0	14.5		ug/L		72	70 - 120
Hexachlorobenzene	20.0	14.9		ug/L		75	8 - 142
Hexachlorobutadiene	20.0	10.9		ug/L		54	38 - 120
Hexachlorocyclopentadiene	20.0	14.1		ug/L		70	20 - 137
Hexachloroethane	20.0	12.3		ug/L		61	55 - 120
Indeno[1,2,3-cd]pyrene	20.0	15.1		ug/L		76	1 - 151
Isophorone	20.0	15.1		ug/L		76	47 - 180
Naphthalene	20.0	12.0		ug/L		60	36 - 120
Nitrobenzene	20.0	12.7		ug/L		64	54 - 158
N-Nitrosodimethylamine	20.0	11.8		ug/L		59	30 - 100
N-Nitrosodi-n-propylamine	20.0	17.6		ug/L		88	14 - 198
N-Nitrosodiphenylamine	20.0	20.6		ug/L		103	75 - 135
Pentachlorophenol	20.0	15.1		ug/L		76	38 - 152
Phenanthrene	20.0	14.7		ug/L		73	65 - 120
Phenol	20.0	6.85		ug/L		34	17 - 120
Pyrene	20.0	16.2		ug/L		81	70 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*85*		*28 - 127*
2-Fluorobiphenyl (Surr)	*59*		*31 - 120*
2-Fluorophenol	*49*		*17 - 120*
Nitrobenzene-d5	*65*		*27 - 120*
Phenol-d6 (Surr)	*32*		*10 - 120*
p-Terphenyl-d14 (Surr)	*80*		*45 - 120*

Lab Sample ID: LCSD 570-205520/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 205774 **Prep Batch: 205520**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	20.0	11.6		ug/L		58	57 - 130	1	30
1,2-Dichlorobenzene	20.0	12.8		ug/L		64	41 - 100	1	20

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-205520/3-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205520

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Diphenylhydrazine(as Azobenzene)	20.0	12.9		ug/L		65	60 - 115	3	30
1,3-Dichlorobenzene	20.0	11.3		ug/L		57	39 - 100	12	20
1,4-Dichlorobenzene	20.0	12.4		ug/L		62	40 - 100	5	20
2,4,6-Trichlorophenol	20.0	16.7		ug/L		84	52 - 129	3	35
2,4-Dichlorophenol	20.0	14.7		ug/L		74	53 - 122	3	30
2,4-Dimethylphenol	20.0	14.5		ug/L		72	42 - 120	3	35
2,4-Dinitrophenol	20.0	16.3		ug/L		82	1 - 173	13	79
2,4-Dinitrotoluene	20.0	16.0		ug/L		80	48 - 127	3	25
2,6-Dinitrotoluene	20.0	16.9		ug/L		84	68 - 137	0	29
2-Chloronaphthalene	20.0	13.3		ug/L		66	65 - 120	2	15
2-Chlorophenol	20.0	16.0		ug/L		80	36 - 120	2	37
2-Nitrophenol	20.0	15.8		ug/L		79	45 - 167	0	33
3,3'-Dichlorobenzidine	20.0	17.3		ug/L		86	8 - 213	1	65
4,6-Dinitro-2-methylphenol	20.0	14.3		ug/L		71	53 - 130	0	122
4-Bromophenyl phenyl ether	20.0	14.3		ug/L		71	65 - 120	2	26
4-Chloro-3-methylphenol	20.0	14.6		ug/L		73	41 - 128	2	44
4-Chlorophenyl phenyl ether	20.0	14.1		ug/L		71	38 - 145	1	36
4-Nitrophenol	20.0	8.78		ug/L		44	13 - 129	1	79
Acenaphthene	20.0	13.9		ug/L		69	60 - 132	3	29
Acenaphthylene	20.0	16.0		ug/L		80	54 - 126	4	45
Anthracene	20.0	15.7		ug/L		79	43 - 120	5	40
Benzidine	20.0	12.8	BA	ug/L		64	10 - 124	123	40
Benzo[a]anthracene	20.0	16.9		ug/L		84	42 - 133	7	32
Benzo[a]pyrene	20.0	17.9		ug/L		90	32 - 148	8	43
Benzo[b]fluoranthene	20.0	16.1		ug/L		80	42 - 140	6	43
Benzo[g,h,i]perylene	20.0	15.5		ug/L		78	1 - 195	3	61
Benzo[k]fluoranthene	20.0	16.2		ug/L		81	25 - 146	6	38
bis (2-chloroisopropyl) ether	20.0	17.0		ug/L		85	63 - 139	1	46
Bis(2-chloroethoxy)methane	20.0	13.5		ug/L		68	49 - 165	0	32
Bis(2-chloroethyl)ether	20.0	15.9		ug/L		79	43 - 126	6	65
Bis(2-ethylhexyl) phthalate	20.0	19.7		ug/L		98	29 - 137	3	50
Butyl benzyl phthalate	20.0	18.6		ug/L		93	1 - 140	4	36
Chrysene	20.0	14.4		ug/L		72	44 - 140	9	53
Dibenz(a,h)anthracene	20.0	15.5		ug/L		78	1 - 200	1	75
Diethyl phthalate	20.0	15.2		ug/L		76	1 - 120	3	60
Dimethyl phthalate	20.0	14.8		ug/L		74	1 - 120	2	110
Di-n-butyl phthalate	20.0	17.0		ug/L		85	8 - 120	6	28
Di-n-octyl phthalate	20.0	21.0		ug/L		105	19 - 132	4	42
Fluoranthene	20.0	16.0		ug/L		80	43 - 121	9	40
Fluorene	20.0	14.3		ug/L		72	70 - 120	1	23
Hexachlorobenzene	20.0	14.5		ug/L		73	8 - 142	3	33
Hexachlorobutadiene	20.0	10.5		ug/L		53	38 - 120	3	38
Hexachlorocyclopentadiene	20.0	15.2		ug/L		76	20 - 137	8	20
Hexachloroethane	20.0	12.1		ug/L		60	55 - 120	2	32
Indeno[1,2,3-cd]pyrene	20.0	14.9		ug/L		75	1 - 151	1	60
Isophorone	20.0	14.6		ug/L		73	47 - 180	4	56
Naphthalene	20.0	12.1		ug/L		61	36 - 120	1	39
Nitrobenzene	20.0	13.0		ug/L		65	54 - 158	2	37

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-205520/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 205774 **Prep Batch: 205520**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Nitrosodimethylamine			20.0	10.9		ug/L		55	30 - 100	8	20
N-Nitrosodi-n-propylamine			20.0	17.3		ug/L		87	14 - 198	1	52
N-Nitrosodiphenylamine			20.0	18.5		ug/L		92	75 - 135	11	20
Pentachlorophenol			20.0	14.2		ug/L		71	38 - 152	6	52
Phenanthrene			20.0	14.1		ug/L		71	65 - 120	4	24
Phenol			20.0	6.94		ug/L		35	17 - 120	1	39
Pyrene			20.0	15.7		ug/L		78	70 - 120	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol	*81*		*28 - 127*
2-Fluorobiphenyl (Surr)	*65*		*31 - 120*
2-Fluorophenol	*50*		*17 - 120*
Nitrobenzene-d5	*67*		*27 - 120*
Phenol-d6 (Surr)	*33*		*10 - 120*
p-Terphenyl-d14 (Surr)	*79*		*45 - 120*

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-205540/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 205595 **Prep Batch: 205540**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00070	ug/L		01/05/22 08:38	01/06/22 11:44	1
alpha-BHC	ND		0.0013	0.00080	ug/L		01/05/22 08:38	01/06/22 11:44	1
beta-BHC	ND		0.0020	0.0017	ug/L		01/05/22 08:38	01/06/22 11:44	1
delta-BHC	ND		0.0013	0.0011	ug/L		01/05/22 08:38	01/06/22 11:44	1
gamma-BHC (Lindane)	ND		0.0013	0.00090	ug/L		01/05/22 08:38	01/06/22 11:44	1
Chlordane (technical)	ND		0.010	0.0065	ug/L		01/05/22 08:38	01/06/22 11:44	1
4,4'-DDD	ND		0.0013	0.00080	ug/L		01/05/22 08:38	01/06/22 11:44	1
4,4'-DDE	ND		0.0013	0.00050	ug/L		01/05/22 08:38	01/06/22 11:44	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		01/05/22 08:38	01/06/22 11:44	1
Dieldrin	ND		0.0013	0.00050	ug/L		01/05/22 08:38	01/06/22 11:44	1
Endosulfan I	ND		0.0013	0.00070	ug/L		01/05/22 08:38	01/06/22 11:44	1
Endosulfan II	ND		0.0013	0.00050	ug/L		01/05/22 08:38	01/06/22 11:44	1
Endosulfan sulfate	ND		0.0013	0.00060	ug/L		01/05/22 08:38	01/06/22 11:44	1
Endrin	ND		0.0013	0.00070	ug/L		01/05/22 08:38	01/06/22 11:44	1
Endrin aldehyde	ND		0.010	0.0051	ug/L		01/05/22 08:38	01/06/22 11:44	1
Heptachlor	ND		0.0013	0.00070	ug/L		01/05/22 08:38	01/06/22 11:44	1
Heptachlor epoxide	ND		0.0013	0.00040	ug/L		01/05/22 08:38	01/06/22 11:44	1
Toxaphene	ND		0.10	0.013	ug/L		01/05/22 08:38	01/06/22 11:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*66*		*20 - 139*	*01/05/22 08:38*	*01/06/22 11:44*	*1*

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: LCS 570-205540/2-A
Matrix: Water
Analysis Batch: 205595

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205540

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aldrin			0.0333	0.0187		ug/L		56	42 - 140		
alpha-BHC			0.0333	0.0165		ug/L		50	37 - 140		
beta-BHC			0.0333	0.0190		ug/L		57	17 - 147		
delta-BHC			0.0333	0.0189		ug/L		57	19 - 140		
gamma-BHC (Lindane)			0.0333	0.0175		ug/L		52	32 - 140		
4,4'-DDD			0.0333	0.0207		ug/L		62	31 - 141		
4,4'-DDE			0.0333	0.0186		ug/L		56	30 - 145		
4,4'-DDT			0.0333	0.0211		ug/L		63	25 - 160		
Dieldrin			0.0333	0.0196		ug/L		59	36 - 146		
Endosulfan I			0.0333	0.0167		ug/L		50	45 - 153		
Endosulfan II			0.0333	0.0200		ug/L		60	1 - 202		
Endosulfan sulfate			0.0333	0.0207		ug/L		62	26 - 144		
Endrin			0.0333	0.0195		ug/L		59	30 - 147		
Endrin aldehyde			0.0333	0.0216		ug/L		65	60 - 140		
Heptachlor			0.0333	0.0200		ug/L		60	34 - 140		
Heptachlor epoxide			0.0333	0.0185		ug/L		56	37 - 142		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*42*		*20 - 139*

Lab Sample ID: LCSD 570-205540/3-A
Matrix: Water
Analysis Batch: 205595

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205540

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin			0.0333	0.0220		ug/L		66	42 - 140	16	35
alpha-BHC			0.0333	0.0185		ug/L		56	37 - 140	11	36
beta-BHC			0.0333	0.0194		ug/L		58	17 - 147	2	44
delta-BHC			0.0333	0.0198		ug/L		59	19 - 140	5	52
gamma-BHC (Lindane)			0.0333	0.0190		ug/L		57	32 - 140	8	39
4,4'-DDD			0.0333	0.0201		ug/L		60	31 - 141	3	39
4,4'-DDE			0.0333	0.0183		ug/L		55	30 - 145	2	35
4,4'-DDT			0.0333	0.0200		ug/L		60	25 - 160	5	42
Dieldrin			0.0333	0.0194		ug/L		58	36 - 146	1	49
Endosulfan I			0.0333	0.0169		ug/L		51	45 - 153	1	28
Endosulfan II			0.0333	0.0192		ug/L		58	1 - 202	4	53
Endosulfan sulfate			0.0333	0.0200		ug/L		60	26 - 144	3	38
Endrin			0.0333	0.0194		ug/L		58	30 - 147	1	48
Endrin aldehyde			0.0333	0.0220	PI	ug/L		66	60 - 140	1	30
Heptachlor			0.0333	0.0220		ug/L		66	34 - 140	10	43
Heptachlor epoxide			0.0333	0.0187		ug/L		56	37 - 142	1	26

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*47*		*20 - 139*

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 570-205540/1-A
Matrix: Water
Analysis Batch: 205833

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205540

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		01/05/22 08:38	01/06/22 18:55	1
Aroclor 1221	ND		0.10	0.044	ug/L		01/05/22 08:38	01/06/22 18:55	1
Aroclor 1232	ND		0.10	0.044	ug/L		01/05/22 08:38	01/06/22 18:55	1
Aroclor 1242	ND		0.10	0.044	ug/L		01/05/22 08:38	01/06/22 18:55	1
Aroclor 1248	ND		0.10	0.044	ug/L		01/05/22 08:38	01/06/22 18:55	1
Aroclor 1254	ND		0.10	0.052	ug/L		01/05/22 08:38	01/06/22 18:55	1
Aroclor 1260	ND		0.10	0.052	ug/L		01/05/22 08:38	01/06/22 18:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*61*		*20 - 154*	*01/05/22 08:38*	*01/06/22 18:55*	*1*

Lab Sample ID: LCS 570-205540/4-A
Matrix: Water
Analysis Batch: 205833

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205540

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016	0.133	0.107		ug/L		80	50 - 140
Aroclor 1260	0.133	0.127		ug/L		95	8 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*37*		*20 - 154*

Lab Sample ID: LCSD 570-205540/5-A
Matrix: Water
Analysis Batch: 205833

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205540

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016	0.133	0.0947	J,DX	ug/L		71	50 - 140	16	36
Aroclor 1260	0.133	0.102		ug/L		76	8 - 140	22	38

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*34*		*20 - 154*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 570-205253/6
Matrix: Water
Analysis Batch: 205253

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.20	0.019	ug/L			01/04/22 09:55	1

Lab Sample ID: LCS 570-205253/7
Matrix: Water
Analysis Batch: 205253

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	51.6		ug/L		103	95 - 107

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

Lab Sample ID: LCSD 570-205253/8 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205253

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent			50.0	51.2		ug/L		102	95 - 107	1	20

Lab Sample ID: 570-80545-1 MS — **Client Sample ID: Outfall018_20220104_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205253

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent	0.15	J,DX	50.0	51.7		ug/L		103	85 - 121		

Lab Sample ID: 570-80545-1 MSD — **Client Sample ID: Outfall018_20220104_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205253

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	0.15	J,DX	50.0	52.8		ug/L		105	85 - 121	2	25

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-205584/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205584

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.36	mg/L			01/05/22 10:37	1
Fluoride	ND		0.10	0.046	mg/L			01/05/22 10:37	1
Sulfate	ND		1.0	0.24	mg/L			01/05/22 10:37	1

Lab Sample ID: LCS 570-205584/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205584

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			50.0	47.7		mg/L		95	90 - 110		
Fluoride			2.50	2.46		mg/L		98	90 - 110		
Sulfate			50.0	49.6		mg/L		99	90 - 110		

Lab Sample ID: LCSD 570-205584/7 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205584

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			50.0	47.7		mg/L		95	90 - 110	0	15
Fluoride			2.50	2.50		mg/L		100	90 - 110	2	15
Sulfate			50.0	49.6		mg/L		99	90 - 110	0	15

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 570-80593-A-4 MS
Matrix: Water
Analysis Batch: 205584

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	13		50.0	58.8		mg/L		91	80 - 120		
Fluoride	0.12	J,DX	2.50	2.73		mg/L		104	80 - 120		
Sulfate	36		50.0	85.6		mg/L		99	80 - 120		

Lab Sample ID: 570-80593-A-4 MSD
Matrix: Water
Analysis Batch: 205584

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	13		50.0	51.3	LN	mg/L		76	80 - 120	14	20
Fluoride	0.12	J,DX	2.50	2.81		mg/L		107	80 - 120	3	20
Sulfate	36		50.0	66.0	LN BA	mg/L		60	80 - 120	26	20

Lab Sample ID: MB 570-205585/5
Matrix: Water
Analysis Batch: 205585

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			01/05/22 10:37	1
Nitrate as N	ND		0.10	0.024	mg/L			01/05/22 10:37	1

Lab Sample ID: LCS 570-205585/6
Matrix: Water
Analysis Batch: 205585

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N			2.50	2.44		mg/L		98	90 - 110		
Nitrate as N			5.00	4.96		mg/L		99	90 - 110		

Lab Sample ID: LCSD 570-205585/7
Matrix: Water
Analysis Batch: 205585

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N			2.50	2.46		mg/L		98	90 - 110	1	15
Nitrate as N			5.00	4.92		mg/L		98	90 - 110	1	15

Lab Sample ID: 570-80593-A-4 MS
Matrix: Water
Analysis Batch: 205585

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N	ND		2.50	2.59		mg/L		104	80 - 120		
Nitrate as N	0.64		5.00	5.46		mg/L		96	80 - 120		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 570-80593-A-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205585

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	ND		2.50	2.58		mg/L		103	80 - 120	0	20
Nitrate as N	0.64		5.00	5.25		mg/L		92	80 - 120	4	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-205610/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205610

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/05/22 11:56	1

Lab Sample ID: LCS 570-205610/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205610

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	24.8		ug/L		99	85 - 115

Lab Sample ID: LCSD 570-205610/8 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205610

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	25.0	25.1		ug/L		100	85 - 115	1	15

Lab Sample ID: 570-80578-G-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205610

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1500		50.0	1530	BB	ug/L		34	80 - 120

Lab Sample ID: 570-80578-G-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205610

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	1500		50.0	1520	BB	ug/L		1	80 - 120	1	15

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-664923/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 665020 — **Prep Batch: 664923**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/20/22 06:32	01/20/22 16:07	1
Barium	ND		10	2.2	ug/L		01/20/22 06:32	01/20/22 16:07	1
Beryllium	ND		2.0	0.44	ug/L		01/20/22 06:32	01/20/22 16:07	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 440-664923/1-A
Matrix: Water
Analysis Batch: 665020

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664923

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		50	25	ug/L		01/20/22 06:32	01/20/22 16:07	1
Chromium	ND		5.0	2.5	ug/L		01/20/22 06:32	01/20/22 16:07	1
Cobalt	ND		10	2.8	ug/L		01/20/22 06:32	01/20/22 16:07	1
Iron	ND		100	50	ug/L		01/20/22 06:32	01/20/22 16:07	1
Manganese	ND		20	6.8	ug/L		01/20/22 06:32	01/20/22 16:07	1
Nickel	ND		10	5.0	ug/L		01/20/22 06:32	01/20/22 16:07	1
Vanadium	ND		10	2.1	ug/L		01/20/22 06:32	01/20/22 16:07	1
Zinc	ND		20	12	ug/L		01/20/22 06:32	01/20/22 16:07	1

Lab Sample ID: LCS 440-664923/2-A
Matrix: Water
Analysis Batch: 665020

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664923

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	489		ug/L		98	85 - 115
Barium	500	489		ug/L		98	85 - 115
Beryllium	500	499		ug/L		100	85 - 115
Boron	500	497		ug/L		99	85 - 115
Chromium	500	507		ug/L		101	85 - 115
Cobalt	500	499		ug/L		100	85 - 115
Iron	500	500		ug/L		100	85 - 115
Manganese	500	500		ug/L		100	85 - 115
Nickel	500	505		ug/L		101	85 - 115
Vanadium	500	498		ug/L		100	85 - 115
Zinc	500	499		ug/L		100	85 - 115

Lab Sample ID: 440-294369-A-1-B MS
Matrix: Water
Analysis Batch: 665020

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664923

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		500	565		ug/L		113	70 - 130
Barium	56		500	599		ug/L		109	70 - 130
Beryllium	ND		500	568		ug/L		114	70 - 130
Boron	7600		500	7780	BB	ug/L		37	70 - 130
Chromium	ND		500	571		ug/L		114	70 - 130
Cobalt	ND		500	552		ug/L		110	70 - 130
Iron	1900		500	2370		ug/L		93	70 - 130
Manganese	120		500	670		ug/L		110	70 - 130
Nickel	8.9	J,DX	500	562		ug/L		111	70 - 130
Vanadium	2.5	J,DX	500	575		ug/L		115	70 - 130
Zinc	130		500	686		ug/L		110	70 - 130

Lab Sample ID: 440-294369-A-1-C MSD
Matrix: Water
Analysis Batch: 665020

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664923

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	536		ug/L		107	70 - 130	5	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 440-294369-A-1-C MSD
Matrix: Water
Analysis Batch: 665020

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664923

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	56		500	571		ug/L		103	70 - 130	5	20
Beryllium	ND		500	540		ug/L		108	70 - 130	5	20
Boron	7600		500	7660	BB	ug/L		14	70 - 130	1	20
Chromium	ND		500	543		ug/L		109	70 - 130	5	20
Cobalt	ND		500	526		ug/L		105	70 - 130	5	20
Iron	1900		500	2330		ug/L		83	70 - 130	2	20
Manganese	120		500	641		ug/L		104	70 - 130	4	20
Nickel	8.9	J,DX	500	536		ug/L		105	70 - 130	5	20
Vanadium	2.5	J,DX	500	546		ug/L		109	70 - 130	5	20
Zinc	130		500	655		ug/L		104	70 - 130	5	20

Lab Sample ID: MB 440-663928/1-C
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663949

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/06/22 17:20	01/07/22 21:20	1
Barium	ND		10	2.2	ug/L		01/06/22 17:20	01/07/22 21:20	1
Beryllium	ND		2.0	0.44	ug/L		01/06/22 17:20	01/07/22 21:20	1
Boron	ND		50	25	ug/L		01/06/22 17:20	01/07/22 21:20	1
Chromium	ND		5.0	2.5	ug/L		01/06/22 17:20	01/07/22 21:20	1
Cobalt	ND		10	2.8	ug/L		01/06/22 17:20	01/07/22 21:20	1
Iron	ND		100	50	ug/L		01/06/22 17:20	01/07/22 21:20	1
Manganese	ND		20	6.8	ug/L		01/06/22 17:20	01/07/22 21:20	1
Nickel	ND		10	5.0	ug/L		01/06/22 17:20	01/07/22 21:20	1
Vanadium	ND		10	2.1	ug/L		01/06/22 17:20	01/07/22 21:20	1
Zinc	ND		20	12	ug/L		01/06/22 17:20	01/07/22 21:20	1

Lab Sample ID: LCS 440-663928/2-C
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663949

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	474		ug/L		95	85 - 115
Barium	500	471		ug/L		94	85 - 115
Beryllium	500	468		ug/L		94	85 - 115
Boron	500	462		ug/L		92	85 - 115
Chromium	500	473		ug/L		95	85 - 115
Cobalt	500	472		ug/L		94	85 - 115
Iron	500	486		ug/L		97	85 - 115
Manganese	500	466		ug/L		93	85 - 115
Nickel	500	468		ug/L		94	85 - 115
Vanadium	500	468		ug/L		94	85 - 115
Zinc	500	472		ug/L		94	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 570-80532-R-1-D MS
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663949

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		500	497		ug/L		99	70 - 130
Barium	16		500	508		ug/L		98	70 - 130
Beryllium	ND		500	495		ug/L		99	70 - 130
Boron	56		500	545		ug/L		98	70 - 130
Chromium	12		500	496		ug/L		97	70 - 130
Cobalt	ND		500	495		ug/L		99	70 - 130
Iron	160		500	530		ug/L		74	70 - 130
Manganese	ND		500	488		ug/L		98	70 - 130
Nickel	ND		500	490		ug/L		98	70 - 130
Vanadium	ND		500	496		ug/L		99	70 - 130
Zinc	19	J,DX	500	513		ug/L		99	70 - 130

Lab Sample ID: 570-80532-R-1-E MSD
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663949

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	496		ug/L		99	70 - 130	0	20
Barium	16		500	506		ug/L		98	70 - 130	0	20
Beryllium	ND		500	495		ug/L		99	70 - 130	0	20
Boron	56		500	545		ug/L		98	70 - 130	0	20
Chromium	12		500	494		ug/L		96	70 - 130	0	20
Cobalt	ND		500	494		ug/L		99	70 - 130	0	20
Iron	160		500	524		ug/L		73	70 - 130	1	20
Manganese	ND		500	486		ug/L		97	70 - 130	0	20
Nickel	ND		500	489		ug/L		98	70 - 130	0	20
Vanadium	ND		500	495		ug/L		99	70 - 130	0	20
Zinc	19	J,DX	500	515		ug/L		99	70 - 130	0	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-664924/1-A
Matrix: Water
Analysis Batch: 664984

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664924

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:12	1
Cadmium	ND		1.0	0.25	ug/L		01/20/22 06:46	01/20/22 13:12	1
Copper	ND		2.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:12	1
Lead	ND		1.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:12	1
Antimony	ND		2.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:12	1
Selenium	ND		2.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:12	1
Thallium	ND		1.0	0.20	ug/L		01/20/22 06:46	01/20/22 13:12	1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 440-664924/2-A
Matrix: Water
Analysis Batch: 664984

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664924

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Silver			80.0	77.0		ug/L		96	85 - 115		
Cadmium			80.0	80.2		ug/L		100	85 - 115		
Copper			80.0	79.3		ug/L		99	85 - 115		
Lead			80.0	80.8		ug/L		101	85 - 115		
Antimony			80.0	83.8		ug/L		105	85 - 115		
Selenium			80.0	83.4		ug/L		104	85 - 115		
Thallium			80.0	81.1		ug/L		101	85 - 115		

Lab Sample ID: 570-80509-A-2-B MS
Matrix: Water
Analysis Batch: 664984

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664924

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Silver	ND		80.0	78.2		ug/L		98	70 - 130		
Cadmium	ND		80.0	81.9		ug/L		102	70 - 130		
Copper	13		80.0	94.7		ug/L		102	70 - 130		
Lead	ND		80.0	82.1		ug/L		103	70 - 130		
Antimony	ND		80.0	86.7		ug/L		108	70 - 130		
Selenium	ND		80.0	78.8		ug/L		99	70 - 130		
Thallium	ND		80.0	82.2		ug/L		103	70 - 130		

Lab Sample ID: 570-80509-A-2-C MSD
Matrix: Water
Analysis Batch: 664984

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664924

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	78.0		ug/L		97	70 - 130	0	20
Cadmium	ND		80.0	81.3		ug/L		102	70 - 130	1	20
Copper	13		80.0	95.4		ug/L		103	70 - 130	1	20
Lead	ND		80.0	82.3		ug/L		103	70 - 130	0	20
Antimony	ND		80.0	86.7		ug/L		108	70 - 130	0	20
Selenium	ND		80.0	80.5		ug/L		101	70 - 130	2	20
Thallium	ND		80.0	81.8		ug/L		102	70 - 130	0	20

Lab Sample ID: MB 440-663928/1-B
Matrix: Water
Analysis Batch: 664013

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663947

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Cadmium	ND		1.0	0.25	ug/L		01/06/22 17:16	01/07/22 14:30	1
Copper	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Lead	ND		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Antimony	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Selenium	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Thallium	ND		1.0	0.20	ug/L		01/06/22 17:16	01/07/22 14:30	1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 440-663928/2-B
Matrix: Water
Analysis Batch: 664013

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663947

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Silver			80.0	78.5		ug/L		98	85 - 115		
Cadmium			80.0	79.3		ug/L		99	85 - 115		
Copper			80.0	81.3		ug/L		102	85 - 115		
Lead			80.0	79.4		ug/L		99	85 - 115		
Antimony			80.0	89.2		ug/L		111	85 - 115		
Selenium			80.0	75.7		ug/L		95	85 - 115		
Thallium			80.0	78.1		ug/L		98	85 - 115		

Lab Sample ID: 570-80544-C-2-C MS
Matrix: Water
Analysis Batch: 664013

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663947

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Silver	ND		80.0	79.2		ug/L		99	70 - 130		
Cadmium	ND		80.0	80.4		ug/L		100	70 - 130		
Copper	3.5		80.0	87.2		ug/L		105	70 - 130		
Lead	ND		80.0	81.1		ug/L		101	70 - 130		
Antimony	1.3	J,DX	80.0	92.0		ug/L		113	70 - 130		
Selenium	ND		80.0	79.8		ug/L		100	70 - 130		
Thallium	ND		80.0	80.4		ug/L		101	70 - 130		

Lab Sample ID: 570-80544-C-2-D MSD
Matrix: Water
Analysis Batch: 664013

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663947

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	79.1		ug/L		99	70 - 130	0	20
Cadmium	ND		80.0	80.5		ug/L		101	70 - 130	0	20
Copper	3.5		80.0	86.8		ug/L		104	70 - 130	1	20
Lead	ND		80.0	80.6		ug/L		101	70 - 130	1	20
Antimony	1.3	J,DX	80.0	91.5		ug/L		113	70 - 130	1	20
Selenium	ND		80.0	77.7		ug/L		97	70 - 130	3	20
Thallium	ND		80.0	79.5		ug/L		99	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-208112/1-A
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208112

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/17/22 17:42	01/18/22 17:34	1

Lab Sample ID: LCS 570-208112/2-A
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208112

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			10.0	11.0		ug/L		110	85 - 115		

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 570-208112/3-A
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208112

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			10.0	11.0		ug/L		110	85 - 115	0	10

Lab Sample ID: 440-293718-B-1-E MS
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 208112

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		10.0	10.9		ug/L		109	70 - 130		

Lab Sample ID: 440-293718-B-1-F MSD
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 208112

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	10.9		ug/L		109	70 - 130	0	10

Lab Sample ID: MB 570-208358/1-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 208361

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/19/22 17:58	01/20/22 19:43	1

Lab Sample ID: LCS 570-208358/2-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 208361

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			10.0	9.71		ug/L		97	85 - 115		

Lab Sample ID: LCSD 570-208358/3-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 208361

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			10.0	9.72		ug/L		97	85 - 115	0	10

Lab Sample ID: 570-80548-C-3-H MS
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		10.0	9.05		ug/L		90	70 - 130		

Lab Sample ID: 570-80548-C-3-I MSD
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	9.21		ug/L		92	70 - 130	2	10

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 440-664889/6
Matrix: Water
Analysis Batch: 664889

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	ND		0.10	0.05	NTU			01/19/22 18:28	1

Lab Sample ID: MRL 440-664889/5
Matrix: Water
Analysis Batch: 664889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Turbidity			0.100	0.10		NTU		90	50 - 150		

Lab Sample ID: 570-80231-I-1 DU
Matrix: Water
Analysis Batch: 664889

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Turbidity	0.40			0.35		NTU				10	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-663806/1
Matrix: Water
Analysis Batch: 663806

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	3.0	mg/L			01/11/22 10:10	1

Lab Sample ID: LCS 440-663806/2
Matrix: Water
Analysis Batch: 663806

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	974		mg/L		97	90 - 110		

Lab Sample ID: 570-80544-E-1 DU
Matrix: Water
Analysis Batch: 663806

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	160			157		mg/L				1	5

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-663860/1
Matrix: Water
Analysis Batch: 663860

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			01/05/22 19:16	1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 440-663860/2
Matrix: Water
Analysis Batch: 663860

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	1000	1010		mg/L		101	85 - 115

Lab Sample ID: 440-293826-D-1 DU
Matrix: Water
Analysis Batch: 663860

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	7.2		7.40		mg/L		3	5

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 570-205516/1-A
Matrix: Water
Analysis Batch: 205489

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205516

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0030	0.0014	mg/L		01/04/22 16:30	01/04/22 19:10	1

Lab Sample ID: LCS 570-205516/2-A
Matrix: Water
Analysis Batch: 205489

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205516

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0100	0.0102		mg/L		102	80 - 120

Lab Sample ID: LCSD 570-205516/3-A
Matrix: Water
Analysis Batch: 205489

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205516

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.0100	0.0100		mg/L		100	80 - 120	2	20

Lab Sample ID: 570-80531-L-1-A MS
Matrix: Water
Analysis Batch: 205489

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 205516

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0043		0.0100	0.0150		mg/L		108	74 - 115

Lab Sample ID: 570-80531-L-1-B MSD
Matrix: Water
Analysis Batch: 205489

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 205516

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.0043		0.0100	0.0140		mg/L		97	74 - 115	7	20

Method: SM 4500 NH3 G - Ammonia

Lab Sample ID: MB 440-664022/10
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.200	0.100	mg/L			01/07/22 11:11	1

Lab Sample ID: LCS 440-664022/11
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	5.00	5.370		mg/L		107	90 - 110

Lab Sample ID: MRL 440-664022/9
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.200	0.1950	J,DX	mg/L		98	50 - 150

Lab Sample ID: 570-80545-1 MS
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Outfall018_20220104_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.845		5.00	5.760		mg/L		98	90 - 110

Lab Sample ID: 570-80545-1 MSD
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Outfall018_20220104_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.845		5.00	5.710		mg/L		97	90 - 110	1	15

Method: SM 5310D - Organic Carbon, Total (TOC)

Lab Sample ID: MB 570-211484/4
Matrix: Water
Analysis Batch: 211484

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon, Total Organic	ND		0.50	0.026	mg/L			02/03/22 22:49	1

Lab Sample ID: LCS 570-211484/5
Matrix: Water
Analysis Batch: 211484

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon, Total Organic	5.00	4.96		mg/L		99	85 - 115

Method: SM 5310D - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: LCSD 570-211484/6
Matrix: Water
Analysis Batch: 211484

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon, Total Organic			5.00	5.05		mg/L		101	85 - 115	2	20

Lab Sample ID: 440-294622-L-1 MS
Matrix: Water
Analysis Batch: 211484

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Carbon, Total Organic	1.4		5.00	6.47		mg/L		102	31 - 145		

Lab Sample ID: 440-294622-L-1 MSD
Matrix: Water
Analysis Batch: 211484

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon, Total Organic	1.4		5.00	6.51		mg/L		102	31 - 145	0	20

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 570-205510/5-A
Matrix: Water
Analysis Batch: 205513

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205510

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.30	0.15	mg/L		01/04/22 21:00	01/04/22 22:12	1

Lab Sample ID: LCS 570-205510/6-A
Matrix: Water
Analysis Batch: 205513

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205510

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
MBAS			1.00	1.05		mg/L		105	85 - 111		

Lab Sample ID: LCSD 570-205510/7-A
Matrix: Water
Analysis Batch: 205513

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205510

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MBAS			1.00	1.06		mg/L		106	85 - 111	1	7

Lab Sample ID: 570-80545-1 MS
Matrix: Water
Analysis Batch: 205513

Client Sample ID: Outfall018_20220104_Comp
Prep Type: Total/NA
Prep Batch: 205510

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
MBAS	ND		1.00	1.18		mg/L		118	75 - 125		

Method: SM 5540C - Methylene Blue Active Substances (MBAS) (Continued)

Lab Sample ID: 570-80545-1 MSD
Client Sample ID: Outfall018_20220104_Comp
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 205513
Prep Batch: 205510

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MBAS	ND		1.00	1.19		mg/L		119	75 - 125	0	12

Method: SM5210B - BOD, 5 Day

Lab Sample ID: USB 440-664229/2
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 664229

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			01/05/22 09:34	1

Lab Sample ID: LCS 440-664229/4
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 664229

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Biochemical Oxygen Demand	199	167	LR	mg/L		84	85 - 115

Lab Sample ID: 570-80518-O-1 DU
Client Sample ID: Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 664229

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Biochemical Oxygen Demand	ND	LR	ND	LR	mg/L		NC	20

GC/MS VOA

Analysis Batch: 206472

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	8260B SIM	
MB 570-206472/8	Method Blank	Total/NA	Water	8260B SIM	
LCS 570-206472/4	Lab Control Sample	Total/NA	Water	8260B SIM	
LCSD 570-206472/5	Lab Control Sample Dup	Total/NA	Water	8260B SIM	
570-80835-D-1 MS	Matrix Spike	Total/NA	Water	8260B SIM	
570-80835-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

GC/MS Semi VOA

Prep Batch: 205520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	625	
MB 570-205520/1-A	Method Blank	Total/NA	Water	625	
LCS 570-205520/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-205520/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 205774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	625.1 SIM	205520
MB 570-205520/1-A	Method Blank	Total/NA	Water	625.1 SIM	205520
LCS 570-205520/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	205520
LCSD 570-205520/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	205520

GC Semi VOA

Prep Batch: 205540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	608	
MB 570-205540/1-A	Method Blank	Total/NA	Water	608	
LCS 570-205540/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 570-205540/4-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-205540/3-A	Lab Control Sample Dup	Total/NA	Water	608	
LCSD 570-205540/5-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 205595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	608.3	205540
MB 570-205540/1-A	Method Blank	Total/NA	Water	608.3	205540
LCS 570-205540/2-A	Lab Control Sample	Total/NA	Water	608.3	205540
LCSD 570-205540/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	205540

Analysis Batch: 205833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	608.3	205540
MB 570-205540/1-A	Method Blank	Total/NA	Water	608.3	205540
LCS 570-205540/4-A	Lab Control Sample	Total/NA	Water	608.3	205540
LCSD 570-205540/5-A	Lab Control Sample Dup	Total/NA	Water	608.3	205540

HPLC/IC

Analysis Batch: 205253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	218.6	
MB 570-205253/6	Method Blank	Total/NA	Water	218.6	
LCS 570-205253/7	Lab Control Sample	Total/NA	Water	218.6	
LCSD 570-205253/8	Lab Control Sample Dup	Total/NA	Water	218.6	
570-80545-1 MS	Outfall018_20220104_Comp	Total/NA	Water	218.6	
570-80545-1 MSD	Outfall018_20220104_Comp	Total/NA	Water	218.6	

Analysis Batch: 205584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	300.0	
MB 570-205584/5	Method Blank	Total/NA	Water	300.0	
LCS 570-205584/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-205584/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80593-A-4 MS	Matrix Spike	Total/NA	Water	300.0	
570-80593-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 205585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	300.0	
MB 570-205585/5	Method Blank	Total/NA	Water	300.0	
LCS 570-205585/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-205585/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80593-A-4 MS	Matrix Spike	Total/NA	Water	300.0	
570-80593-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 205610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	314.0	
MB 570-205610/6	Method Blank	Total/NA	Water	314.0	
LCS 570-205610/7	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-205610/8	Lab Control Sample Dup	Total/NA	Water	314.0	
570-80578-G-1 MS	Matrix Spike	Total/NA	Water	314.0	
570-80578-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	

Analysis Batch: 206419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	NO2NO3 Calc	

Metals

Prep Batch: 208112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	245.1	
MB 570-208112/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-208112/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-208112/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
440-293718-B-1-E MS	Matrix Spike	Total/NA	Water	245.1	
440-293718-B-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Metals

Analysis Batch: 208127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	245.1	208112
MB 570-208112/1-A	Method Blank	Total/NA	Water	245.1	208112
LCS 570-208112/2-A	Lab Control Sample	Total/NA	Water	245.1	208112
LCSD 570-208112/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	208112
440-293718-B-1-E MS	Matrix Spike	Total/NA	Water	245.1	208112
440-293718-B-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	208112

Filtration Batch: 208358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-3	Outfall018_20220104_Comp_F	Dissolved	Water	Filtration	
MB 570-208358/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-80548-C-3-H MS	Matrix Spike	Dissolved	Water	Filtration	
570-80548-C-3-I MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

Prep Batch: 208361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-3	Outfall018_20220104_Comp_F	Dissolved	Water	245.1	208358
MB 570-208358/1-B	Method Blank	Dissolved	Water	245.1	208358
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	245.1	208358
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	208358
570-80548-C-3-H MS	Matrix Spike	Dissolved	Water	245.1	208358
570-80548-C-3-I MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	208358

Analysis Batch: 208671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-3	Outfall018_20220104_Comp_F	Dissolved	Water	245.1	208361
MB 570-208358/1-B	Method Blank	Dissolved	Water	245.1	208361
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	245.1	208361
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	208361
570-80548-C-3-H MS	Matrix Spike	Dissolved	Water	245.1	208361
570-80548-C-3-I MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	208361

Analysis Batch: 663736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-3	Outfall018_20220104_Comp_F	Dissolved	Water	SM 2340B	

Filtration Batch: 663928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-3	Outfall018_20220104_Comp_F	Dissolved	Water	FILTRATION	
MB 440-663928/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-663928/1-C	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663928/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-663928/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
570-80532-R-1-D MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80532-R-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
570-80544-C-2-C MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80544-C-2-D MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Metals

Prep Batch: 663947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-3	Outfall018_20220104_Comp_F	Dissolved	Water	200.2	663928
MB 440-663928/1-B	Method Blank	Dissolved	Water	200.2	663928
LCS 440-663928/2-B	Lab Control Sample	Dissolved	Water	200.2	663928
570-80544-C-2-C MS	Matrix Spike	Dissolved	Water	200.2	663928
570-80544-C-2-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663928

Analysis Batch: 663948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total Recoverable	Water	SM 2340B	

Prep Batch: 663949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-3	Outfall018_20220104_Comp_F	Dissolved	Water	200.2	663928
MB 440-663928/1-C	Method Blank	Dissolved	Water	200.2	663928
LCS 440-663928/2-C	Lab Control Sample	Dissolved	Water	200.2	663928
570-80532-R-1-D MS	Matrix Spike	Dissolved	Water	200.2	663928
570-80532-R-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663928

Analysis Batch: 664013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-3	Outfall018_20220104_Comp_F	Dissolved	Water	200.8	663947
MB 440-663928/1-B	Method Blank	Dissolved	Water	200.8	663947
LCS 440-663928/2-B	Lab Control Sample	Dissolved	Water	200.8	663947
570-80544-C-2-C MS	Matrix Spike	Dissolved	Water	200.8	663947
570-80544-C-2-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	663947

Analysis Batch: 664049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-3	Outfall018_20220104_Comp_F	Dissolved	Water	200.7 Rev 4.4	663949
MB 440-663928/1-C	Method Blank	Dissolved	Water	200.7 Rev 4.4	663949
LCS 440-663928/2-C	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	663949
570-80532-R-1-D MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	663949
570-80532-R-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	663949

Prep Batch: 664923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total Recoverable	Water	200.2	
MB 440-664923/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664923/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
440-294369-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.2	
440-294369-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Prep Batch: 664924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total Recoverable	Water	200.2	
MB 440-664924/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664924/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80509-A-2-B MS	Matrix Spike	Total Recoverable	Water	200.2	
570-80509-A-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Metals

Analysis Batch: 664984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total Recoverable	Water	200.8	664924
MB 440-664924/1-A	Method Blank	Total Recoverable	Water	200.8	664924
LCS 440-664924/2-A	Lab Control Sample	Total Recoverable	Water	200.8	664924
570-80509-A-2-B MS	Matrix Spike	Total Recoverable	Water	200.8	664924
570-80509-A-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	664924

Analysis Batch: 665020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total Recoverable	Water	200.7 Rev 4.4	664923
MB 440-664923/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	664923
LCS 440-664923/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	664923
440-294369-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	664923
440-294369-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	664923

General Chemistry

Analysis Batch: 205489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	SM 4500 CN E	205516
MB 570-205516/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	205516
LCS 570-205516/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	205516
LCSD 570-205516/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	205516
570-80531-L-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	205516
570-80531-L-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	205516

Prep Batch: 205510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	SM 5540C	
MB 570-205510/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-205510/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-205510/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	
570-80545-1 MS	Outfall018_20220104_Comp	Total/NA	Water	SM 5540C	
570-80545-1 MSD	Outfall018_20220104_Comp	Total/NA	Water	SM 5540C	

Analysis Batch: 205513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	SM 5540C	205510
MB 570-205510/5-A	Method Blank	Total/NA	Water	SM 5540C	205510
LCS 570-205510/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	205510
LCSD 570-205510/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	205510
570-80545-1 MS	Outfall018_20220104_Comp	Total/NA	Water	SM 5540C	205510
570-80545-1 MSD	Outfall018_20220104_Comp	Total/NA	Water	SM 5540C	205510

Prep Batch: 205516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	SM 4500 CN C	
MB 570-205516/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-205516/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-205516/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-80531-L-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN C	
570-80531-L-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN C	

General Chemistry

Analysis Batch: 208761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	218.6 CR3	

Analysis Batch: 211484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	SM 5310D	
MB 570-211484/4	Method Blank	Total/NA	Water	SM 5310D	
LCS 570-211484/5	Lab Control Sample	Total/NA	Water	SM 5310D	
LCSD 570-211484/6	Lab Control Sample Dup	Total/NA	Water	SM 5310D	
440-294622-L-1 MS	Matrix Spike	Total/NA	Water	SM 5310D	
440-294622-L-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310D	

Analysis Batch: 663806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	SM 2540C	
MB 440-663806/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-663806/2	Lab Control Sample	Total/NA	Water	SM 2540C	
570-80544-E-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 663860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	SM 2540D	
MB 440-663860/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-663860/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-293826-D-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Analysis Batch: 664022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	SM 4500 NH3 G	
MB 440-664022/10	Method Blank	Total/NA	Water	SM 4500 NH3 G	
LCS 440-664022/11	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
MRL 440-664022/9	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
570-80545-1 MS	Outfall018_20220104_Comp	Total/NA	Water	SM 4500 NH3 G	
570-80545-1 MSD	Outfall018_20220104_Comp	Total/NA	Water	SM 4500 NH3 G	

Analysis Batch: 664229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	SM5210B	
USB 440-664229/2	Method Blank	Total/NA	Water	SM5210B	
LCS 440-664229/4	Lab Control Sample	Total/NA	Water	SM5210B	
570-80518-O-1 DU	Duplicate	Total/NA	Water	SM5210B	

Analysis Batch: 664889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	180.1	
MB 440-664889/6	Method Blank	Total/NA	Water	180.1	
MRL 440-664889/5	Lab Control Sample	Total/NA	Water	180.1	
570-80231-I-1 DU	Duplicate	Total/NA	Water	180.1	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Client Sample ID: Outfall018_20220104_Comp
Date Collected: 01/04/22 11:00
Date Received: 01/04/22 17:00

Lab Sample ID: 570-80545-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	25 mL	25 mL	206472	01/10/22 14:36	AH8S	ECL 2
	Instrument ID: GCMSFFF									
Total/NA	Prep	625			832 mL	2 mL	205520	01/05/22 06:03	H1SH	ECL 1
Total/NA	Analysis	625.1 SIM		1			205774	01/05/22 20:18	ULLI	ECL 1
	Instrument ID: GCMSJJJ									
Total/NA	Prep	608			1500 mL	1 mL	205540	01/05/22 08:38	OAJ3	ECL 1
Total/NA	Analysis	608.3		1			205833	01/06/22 19:14	UJ3K	ECL 1
	Instrument ID: GC31									
Total/NA	Prep	608			1500 mL	1 mL	205540	01/05/22 08:38	OAJ3	ECL 1
Total/NA	Analysis	608.3		1			205595	01/06/22 12:27	UHHN	ECL 1
	Instrument ID: GC44									
Total/NA	Analysis	218.6		1			205253	01/04/22 23:24	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	300.0		2			205584	01/05/22 15:53	URMH	ECL 1
	Instrument ID: IC7									
Total/NA	Analysis	300.0		2			205585	01/05/22 15:53	URMH	ECL 1
	Instrument ID: IC7									
Total/NA	Analysis	314.0		1			205610	01/05/22 18:34	URMH	ECL 1
	Instrument ID: IC13									
Total/NA	Analysis	NO2NO3 Calc		1			206419	01/09/22 11:31	URMH	ECL 1
	Instrument ID: IC7									
Total Recoverable	Prep	200.2			25 mL	25 mL	664923	01/20/22 06:32		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			665020	01/20/22 17:03	P1R	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	664924	01/20/22 06:46		IRV 2
Total Recoverable	Analysis	200.8		1			664984	01/20/22 13:39	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total/NA	Prep	245.1			50 mL	100 mL	208112	01/17/22 17:42	VWJ7	ECL 4
Total/NA	Analysis	245.1		1			208127	01/18/22 17:51	VWJ7	ECL 1
	Instrument ID: HG7									
Total Recoverable	Analysis	SM 2340B		1			663948	01/21/22 13:30	P1R	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	180.1		1			664889	01/19/22 18:30	W1BQ	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	218.6 CR3		1			208761	01/21/22 12:30	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	663806	01/11/22 10:10	VY3D	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540D		1	950 mL	1000 mL	663860	01/05/22 19:16	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	205516	01/04/22 19:30	CY2M	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	5.0 mL	5.0 mL	205489	01/04/22 22:50	CY2M	ECL 1
	Instrument ID: UV8									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 NH3 G		1	0.8 mL	8.0 mL	664022	01/07/22 11:41	GG0B	IRV 2
Total/NA	Analysis	SM 5310D		1	40 mL	40 mL	211484	02/04/22 05:48	CY2M	ECL 4
	Instrument ID: TOC8									
Total/NA	Prep	SM 5540C			100 mL	100 mL	205510	01/04/22 21:00	WN6Y	ECL 1
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	205513	01/04/22 22:17	WN6Y	ECL 1
	Instrument ID: UV9									
Total/NA	Analysis	SM5210B		1			664229	01/05/22 22:45	VY3D	IRV 2
	Instrument ID: BOD 10									

Client Sample ID: Outfall018_20220104_Comp_F
Lab Sample ID: 570-80545-3
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			150 mL	150 mL	663928	01/06/22 15:10	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663949	01/06/22 17:20	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			664049	01/07/22 21:34	K1UV	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			150 mL	150 mL	663928	01/06/22 15:10	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663947	01/06/22 17:16	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664013	01/07/22 14:43	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	208358	01/19/22 17:49	UIAS	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	208361	01/19/22 17:58	VWJ7	ECL 4
Dissolved	Analysis	245.1		1			208671	01/20/22 20:18	VWJ7	ECL 1
	Instrument ID: HG7									
Dissolved	Analysis	SM 2340B		1			663736	01/11/22 17:20	P1R	IRV 2
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-31-23
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method	Method Description	Protocol	Laboratory
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	ECL 2
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	40CFR136A	ECL 1
608.3	Organochlorine Pesticides in Water	40CFR136A	ECL 1
608.3	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	ECL 1
218.6	Chromium, Hexavalent (Ion Chromatography)	EPA	ECL 1
300.0	Anions, Ion Chromatography	MCAWW	ECL 1
314.0	Perchlorate (IC)	EPA	ECL 1
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	ECL 1
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	ECL 1
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	IRV 2
180.1	Turbidity, Nephelometric	MCAWW	IRV 2
218.6 CR3	Chromium, Trivalent (Calculation)	EPA	ECL 1
SM 2540C	Solids, Total Dissolved (TDS)	SM	IRV 2
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 2
SM 4500 CN E	Cyanide, Total (Low Level)	SM	ECL 1
SM 4500 NH3 G	Ammonia	SM	IRV 2
SM 5310D	Organic Carbon, Total (TOC)	SM	ECL 4
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	ECL 1
SM5210B	BOD, 5 Day	SM	IRV 2
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	ECL 4
5030C	Purge and Trap	SW846	ECL 2
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	ECL 1
625	Liquid-Liquid Extraction	40CFR136A	ECL 1
Filtration	Sample Filtration	None	ECL 4
FILTRATION	Sample Filtration	None	IRV 2
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1
SM 5540C	Preparation, Methylene Blue Active Substances (MBAS)	SM	ECL 1

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80545-1	Outfall018_20220104_Comp	Water	01/04/22 11:00	01/04/22 17:00
570-80545-3	Outfall018_20220104_Comp_F	Water	01/04/22 11:00	01/04/22 17:00

80545

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80545 Chain of Custody

Client Name/Address Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108	Project: Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **ECI #44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606. 520.904.6944 (cell)
Sampler: Mark Dominick /Michelle Dallalah	Field Manager: Mark Dominick 978.234.5033. 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	ANALYSIS REQUIRED: Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl (R/A)	TCDD (and all congeners) (E1613B) (R)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc)) (R)	Surfactants (MBAS) (SM5540C/E425.1) (R)	Cl- F- SO4 Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300) (R/A)	Turbidity TDS (SM2540C/E180.1) (R)	TSS (160.2 (SM2540D)) (R)	Ammonia-N (E350.2) (R)	Priority Pollutants-Pesticides+PCBs (E608) (A)	Priority Pollutants-SVOCs (E625) (A)	Total Recoverable Metals, Mercury (E245.1) (R)	Comments
Outfall 018	Outfall018_20220104_Comp	1/4/2022 1100	WM	500 mL Poly	1	HNO_3	80	No	X											X	
			WM	1 L Glass Amber	2	None	110	No		X											
			WM	1 L Poly	1	None	115	No			X										
			WM	500 mL Poly	2	None	120	No				X									
			WM	500 mL Poly	2	None	125	No					X								48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X							48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X					
			WM	1 L Glass Amber	2	None	250	No									X				
			WM	1 L Glass Amber	2	None	175	No										X			
			WM	1 L Poly	1	None	185	No							X						
	Outfall018_20220104_Comp_Extra	1/4/2022 1100	WM	1 L Glass Amber	2	None	110	No		H											Hold
			WM	500 mL Poly	2	None	120	No				H									Hold
			WM	500 mL Poly	2	None	125	No					H								Hold
			WM	1 L Glass Amber	2	None	250	No										H			Hold
			WM	1 L Glass Amber	2	None	175	No											H		Hold

Legend: A=Annual, R=Routine

Relinquished By: Michelle Dallalah	Date/Time: 1/4/2022 1400	Company: Haley & Aldrich	Received By: ECI	Date/Time: 01/04/22 14:00
Relinquished By:	Date/Time: 01/04/22 17.00	Company:	Received By:	Date/Time: 1/4/22 1700
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day: __X__
48 Hour _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

1.8|3.3, 2 3|3 8 SCG

2/8/2022

2019-2020 Rainy Season
Version 5

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address.	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Mark Dominick / Michelle Dallalah	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									R/A	R	R	R	A	A	A	A	R	QRSW	
									ANALYSIS REQUIRED										
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8) Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0) Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)	Chlorpyrifos, Diazinon (E525.2) Week Labs in Hacienda Heights, CA	Comments
Outfall 018	Outfall018_20220104_Comp_F	1/4/2022 1100	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall018_20220104_Comp	1/4/2022 1100 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	275	~~No~~										X	Extract within 24-Hours of sampling at ~~Week Labs~~ at OF-001,002,011, & OF-018.
	Outfall018_20220104_Comp_Extra	1/4/2022 1100	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	~~1~~	None	255	No							H				Hold

Legend A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Michelle Dallalah	1/4/2022 1400	Haley & Aldrich		ECI 01/04/22 1400
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	01/04/22 17:00			1/4/22 1700
Relinquished By	Date/Time:	Company:	Received By	Date/Time:

Turn-around time: (Check)
24 Hour: ____ 72 Hour: ____ 10 Day: __X__
48 Hour: ____ 5 Day: ____ Normal ____

Sample Integrity: (Check)
Intact: ____ On Ice: ____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: ____ All Level IV: __X__

* Hand delivered to ABC Labs by H;A

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-149015 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80545-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/1/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	SSOW#:			
Site				

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall18_20220104_Comp (570-80545-1)	1/4/22	11 00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	1/5/22 1338				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/8/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149037 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80545-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/25/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall18_20220104_Comp (570-80545-1)	1/4/22	11 00 Pacific		Water			X		1	Level IV needed
Outfall18_20220104_Comp_Extra (570-80545-2)	1/4/22	11 00 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time.	Method of Shipment:

	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
	Relinquished by:	Date/Time: 1/5/22 1442	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/8/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-149048 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80545-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/20/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall18_20220104_Comp (570-80545-1)	1/4/22	11 00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L Use Boeing glassware
Outfall18_20220104_Comp_Extra (570-80545-2)	1/4/22	11 00 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time: 1/5/22 1610	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-149026 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80545-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/14/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site:	SSOW#:			

Preservation Codes:
A - HCL, B NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U Acetone, V MCAA, W - pH 4-5, Z other (specify)
Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 200.7 Outfall 001/002/011 Totals List	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	245 1/245.1_Prep Mercury	180.1/ Turbidity	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	SM5310B/ Organic Carbon, Total (TOC)	SM5210B_BODCalc/ BOD, 5 Day	200.7/FILTRATION 200 7 Outfall 001/002/011 Diss List	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	245.1/FILTRATION Diss Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall18_20220104_Comp (570-80545-1)	1/4/22	11 00 Pacific		Water			X	X	X	X	X	X	X	X	X	X				1	, use VOA vials from LL Hg Kit-Clean Hands procedure.
Outfall18_20220104_Comp_F (570-80545-3)	1/4/22	11 00 Pacific		Water													X	X	X	3	Filter w/in 24 hours Filter within 24 hours, use VOA vials from LL Hg Kit-Clean Hands

Note Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements. IR-90 2-5/2.0

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/5/22 1618	ECI		1/5/22 1618	
2		1/5/22 1735		Olga Oneles	01/05/22 1735	ECT
3		Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM. Patel, Virendra	Carrier Tracking No(s)	COC No: 570-149022.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note) State Program - California		Job #: 570-80545-1
Address: 2841 Dow Avenue, ,	Due Date Requested 1/14/2022			
City: Tustin	TAT Requested (days):			
State Zip CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 200.7 Outfall 001/002/011 Totals List	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	245.1/245.1_Prep Mercury	180.1/ Turbidity	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	SM5310B/ Organic Carbon, Total (TOC)	SM5210B_BODCalc/ BOD, 5 Day				Total Number of containers	Special Instructions/Note:
				Preservation Code:																	
Outfall18_20220104_Comp (570-80545-1)	1/4/22	11 00 Pacific		Water			X	X	X	X	X	X	X	X	X	X				6	, use VOA vials from LL Hg Kit-Clean Hands procedure

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements. TR-90 2.5/2.0

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/5/22 1618	EAI		1/5/22	
2		1/5/22 1735		Olga Oinelos	01/05/22 1735	ECLT
3						

Custody Seals Intact: Custody Seal No

Cooler Temperature(s) °C and Other Remarks

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80545-1

Login Number: 80545
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80545-1

Login Number: 80545
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 01/05/22 06:29 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80545-2
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/4/2022 12:32:51 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80545-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80545-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80545-2

Comments
No additional comments.

Receipt
The samples were received on 1/4/2022 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.3º C and 3.8º C.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV012122). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 10D5 exceeded this criteria: Outfall018_20220104_Comp (570-80545-1), (CCV 320-559828/1), (LCS 320-557282/2-A), (LCSD 320-557282/3-A) and (MB 320-557282/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: The ending resolution check was done after more than 48 hours due to an electronic glitch in the system over the weekend which caused the acquisition of the samples in the queue to stop. The resolution check performed in the morning on the following Monday meets all the required criteria without changing any parameter of the initial tune.

Outfall018_20220104_Comp (570-80545-1), (CCV 320-559828/1), (LCS 320-557282/2-A), (LCSD 320-557282/3-A), (MB 320-557282/1-A) and (WDM 320-559828/2)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000025	J,DX MB	0.000051	0.00000049	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.00000088	J,DX q	0.000051	0.00000054	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.00000061	J,DX q	0.000051	0.00000045	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000014	J,DX q	0.000051	0.00000041	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000012	J,DX	0.000051	0.00000044	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000011	J,DX	0.000051	0.00000036	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.00000056	J,DX	0.000051	0.00000036	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000049	J,DX MB	0.000051	0.00000034	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000029	J,DX MB	0.000051	0.00000041	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000012	J,DX q	0.000051	0.00000043	ug/L	1		1613B	Total/NA
OCDD	0.000033	J,DX MB	0.00010	0.00000048	ug/L	1		1613B	Total/NA
OCDF	0.0000057	J,DX MB	0.00010	0.00000061	ug/L	1		1613B	Total/NA
Total TCDF	0.0000026	J,DX q MB	0.000010	0.00000036	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000039	J,DX q MB	0.000051	0.00000045	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000041	J,DX q	0.000051	0.00000036	ug/L	1		1613B	Total/NA
Total HpCDD	0.0000084	J,DX q MB	0.000051	0.00000034	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000054	J,DX q MB	0.000051	0.00000041	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall018_20220104_Comp
Date Collected: 01/04/22 11:00
Date Received: 01/04/22 17:00

Lab Sample ID: 570-80545-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000086	ug/L		01/11/22 11:43	01/21/22 21:26	1
1,2,3,7,8-PeCDD	ND		0.000051	0.00000072	ug/L		01/11/22 11:43	01/21/22 21:26	1
1,2,3,7,8-PeCDF	ND		0.000051	0.00000058	ug/L		01/11/22 11:43	01/21/22 21:26	1
2,3,4,7,8-PeCDF	ND		0.000051	0.00000054	ug/L		01/11/22 11:43	01/21/22 21:26	1
1,2,3,4,7,8-HxCDD	**0.0000025**	**J,DX MB**	0.000051	0.00000049	ug/L		01/11/22 11:43	01/21/22 21:26	1
1,2,3,6,7,8-HxCDD	**0.00000088**	**J,DX q**	0.000051	0.00000054	ug/L		01/11/22 11:43	01/21/22 21:26	1
1,2,3,7,8,9-HxCDD	**0.00000061**	**J,DX q**	0.000051	0.00000045	ug/L		01/11/22 11:43	01/21/22 21:26	1
1,2,3,4,7,8-HxCDF	**0.0000014**	**J,DX q**	0.000051	0.00000041	ug/L		01/11/22 11:43	01/21/22 21:26	1
1,2,3,6,7,8-HxCDF	**0.0000012**	**J,DX**	0.000051	0.00000044	ug/L		01/11/22 11:43	01/21/22 21:26	1
1,2,3,7,8,9-HxCDF	**0.0000011**	**J,DX**	0.000051	0.00000036	ug/L		01/11/22 11:43	01/21/22 21:26	1
2,3,4,6,7,8-HxCDF	**0.00000056**	**J,DX**	0.000051	0.00000036	ug/L		01/11/22 11:43	01/21/22 21:26	1
1,2,3,4,6,7,8-HpCDD	**0.0000049**	**J,DX MB**	0.000051	0.00000034	ug/L		01/11/22 11:43	01/21/22 21:26	1
1,2,3,4,6,7,8-HpCDF	**0.0000029**	**J,DX MB**	0.000051	0.00000041	ug/L		01/11/22 11:43	01/21/22 21:26	1
1,2,3,4,7,8,9-HpCDF	**0.0000012**	**J,DX q**	0.000051	0.00000043	ug/L		01/11/22 11:43	01/21/22 21:26	1
OCDD	**0.000033**	**J,DX MB**	0.00010	0.00000048	ug/L		01/11/22 11:43	01/21/22 21:26	1
OCDF	**0.0000057**	**J,DX MB**	0.00010	0.00000061	ug/L		01/11/22 11:43	01/21/22 21:26	1
Total TCDD	ND		0.000010	0.00000086	ug/L		01/11/22 11:43	01/21/22 21:26	1
Total TCDF	**0.0000026**	**J,DX q MB**	0.000010	0.00000036	ug/L		01/11/22 11:43	01/21/22 21:26	1
Total PeCDD	ND		0.000051	0.00000072	ug/L		01/11/22 11:43	01/21/22 21:26	1
Total PeCDF	ND		0.000051	0.00000054	ug/L		01/11/22 11:43	01/21/22 21:26	1
Total HxCDD	**0.0000039**	**J,DX q MB**	0.000051	0.00000045	ug/L		01/11/22 11:43	01/21/22 21:26	1
Total HxCDF	**0.0000041**	**J,DX q**	0.000051	0.00000036	ug/L		01/11/22 11:43	01/21/22 21:26	1
Total HpCDD	**0.0000084**	**J,DX q MB**	0.000051	0.00000034	ug/L		01/11/22 11:43	01/21/22 21:26	1
Total HpCDF	**0.0000054**	**J,DX q MB**	0.000051	0.00000041	ug/L		01/11/22 11:43	01/21/22 21:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*75*		*25 - 164*	*01/11/22 11:43*	*01/21/22 21:26*	*1*
13C-2,3,7,8-TCDF	*74*		*24 - 169*	*01/11/22 11:43*	*01/21/22 21:26*	*1*
13C-1,2,3,7,8-PeCDD	*86*		*25 - 181*	*01/11/22 11:43*	*01/21/22 21:26*	*1*
13C-1,2,3,7,8-PeCDF	*80*		*24 - 185*	*01/11/22 11:43*	*01/21/22 21:26*	*1*
13C-2,3,4,7,8-PeCDF	*95*		*21 - 178*	*01/11/22 11:43*	*01/21/22 21:26*	*1*
13C-1,2,3,4,7,8-HxCDD	*84*		*32 - 141*	*01/11/22 11:43*	*01/21/22 21:26*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall018_20220104_Comp **Lab Sample ID: 570-80545-1**
Date Collected: 01/04/22 11:00 **Matrix: Water**
Date Received: 01/04/22 17:00

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDD	78		28 - 130	01/11/22 11:43	01/21/22 21:26	1
13C-1,2,3,4,7,8-HxCDF	80		26 - 152	01/11/22 11:43	01/21/22 21:26	1
13C-1,2,3,6,7,8-HxCDF	74		26 - 123	01/11/22 11:43	01/21/22 21:26	1
13C-1,2,3,7,8,9-HxCDF	71		29 - 147	01/11/22 11:43	01/21/22 21:26	1
13C-2,3,4,6,7,8-HxCDF	74		28 - 136	01/11/22 11:43	01/21/22 21:26	1
13C-1,2,3,4,6,7,8-HpCDD	82		23 - 140	01/11/22 11:43	01/21/22 21:26	1
13C-1,2,3,4,6,7,8-HpCDF	77		28 - 143	01/11/22 11:43	01/21/22 21:26	1
13C-1,2,3,4,7,8,9-HpCDF	93		26 - 138	01/11/22 11:43	01/21/22 21:26	1
13C-OCDD	93		17 - 157	01/11/22 11:43	01/21/22 21:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	80		35 - 197	01/11/22 11:43	01/21/22 21:26	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000047	ug/L		01/11/22 11:43	01/24/22 13:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*86*		*24 - 169*	*01/11/22 11:43*	*01/24/22 13:15*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*77*		*35 - 197*	*01/11/22 11:43*	*01/24/22 13:15*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	37TCDD (35-197)							
570-80545-1	Outfall018_20220104_Comp	80							
570-80545-1 - RA	Outfall018_20220104_Comp	77							
MB 320-557282/1-A	Method Blank	85							
MB 320-557282/1-A - RA	Method Blank	82							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	37TCDD (31-191)							
LCS 320-557282/2-A	Lab Control Sample	94							
LCSD 320-557282/3-A	Lab Control Sample Dup	92							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80545-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-80545-1	Outfall018_20220104_Comp	75	74	86	80	95	84	78	80
570-80545-1 - RA	Outfall018_20220104_Comp		86						
MB 320-557282/1-A	Method Blank	69	69	84	75	89	77	73	74
MB 320-557282/1-A - RA	Method Blank		72						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-80545-1	Outfall018_20220104_Comp	74	71	74	82	77	93	93
570-80545-1 - RA	Outfall018_20220104_Comp							
MB 320-557282/1-A	Method Blank	66	66	67	73	71	86	83
MB 320-557282/1-A - RA	Method Blank							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-557282/2-A	Lab Control Sample	66	66	83	75	87	74	69	70
LCSD 320-557282/3-A	Lab Control Sample Dup	75	75	92	84	99	86	80	82

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-557282/2-A	Lab Control Sample	64	65	65	71	69	84	83
LCSD 320-557282/3-A	Lab Control Sample Dup	74	75	77	85	80	97	95

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-557282/1-A
Matrix: Water
Analysis Batch: 559828

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 557282

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000081	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000071	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000052	ug/L		01/11/22 11:43	01/21/22 19:11	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000048	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,4,7,8-HxCDD	0.00000163	J,DX q	0.000050	0.00000044	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.00000046	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.00000039	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.00000049	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.00000053	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,7,8,9-HxCDF	ND		0.000050	0.00000043	ug/L		01/11/22 11:43	01/21/22 19:11	1
2,3,4,6,7,8-HxCDF	ND		0.000050	0.00000044	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,4,6,7,8-HpCDD	0.000000967	J,DX q	0.000050	0.00000022	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,4,6,7,8-HpCDF	0.000000604	J,DX q	0.000050	0.00000031	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.00000033	ug/L		01/11/22 11:43	01/21/22 19:11	1
OCDD	0.00000421	J,DX	0.00010	0.00000041	ug/L		01/11/22 11:43	01/21/22 19:11	1
OCDF	0.00000109	J,DX	0.00010	0.00000051	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total TCDD	ND		0.000010	0.00000081	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total TCDF	0.000000418	J,DX q	0.000010	0.00000039	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total PeCDD	ND		0.000050	0.00000071	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total PeCDF	ND		0.000050	0.00000048	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total HxCDD	0.00000163	J,DX q	0.000050	0.00000039	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total HxCDF	ND		0.000050	0.00000043	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total HpCDD	0.00000248	J,DX q	0.000050	0.00000022	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total HpCDF	0.000000604	J,DX q	0.000050	0.00000031	ug/L		01/11/22 11:43	01/21/22 19:11	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*69*		*25 - 164*	*01/11/22 11:43*	*01/21/22 19:11*	*1*
13C-2,3,7,8-TCDF	*69*		*24 - 169*	*01/11/22 11:43*	*01/21/22 19:11*	*1*
13C-1,2,3,7,8-PeCDD	*84*		*25 - 181*	*01/11/22 11:43*	*01/21/22 19:11*	*1*
13C-1,2,3,7,8-PeCDF	*75*		*24 - 185*	*01/11/22 11:43*	*01/21/22 19:11*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-557282/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 559828 **Prep Batch: 557282**

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	89		21 - 178	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,4,7,8-HxCDD	77		32 - 141	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,6,7,8-HxCDD	73		28 - 130	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,4,7,8-HxCDF	74		26 - 152	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,6,7,8-HxCDF	66		26 - 123	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,7,8,9-HxCDF	66		29 - 147	01/11/22 11:43	01/21/22 19:11	1
13C-2,3,4,6,7,8-HxCDF	67		28 - 136	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,4,6,7,8-HpCDD	73		23 - 140	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,4,6,7,8-HpCDF	71		28 - 143	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,4,7,8,9-HpCDF	86		26 - 138	01/11/22 11:43	01/21/22 19:11	1
13C-OCDD	83		17 - 157	01/11/22 11:43	01/21/22 19:11	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	85		35 - 197	01/11/22 11:43	01/21/22 19:11	1

Lab Sample ID: LCS 320-557282/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 559828 **Prep Batch: 557282**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000212		ug/L		106	67 - 158
2,3,7,8-TCDF	0.000200	0.000202	MB	ug/L		101	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.00104		ug/L		104	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.00101		ug/L		101	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000911		ug/L		91	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000898	MB	ug/L		90	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000946		ug/L		95	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000900		ug/L		90	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000931		ug/L		93	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.00102		ug/L		102	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.00102		ug/L		102	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.00104		ug/L		104	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000979	MB	ug/L		98	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000937	MB	ug/L		94	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000862		ug/L		86	78 - 138
OCDD	0.00200	0.00184	MB	ug/L		92	78 - 144
OCDF	0.00200	0.00185	MB	ug/L		93	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	66		20 - 175
13C-2,3,7,8-TCDF	66		22 - 152
13C-1,2,3,7,8-PeCDD	83		21 - 227
13C-1,2,3,7,8-PeCDF	75		21 - 192
13C-2,3,4,7,8-PeCDF	87		13 - 328
13C-1,2,3,4,7,8-HxCDD	74		21 - 193
13C-1,2,3,6,7,8-HxCDD	69		25 - 163
13C-1,2,3,4,7,8-HxCDF	70		19 - 202
13C-1,2,3,6,7,8-HxCDF	64		21 - 159

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-557282/2-A
Matrix: Water
Analysis Batch: 559828

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 557282

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,7,8,9-HxCDF	65		17 - 205
13C-2,3,4,6,7,8-HxCDF	65		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	71		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	69		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	84		20 - 186
13C-OCDD	83		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	94		31 - 191

Lab Sample ID: LCSD 320-557282/3-A
Matrix: Water
Analysis Batch: 559828

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 557282

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000193		ug/L		97	67 - 158	9	50
2,3,7,8-TCDF			0.000200	0.000188	MB	ug/L		94	75 - 158	7	50
1,2,3,7,8-PeCDD			0.00100	0.000964		ug/L		96	70 - 142	8	50
1,2,3,7,8-PeCDF			0.00100	0.000947		ug/L		95	80 - 134	7	50
2,3,4,7,8-PeCDF			0.00100	0.000841		ug/L		84	68 - 160	8	50
1,2,3,4,7,8-HxCDD			0.00100	0.000838	MB	ug/L		84	70 - 164	7	50
1,2,3,6,7,8-HxCDD			0.00100	0.000911		ug/L		91	76 - 134	4	50
1,2,3,7,8,9-HxCDD			0.00100	0.000858		ug/L		86	64 - 162	5	50
1,2,3,4,7,8-HxCDF			0.00100	0.000868		ug/L		87	72 - 134	7	50
1,2,3,6,7,8-HxCDF			0.00100	0.000971		ug/L		97	84 - 130	5	50
1,2,3,7,8,9-HxCDF			0.00100	0.000960		ug/L		96	78 - 130	6	50
2,3,4,6,7,8-HxCDF			0.00100	0.000971		ug/L		97	70 - 156	6	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.000944	MB	ug/L		94	70 - 140	4	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.000895	MB	ug/L		90	82 - 122	5	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000826		ug/L		83	78 - 138	4	50
OCDD			0.00200	0.00181	MB	ug/L		91	78 - 144	2	50
OCDF			0.00200	0.00180	MB	ug/L		90	63 - 170	3	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	75		20 - 175
13C-2,3,7,8-TCDF	75		22 - 152
13C-1,2,3,7,8-PeCDD	92		21 - 227
13C-1,2,3,7,8-PeCDF	84		21 - 192
13C-2,3,4,7,8-PeCDF	99		13 - 328
13C-1,2,3,4,7,8-HxCDD	86		21 - 193
13C-1,2,3,6,7,8-HxCDD	80		25 - 163
13C-1,2,3,4,7,8-HxCDF	82		19 - 202
13C-1,2,3,6,7,8-HxCDF	74		21 - 159
13C-1,2,3,7,8,9-HxCDF	75		17 - 205
13C-2,3,4,6,7,8-HxCDF	77		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	85		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	80		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	97		20 - 186

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-557282/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 559828 **Prep Batch: 557282**

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-OCDD	95		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	92		31 - 191

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-557282/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 560151 **Prep Batch: 557282**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	ND		0.000010	0.0000068	ug/L		01/11/22 11:43	01/24/22 12:37	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF - RA	72		24 - 169	01/11/22 11:43	01/24/22 12:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD - RA	82		35 - 197	01/11/22 11:43	01/24/22 12:37	1

Specialty Organics

Prep Batch: 557282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	1613B	
570-80545-1 - RA	Outfall018_20220104_Comp	Total/NA	Water	1613B	
MB 320-557282/1-A	Method Blank	Total/NA	Water	1613B	
MB 320-557282/1-A - RA	Method Blank	Total/NA	Water	1613B	
LCS 320-557282/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-557282/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 559828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	1613B	557282
MB 320-557282/1-A	Method Blank	Total/NA	Water	1613B	557282
LCS 320-557282/2-A	Lab Control Sample	Total/NA	Water	1613B	557282
LCSD 320-557282/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	557282

Analysis Batch: 560151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1 - RA	Outfall018_20220104_Comp	Total/NA	Water	1613B	557282
MB 320-557282/1-A - RA	Method Blank	Total/NA	Water	1613B	557282

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			972.6 mL	20.0 uL	557282	01/11/22 11:43	CB	TAL SAC
Total/NA	Analysis	1613B		1			559828	01/21/22 21:26	SMA	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		972.6 mL	20.0 uL	557282	01/11/22 11:43	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			560151	01/24/22 13:15	DB	TAL SAC
	Instrument ID: 11D2									

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80545-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Kansas	NELAP	E-10375	10-31-21 *
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-23
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-22
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80545-1	Outfall018_20220104_Comp	Water	01/04/22 11:00	01/04/22 17:00

80545

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80545 Chain of Custody

Client Name/Address Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108	Project: Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **ECI #44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606. 520.904.6944 (cell)
Sampler: Mark Dominick /Michelle Dallalah	Field Manager: Mark Dominick 978.234.5033. 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R/A Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R TCDD (and all congeners) (E1613B)	R BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	R Surfactants (MBAS) (SM5540C/E425.1)	R/A Cl- F- SO4 Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	R Turbidity TDS (SM2540C/E180.1)	R TSS (160.2 (SM2540D))	R Ammonia-N (E350.2)	A Priority Pollutants-Pesticides+PCBs (E608)	A Priority Pollutants-SVOCs (E625)	R Total Recoverable Metals, Mercury (E245.1)	Comments
Outfall 018	Outfall018_20220104_Comp	1/4/2022 1100	WM	500 mL Poly	1	HNO_3	80	No	X										X	
			WM	1 L Glass Amber	2	None	110	No		X										
			WM	1 L Poly	1	None	115	No			X									
			WM	500 mL Poly	2	None	120	No				X								
			WM	500 mL Poly	2	None	125	No					X							48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X						48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X				
			WM	1 L Glass Amber	2	None	250	No									X			
			WM	1 L Glass Amber	2	None	175	No										X		
			WM	1 L Poly	1	None	185	No							X					
	Outfall018_20220104_Comp_Extra	1/4/2022 1100	WM	1 L Glass Amber	2	None	110	No		H										Hold
			WM	500 mL Poly	2	None	120	No				H								Hold
			WM	500 mL Poly	2	None	125	No					H							Hold
			WM	1 L Glass Amber	2	None	250	No									H			Hold
			WM	1 L Glass Amber	2	None	175	No										H		Hold

Legend: A=Annual, R=Routine

Relinquished By: Michelle Dallalah	Date/Time: 1/4/2022 1400	Company: Haley & Aldrich	Received By: ECI
Relinquished By:	Date/Time: 01/04/22 17.00	Company:	Received By:	Date/Time: 1/4/22 1700
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:

Received By: ECI — Date/Time: 01/04/22 14:00

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day: __X__
48 Hour _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

1.8|3.3, 2 3|3 8 SC6

2/4/2022

2019-2020 Rainy Season
Version 5

80545

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Mark Dominick / Michelle Dallalah	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									R/A	R	R	R	A	A	A	A	R	QRSW	
									ANALYSIS REQUIRED										
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8) Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0) Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)	Chlorpyrifos, Diazinon (E525.2) Week Labs in Hacienda Heights, CA	Comments
Outfall 018	Outfall018_20220104_Comp_F	1/4/2022 1100	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall018_20220104_Comp	1/4/2022 1100 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	275	~~No~~										X	Extract within 24-Hours of sampling at Week Labs at OF-001,002,011, or 018.
	Outfall018_20220104_Comp_Extra	1/4/2022 1100	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	~~1~~	None	255	No							H				Hold

Legend A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By: Michelle Dallalah	Date/Time: 1/4/2022 1400	Company: Haley & Aldrich	Received By:	Date/Time: 01/04/22 1400	
Relinquished By:	Date/Time: 01/04/22 17:00	Company:	Received By:	Date/Time: 1/4/22 1700	
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:	

Turn-around time: (Check)
24 Hour: ____ 72 Hour: ____ 10 Day: __X__
48 Hour: ____ 5 Day: ____ Normal: ____

Sample Integrity: (Check)
Intact: ____ On Ice: ____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: ____ All Level IV: __X__

* Hand delivered to ABC Labs by H;A

2/4/2022

2019-2020 Rainy Season
Version 5

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-149015 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80545-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/1/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall18_20220104_Comp (570-80545-1)	1/4/22	11 00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	1/5/22 1338				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149037 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80545-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/25/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall18_20220104_Comp (570-80545-1)	1/4/22	11 00 Pacific		Water			X		1	Level IV needed
Outfall18_20220104_Comp_Extra (570-80545-2)	1/4/22	11 00 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time.	Method of Shipment:

Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by:	1/5/22 1442				
Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-149048 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80545-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/20/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall18_20220104_Comp (570-80545-1)	1/4/22	11 00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L Use Boeing glassware
Outfall18_20220104_Comp_Extra (570-80545-2)	1/4/22	11 00 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time: 1/5/22 1610	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149048.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80545-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/20/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
Preservation Code:										
Outfall18_20220104_Comp (570-80545-1)	1/4/22	11:00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall18_20220104_Comp_Extra (570-80545-2)	1/4/22	11:00 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/5/22 1610			1/6/22 1200	FEDEX
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: Seal | Cooler Temperature(s) °C and Other Remarks: 1.4c

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80545-2

Login Number: 80545
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80545-2

Login Number: 80545
List Number: 3
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 01/06/22 03:44 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.4c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80545-3
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/7/2022 4:30:59 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80545-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80545-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80545-3

Comments
No additional comments.

Receipt
The samples were received on 1/4/2022 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.3º C and 3.8º C.

RAD
Method 900.0: Gross Alpha Beta prep batch 160-547126:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall018_20220104_Comp (570-80545-1), (LCS 160-547126/2-A), (LCSB 160-547126/3-A), (MB 160-547126/1-A), (570-80548-R-1-O), (570-80548-R-1-U DU), (570-80548-R-1-S MS) and (570-80548-R-1-T MSBT)

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Method 901.1: Gamma Prep Batch 160-546005

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Job ID: 570-80545-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Outfall018_20220104_Comp (570-80545-1), (570-80749-R-1-F) and (570-80749-R-1-G DU)

Method 903.0: Radium 226 Batch 160-545836:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall018_20220104_Comp (570-80545-1), (LCS 160-545836/1-A), (LCSD 160-545836/2-A) and (MB 160-545836/24-A)

Method 904.0: Radium 228 batch 545838
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall018_20220104_Comp (570-80545-1), (LCS 160-545838/1-A), (LCSD 160-545838/2-A) and (MB 160-545838/24-A)

Method 905: Strontium 90 batch 546021
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall018_20220104_Comp (570-80545-1), (LCS 160-546021/1-A), (LCSD 160-546021/2-A) and (MB 160-546021/18-A)

Method 906.0: Tritium in Liquid batch 160-545833
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
Outfall018_20220104_Comp (570-80545-1), (LCS 160-545833/2-A), (MB 160-545833/1-A), (570-80746-Q-1-A), (570-80746-Q-1-B MS), (570-80749-Q-1-A) and (570-80749-Q-1-B DU)

Method A-01-R: Isotopic Uranium Batch 160-545831:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall018_20220104_Comp (570-80545-1), (LCS 160-545831/2-A), (MB 160-545831/1-A), (570-80749-R-1-D) and (570-80749-R-1-E DU)

Method ExtChrom: Uranium Prep Batch 160-545831

The following samples were prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall018_20220104_Comp (570-80545-1).

Method PrecSep_0: Radium-228 Prep Batch 160-545838

Job ID: 570-80545-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

The following samples were prepared at a reduced aliquot due to Matrix: Outfall018_20220104_Comp (570-80545-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-545836

The following samples were prepared at a reduced aliquot due to Matrix: Outfall018_20220104_Comp (570-80545-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-546021

The following samples were prepared at a reduced aliquot due to Matrix: Outfall018_20220104_Comp (570-80545-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall018_20220104_Comp **Lab Sample ID: 570-80545-1**
Date Collected: 01/04/22 11:00 **Matrix: Water**
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	1.99	U	1.67	1.69	3.00	2.62	pCi/L	01/19/22 09:35	01/21/22 13:54	1
Gross Beta	**1.94**		0.705	0.732	4.00	0.920	pCi/L	01/19/22 09:35	01/21/22 13:54	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall018_20220104_Comp
Date Collected: 01/04/22 11:00
Date Received: 01/04/22 17:00

Lab Sample ID: 570-80545-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-5.14	U	12.1	12.1	20.0	14.1	pCi/L	01/12/22 09:57	01/25/22 10:19	1
Potassium-40	-22.7	U	172	172		178	pCi/L	01/12/22 09:57	01/25/22 10:19	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall018_20220104_Comp
Date Collected: 01/04/22 11:00
Date Received: 01/04/22 17:00

Lab Sample ID: 570-80545-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0630	U	0.126	0.126	1.00	0.284	pCi/L	01/11/22 12:38	02/07/22 11:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.0*		*40 - 110*	*01/11/22 12:38*	*02/07/22 11:43*	*1*

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall018_20220104_Comp **Lab Sample ID: 570-80545-1**
Date Collected: 01/04/22 11:00 **Matrix: Water**
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.460	U	0.312	0.315	1.00	0.479	pCi/L	01/11/22 13:24	02/05/22 12:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.0*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:34*	*1*
Y Carrier	*84.1*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:34*	*1*

Method: 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall018_20220104_Comp
Date Collected: 01/04/22 11:00
Date Received: 01/04/22 17:00

Lab Sample ID: 570-80545-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.0834	U	0.350	0.350	3.00	0.612	pCi/L	01/12/22 12:11	01/24/22 16:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*88.6*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:53*	*1*
Y Carrier	*92.0*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:53*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-67.6	U	211	211	500	392	pCi/L	01/11/22 12:29	01/14/22 15:58	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall018_20220104_Comp
Date Collected: 01/04/22 11:00
Date Received: 01/04/22 17:00

Lab Sample ID: 570-80545-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.166	U	0.147	0.148	1.00	0.169	pCi/L	01/11/22 11:42	01/16/22 16:25	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*103*		*30 - 110*	*01/11/22 11:42*	*01/16/22 16:25*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
570-80545-1	Outfall018_20220104_Comp	96.0
LCS 160-545836/1-A	Lab Control Sample	91.4
LCSD 160-545836/2-A	Lab Control Sample Dup	95.2
MB 160-545836/24-A	Method Blank	103

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80545-1	Outfall018_20220104_Comp	96.0	84.1
LCS 160-545838/1-A	Lab Control Sample	91.4	83.4
LCSD 160-545838/2-A	Lab Control Sample Dup	95.2	84.5
MB 160-545838/24-A	Method Blank	103	90.1

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Sr	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80545-1	Outfall018_20220104_Comp	88.6	92.0
LCS 160-546021/1-A	Lab Control Sample	88.0	86.7
LCSD 160-546021/2-A	Lab Control Sample Dup	69.5	81.1
MB 160-546021/18-A	Method Blank	81.5	91.2

Tracer/Carrier Legend

Sr = Sr Carrier
Y = Y Carrier

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		U-232
Lab Sample ID	Client Sample ID	(30-110)
570-80545-1	Outfall018_20220104_Comp	103
570-80749-R-1-E DU	Duplicate	90.5
LCS 160-545831/2-A	Lab Control Sample	91.9
MB 160-545831/1-A	Method Blank	83.7

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-547126/1-A
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 547126

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.04269	U	0.612	0.612	3.00	1.19	pCi/L	01/19/22 09:35	01/21/22 13:53	1
Gross Beta	0.5433	U	0.532	0.535	4.00	0.861	pCi/L	01/19/22 09:35	01/21/22 13:53	1

Lab Sample ID: LCS 160-547126/2-A
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	52.84		7.62	3.00	2.09	pCi/L	104	75 - 125

Lab Sample ID: LCSB 160-547126/3-A
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.6	74.43		7.97	4.00	1.06	pCi/L	98	75 - 125

Lab Sample ID: 570-80548-R-1-S MS
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	1.07	U	50.6	33.21		6.09	3.00	3.28	pCi/L	64	60 - 140

Lab Sample ID: 570-80548-R-1-T MSBT
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	2.34		75.6	76.60		8.22	4.00	1.01	pCi/L	98	60 - 140

Lab Sample ID: 570-80548-R-1-U DU
Matrix: Water
Analysis Batch: 547960

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	1.07	U	1.137	U	1.53	3.00	2.53	pCi/L	0.02	1
Gross Beta	2.34		2.080		0.584	4.00	0.728	pCi/L	0.21	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-546005/1-A
Matrix: Water
Analysis Batch: 547972

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 546005

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-4.333	U	11.2	11.2	20.0	13.2	pCi/L	01/12/22 09:57	01/25/22 16:40	1
Potassium-40	54.77	U	93.6	93.8		98.4	pCi/L	01/12/22 09:57	01/25/22 16:40	1

Lab Sample ID: LCS 160-546005/2-A
Matrix: Water
Analysis Batch: 547972

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 546005

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium-241	135000	138500		16500		435	pCi/L	102	75 - 125
Cesium-137	42000	42890		5110	20.0	101	pCi/L	102	75 - 125
Cobalt-60	20800	21330		2540		49.6	pCi/L	103	75 - 125

Lab Sample ID: 570-80749-R-1-G DU
Matrix: Water
Analysis Batch: 547984

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 546005

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Cesium-137	3.59	U	-6.217	U	13.5	20.0	16.5	pCi/L	0.48	1
Potassium-40	88.6		-65.58	U	121		186	pCi/L	0.90	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-545836/24-A
Matrix: Water
Analysis Batch: 549570

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545836

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.03016	U	0.101	0.101	1.00	0.228	pCi/L	01/11/22 12:38	02/07/22 12:17	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*01/11/22 12:38*	*02/07/22 12:17*	*1*

Lab Sample ID: LCS 160-545836/1-A
Matrix: Water
Analysis Batch: 549569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545836

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.1	13.84		1.60	1.00	0.255	pCi/L	92	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.4*		*40 - 110*

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-545836/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 549569 — **Prep Batch: 545836**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	13.98		1.60	1.00	0.279	pCi/L	92	75 - 125	0.04	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*95.2*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-545838/24-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 549231 — **Prep Batch: 545838**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.6159		0.326	0.331	1.00	0.487	pCi/L	01/11/22 13:24	02/05/22 12:35	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:35*	*1*
Y Carrier	*90.1*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:35*	*1*

Lab Sample ID: LCS 160-545838/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 549232 — **Prep Batch: 545838**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			11.9	13.74		1.58	1.00	0.462	pCi/L	116	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.4*		*40 - 110*
Y Carrier	*83.4*		*40 - 110*

Lab Sample ID: LCSD 160-545838/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 549232 — **Prep Batch: 545838**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			11.9	14.06		1.60	1.00	0.452	pCi/L	119	75 - 125	0.10	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*95.2*		*40 - 110*
Y Carrier	*84.5*		*40 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-546021/18-A
Matrix: Water
Analysis Batch: 547796

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 546021

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.4294		0.203	0.206	3.00	0.290	pCi/L	01/12/22 12:11	01/24/22 16:53	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*81.5*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:53*	*1*
Y Carrier	*91.2*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:53*	*1*

Lab Sample ID: LCS 160-546021/1-A
Matrix: Water
Analysis Batch: 547958

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 546021

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Strontium-90			7.56	7.562		0.824	3.00	0.290	pCi/L	100	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*88.0*		*40 - 110*
Y Carrier	*86.7*		*40 - 110*

Lab Sample ID: LCSD 160-546021/2-A
Matrix: Water
Analysis Batch: 547958

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 546021

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Strontium-90			7.56	6.786		0.827	3.00	0.408	pCi/L	90	75 - 125	0.47	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*69.5*		*40 - 110*
Y Carrier	*81.1*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-545833/1-A
Matrix: Water
Analysis Batch: 546736

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545833

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-85.59	U	210	210	500	394	pCi/L	01/11/22 12:29	01/14/22 14:05	1

Lab Sample ID: LCS 160-545833/2-A
Matrix: Water
Analysis Batch: 546736

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545833

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			2240	1986		398	500	399	pCi/L	89	75 - 125		

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 570-80749-Q-1-B DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 546915 — **Prep Batch: 545833**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	-90.1	U		-132.9	U	155	500	290	pCi/L			0.12	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-545831/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 546580 — **Prep Batch: 545831**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.1253	U	0.1306	0.1308	1.00	0.154	pCi/L	01/11/22 11:42	01/16/22 16:25	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*83.7*		*30 - 110*	*01/11/22 11:42*	*01/16/22 16:25*	*1*

Lab Sample ID: LCS 160-545831/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 546581 — **Prep Batch: 545831**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Uranium-234			18.2	18.21		1.99	1.00	0.148	pCi/L	100	75 - 125		
Uranium-238			18.6	18.24		1.99	1.00	0.107	pCi/L	98	75 - 125		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*91.9*		*30 - 110*

Lab Sample ID: 570-80749-R-1-E DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 546589 — **Prep Batch: 545831**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Total Uranium	0.0721	U		0.09260	U	0.09449	1.00	0.113	pCi/L			0.12	1

Tracer	*DU %Yield*	*DU Qualifier*	*Limits*
Uranium-232	*90.5*		*30 - 110*

Rad

Prep Batch: 545831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	ExtChrom	
MB 160-545831/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-545831/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
570-80749-R-1-E DU	Duplicate	Total/NA	Water	ExtChrom	

Prep Batch: 545833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-545833/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-545833/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
570-80749-Q-1-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 545836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	PrecSep-21	
MB 160-545836/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-545836/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-545836/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 545838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	PrecSep_0	
MB 160-545838/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-545838/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-545838/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 546005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-546005/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-546005/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-80749-R-1-G DU	Duplicate	Total/NA	Water	Fill_Geo-0	

Prep Batch: 546021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	PrecSep-7	
MB 160-546021/18-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-546021/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-546021/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Prep Batch: 547126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80545-1	Outfall018_20220104_Comp	Total/NA	Water	Evaporation	
MB 160-547126/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-547126/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-547126/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-80548-R-1-S MS	Matrix Spike	Total/NA	Water	Evaporation	
570-80548-R-1-T MSBT	Matrix Spike	Total/NA	Water	Evaporation	
570-80548-R-1-U DU	Duplicate	Total/NA	Water	Evaporation	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1
Date Collected: 01/04/22 11:00
Matrix: Water
Date Received: 01/04/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			200.09 mL	1.0 g	547126	01/19/22 09:35	KG	TAL SL
Total/NA	Analysis	900.0		1	1.0 mL	1.0 mL	547481	01/21/22 13:54	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	546005	01/12/22 09:57	SRE	TAL SL
Total/NA	Analysis	901.1		1			547972	01/25/22 10:19	JCB	TAL SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			750.39 mL	1.0 g	545836	01/11/22 12:38	LPS	TAL SL
Total/NA	Analysis	903.0		1			549569	02/07/22 11:43	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			750.39 mL	1.0 g	545838	01/11/22 13:24	LPS	TAL SL
Total/NA	Analysis	904.0		1			549231	02/05/22 12:34	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-7			500.02 mL	1.0 g	546021	01/12/22 12:11	LPS	TAL SL
Total/NA	Analysis	905		1			547796	01/24/22 16:53	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	LSC_Dist_Susp			100.25 mL	1.0 g	545833	01/11/22 12:29	BAL	TAL SL
Total/NA	Analysis	906.0		1			546736	01/14/22 15:58	JLP	TAL SL
	Instrument ID: LSCTEAL									
Total/NA	Prep	ExtChrom			350.62 mL	1.0 mL	545831	01/11/22 11:42	MLO	TAL SL
Total/NA	Analysis	A-01-R		1			546584	01/16/22 16:25	CLP	TAL SL
	Instrument ID: ALPHAVISION									

Laboratory References:
TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80545-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	TAL SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	TAL SL

Protocol References:

DOE = U.S. Department of Energy

EPA = US Environmental Protection Agency

None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80545-1	Outfall018_20220104_Comp	Water	01/04/22 11:00	01/04/22 17:00

80545

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80545 Chain of Custody

Client Name/Address Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108	Project: Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **ECI #44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606. 520.904.6944 (cell)
Sampler: Mark Dominick /Michelle Dallalah	Field Manager: Mark Dominick 978.234.5033. 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R/A Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R TCDD (and all congeners) (E1613B)	R BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	R Surfactants (MBAS) (SM5540C/E425.1)	R/A Cl- F- SO4 Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	R Turbidity TDS (SM2540C/E180.1)	R TSS (160.2 (SM2540D))	R Ammonia-N (E350.2)	A Priority Pollutants-Pesticides+PCBs (E608)	A Priority Pollutants-SVOCs (E625)	R Total Recoverable Metals, Mercury (E245.1)	Comments
Outfall 018	Outfall018_20220104_Comp	1/4/2022 1100	WM	500 mL Poly	1	HNO_3	80	No	X										
			WM	1 L Glass Amber	2	None	110	No		X									
			WM	1 L Poly	1	None	115	No			X								
			WM	500 mL Poly	2	None	120	No				X							
			WM	500 mL Poly	2	None	125	No					X						48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X					48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X			
			WM	1 L Glass Amber	2	None	250	No									X		
			WM	1 L Glass Amber	2	None	175	No										X	
			WM	1 L Poly	1	None	185	No							X				
	Outfall018_20220104_Comp_Extra	1/4/2022 1100	WM	1 L Glass Amber	2	None	110	No		H									Hold
			WM	500 mL Poly	2	None	120	No				H							Hold
			WM	500 mL Poly	2	None	125	No					H						Hold
			WM	1 L Glass Amber	2	None	250	No									H		Hold
			WM	1 L Glass Amber	2	None	175	No										H	Hold

Legend: A=Annual, R=Routine

Relinquished By: Michelle Dallalah	Date/Time: 1/4/2022 1400	Company: Haley & Aldrich	Received By: ECI
Relinquished By:	Date/Time: 01/04/22 17.00	Company:	Received By:	Date/Time: 1/4/22 1700
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:

Received By: ECI — Date/Time: 01/04/22 14:00

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day: __X__
48 Hour _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

1.8/3.3, 2 3/38 SCG

2/7/2022

2019-2020 Rainy Season
Version 5

80545

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Mark Dominick / Michelle Dallalah	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									R/A	R	R	R	A	A	A	A	R	QRSW	
									ANALYSIS REQUIRED										
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8) Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0) Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)	Chlorpyrifos, Diazinon (E525.2) Week Labs in Hacienda Heights, CA	Comments
Outfall 018	Outfall018_20220104_Comp_F	1/4/2022 1100	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall018_20220104_Comp	1/4/2022 1100 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	275	No										X	Extract within 24-Hours of sampling at ~~Week Labs~~ ABC Labs at OF-001,002,011, & 018.
	Outfall018_20220104_Comp_Extra	1/4/2022 1100	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	~~1~~	None	255	No							H				Hold

Legend A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By: Michelle Dallalah	Date/Time: 1/4/2022 1400	Company: Haley & Aldrich	Received By:	Date/Time: ECI 01/04/22 1400	Turn-around time: (Check) 24 Hour: ___ 72 Hour: ___ 10 Day: __X__ 48 Hour: ___ 5 Day: ___ Normal: ___
Relinquished By:	Date/Time: 01/04/22 17:00	Company:	Received By:	Date/Time: 1/4/22 1700	Sample Integrity: (Check) Intact: ___ On Ice: ___
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:	Store samples for 6 months. Data Requirements: (Check) No Level IV: ___ All Level IV: __X__

* Hand delivered to ABC Labs by H&A

2/7/2022

2019-2020 Rainy Season
Version 5

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-149015 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80545-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/1/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall18_20220104_Comp (570-80545-1)	1/4/22	11 00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		1/5/22 1338				
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/7/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149037 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80545-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/25/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall18_20220104_Comp (570-80545-1)	1/4/22	11 00 Pacific		Water			X		1	Level IV needed
Outfall18_20220104_Comp_Extra (570-80545-2)	1/4/22	11 00 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time.	Method of Shipment:

	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
1		1/5/22 1442				
2	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/7/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-149048 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80545-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/20/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall18_20220104_Comp (570-80545-1)	1/4/22	11 00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L Use Boeing glassware
Outfall18_20220104_Comp_Extra (570-80545-2)	1/4/22	11 00 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time: 1/5/22 1610	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149015.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80545-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/1/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901.1_Cs/Fill_Geo_0 K-40 and Caesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall18_20220104_Comp (570-80545-1)	1/4/22	11:00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by: [signature]	Date/Time: 1/5/22 1338	Company	Received by: FED EX	Date/Time:	Company		
Relinquished by: FED EX	Date/Time:	Company	Received by: Sierra Worthington	Date/Time: 1/10/22 0910	Company: ETAS TL		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80545-3

Login Number: 80545
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80545-3

Login Number: 80545
List Number: 4
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 01/10/22 10:10 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80545-4
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp
Revision: 2

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/26/2022 2:16:30 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80545-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-80545-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Job ID: 570-80545-4

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80545-4

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 2/4/2022. The report (revision 2) is being revised due to: The PDF report has been revised to include the analyte list requested on the COC.

Report revision history
Revision 1 - 2/17/2022 - Reason - The WECK labs report was revised to report Mono Methyl Hydrazine only.

Receipt
The samples were received on 1/4/2022 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.3º C and 3.8º C.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method Weck-Hydrazine: This method was subcontracted to Weck Laboratories, Inc.. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method	Method Description	Protocol	Laboratory
Subcontract	Weck-Hydrazine	None	Weck Lab

Protocol References:

None = None

Laboratory References:

Weck Lab = Weck Laboratories, Inc., 14859 E. Clark Avenue, City of Industry, CA 91745

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80545-1	Outfall018_20220104_Comp	Water	01/04/22 11:00	01/04/22 17:00

WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Work Orders:	2A06024	**Report Date:**	2/14/2022
		Received Date:	1/6/2022
Project:	570-80545-2	**Turnaround Time:**	Normal
		Phones:	(714) 895-5494
		Fax:	(714) 894-7501
Attn:	Virendra Patel	**P.O. #:**	570-80545-2
Client:	Eurofins Calscience - Garden Grove 7440 Lincoln Way Garden Grove, CA 92841-1432	**Billing Code:**	

Dear Virendra Patel,

Enclosed are the results of analyses for samples received 1/06/22 with the Chain-of-Custody document. The samples were received in good condition, at 3.9 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Sample Results

Sample: Outfall018_20220104_Comp (570-80545-1) — Sampled: 01/04/22 11:00 by Client

2A06024-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 8315M			**Instr:** LCMS03				
Batch ID: W2A0572 **Preparation:** Microextraction			**Prepared:** 01/10/22 11:10				**Analyst:** PJS
Monomethylhydrazine (MMH)	ND	0.31	2.0	ug/l	1	01/10/22	

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634

www.wecklabs.com

Quality Control Results

Hydrazine by LCMS

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Blank (W2A0572-BLK1)					**Prepared & Analyzed: 01/10/22**						
Monomethylhydrazine (MMH)	ND	0.31	2.0	ug/l							
LCS (W2A0572-BS1)					**Prepared & Analyzed: 01/10/22**						
Monomethylhydrazine (MMH)	25.4	0.31	2.0	ug/l	20.0		127	50-150			
Matrix Spike (W2A0572-MS1)		**Source: 1L29088-01**			**Prepared & Analyzed: 01/10/22**						
Monomethylhydrazine (MMH)	20.4	0.31	2.0	ug/l	20.0	*ND*	102	50-150			
Matrix Spike Dup (W2A0572-MSD1)		**Source: 1L29088-01**			**Prepared & Analyzed: 01/10/22**						
Monomethylhydrazine (MMH)	20.6	0.31	2.0	ug/l	20.0	*ND*	103	50-150	0.8	30	

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

Notes and Definitions

Item	Definition
%REC	Percent Recovery
Dil	Dilution
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

Analyses Accreditation Summary

Analyte	CAS #	Not By NELAP	ANAB ISO 17025
EPA 8315M in Water			
Monomethylhydrazine (MMH)	60-34-4	✓	

Reviewed by:

Rahul R. Nair
Project Manager

ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • LACSD #10143 • NJ-DEP #CA015 • NV-DEP #NAC 445A • SCAQMD #93LA1006

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

2406024

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149037.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80545-2
Address: 14859 E. Clark Avenue,	Due Date Requested: 1/25/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall18_20220104_Comp (570-80545-1)	1/4/22	11:00 Pacific		Water			X		1	Level IV needed
Outfall18_20220104_Comp_Extra (570-80545-2)	1/4/22	11:00 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: Fedex

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/5/22 1442			1/6/22 1004	Weck
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.9c T-0234

Ver: 06/08/2021

WECK LABORATORIES, INC.

Sample Receipt Checklist

Weck WKO: 2A06024
WKO Logged by: Algabriel Holanda
Samples Checked by: ATH

Date/Time Received: 01/06/22 @ 10:04
# of Samples: 2
Delivered by: Fedex

	Task	Yes	No	N/A	Comments
COC	COC present at receipt?	☒	☐		
	COC properly completed?	☒	☐		
	COC matches sample labels?	☒	☐		
	Project Manager notified?	☐	☐	☒	
Receipt Information	Sample Temperature	3.9 °C			
	Samples received on ice?	☒	☐		
	Ice Type (Blue/Wet)	Wet			
	All samples intact?	☒	☐		
	Samples in proper containers?	☒	☐		
	Sufficient sample volume?	☒	☐		
	Samples intact?	☒	☐		
	Received within holding time?	☒	☐		
	Project Manager notified?	☐	☐	☒	
Sample Preservation Verification?	Sample labels checked for correct preservation?	☒	☐	☐	
	VOC Headspace: none, <6mm/<Pea size? 524.2, 524.3, 624.1, 8260, 1666 P/T, LUFT	☐	☐	☒	
	pH verified upon receipt? Metals <2; H2SO4 pres tests <2; 522<4; TOC <2; 608.3 5-9	☐	☐	☒	
	Free Chlorine Tested <0.1	☐	☐	☒	
	O&G pH <2 verified?	☐	☐	☐	pH paper Lot#
	pH adjusted for O&G	☐	☐	☐	pH Reading: Acid Lot# Amt added:
	Project Manager notified?	☐	☐	☒	

PM Comments

Sample Receipt Checklist Prepared by:
Signature: _____ Date: 01/06/22

80545

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80545 Chain of Custody

Client Name/Address Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108	Project: Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **ECI #44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606. 520.904.6944 (cell)
Sampler: Mark Dominick /Michelle Dallalah	Field Manager: Mark Dominick 978.234.5033. 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R/A Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R TCDD (and all congeners) (E1613B)	R BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	R Surfactants (MBAS) (SM5540C/E425.1)	R/A Cl- F- SO4 Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	R Turbidity TDS (SM2540C/E180.1)	R TSS (160.2 (SM2540D))	R Ammonia-N (E350.2)	A Priority Pollutants-Pesticides+PCBs (E608)	A Priority Pollutants-SVOCs (E625)	R Total Recoverable Metals. Mercury (E245.1)	Comments
Outfall 018	Outfall018_20220104_Comp	1/4/2022 1100	WM	500 mL Poly	1	HNO_3	80	No	X										X	
			WM	1 L Glass Amber	2	None	110	No		X										
			WM	1 L Poly	1	None	115	No			X									
			WM	500 mL Poly	2	None	120	No				X								
			WM	500 mL Poly	2	None	125	No					X							48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X						48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X				
			WM	1 L Glass Amber	2	None	250	No									X			
			WM	1 L Glass Amber	2	None	175	No										X		
			WM	1 L Poly	1	None	185	No							X					
	Outfall018_20220104_Comp_Extra	1/4/2022 1100	WM	1 L Glass Amber	2	None	110	No		H										Hold
			WM	500 mL Poly	2	None	120	No				H								Hold
			WM	500 mL Poly	2	None	125	No					H							Hold
			WM	1 L Glass Amber	2	None	250	No									H			Hold
			WM	1 L Glass Amber	2	None	175	No										H		Hold

Legend: A=Annual, R=Routine

Relinquished By: Michelle Dallalah	Date/Time: 1/4/2022 1400	Company: Haley & Aldrich	Received By: ECI
Relinquished By:	Date/Time: 01104/22 17.00	Company:	Received By:	Date/Time: 1/4/22 1700
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:

Received By: ECI Date/Time: 01104/22 14:00

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day: __X__
48 Hour _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

1.8/3.3, 2 3/38 SCG

4/26/2022 (Rev. 2)

2019-2020 Rainy Season
Version 5

80545

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Mark Dominick / Michelle Dallalah	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									ANALYSIS REQUIRED											
									R/A	R	R	R	A	A	A	A	R	QRSW		
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8) Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0) Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)	Chlorpyrifos, Diazinon (E525.2) Week Labs in Hacienda Heights, CA	Comments
Outfall 018	Outfall018_20220104_Comp_F	1/4/2022 1100	WM	1 L Poly	1	None	190	No	X											Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X			Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall018_20220104_Comp	1/4/2022 1100 *	WM	500 mL Poly	1	NaOH	220	No		X										
			WM	2.5 Gal Cube	1	None	225	No		\	X									Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No												
			WM	1 Gal Cube	6	None	235	No				X								Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X							
			WM	1 L Glass Amber	1	HCl	245	No						X						
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X					
			WM	500 mL Poly	1	None	260	No								X				
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	275	No										X		Extract within 24-Hours of sampling at Week Labs at OF-001,002,011, or 018.
	Outfall018_20220104_Comp_Extra	1/4/2022 1100	WM	40 mL VOA	3	HCl	240	No					H							Hold
			WM	1 L Glass Amber	~~1~~	None	255	No							H					Hold

Legend A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By: Michelle Dallalah	Date/Time: 1/4/2022 1400	Company: Haley & Aldrich	Received By:	Date/Time: ECI 01/04/22 1400	Turn-around time: (Check) 24 Hour: ____ 72 Hour: ____ 10 Day: __X__ 48 Hour: ____ 5 Day: ____ Normal: ____
Relinquished By:	Date/Time: 01/04/22 17:00	Company:	Received By:	Date/Time: 1/4/22 1700	Sample Integrity: (Check) Intact: ____ On Ice: ____
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:	Store samples for 6 months. Data Requirements: (Check) No Level IV: ____ All Level IV: __X__

* Hand delivered to ABC Labs by H&A

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-149015 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80545-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/1/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall18_20220104_Comp (570-80545-1)	1/4/22	11 00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/5/22 1338				
2	Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149037 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80545-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/25/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall18_20220104_Comp (570-80545-1)	1/4/22	11 00 Pacific		Water			X		1	Level IV needed
Outfall18_20220104_Comp_Extra (570-80545-2)	1/4/22	11 00 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time.	Method of Shipment:

Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by:	1/5/22 1442				
Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-149048 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80545-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/20/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall18_20220104_Comp (570-80545-1)	1/4/22	11 00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L Use Boeing glassware
Outfall18_20220104_Comp_Extra (570-80545-2)	1/4/22	11 00 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time: 1/5/22 1610	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80545-4

Login Number: 80545
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80545-5
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/14/2022 10:04:10 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-80545-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Job ID: 570-80545-5

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80545-5

Comments
No additional comments.

Receipt
The samples were received on 1/4/2022 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.3º C and 3.8º C.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method Chronic-Selenestrum: This method was subcontracted to Aquatic Bioassay & Consulting. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Client Sample ID: Outfall018_20220104_Comp
Lab Sample ID: 570-80545-1

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method	Method Description	Protocol	Laboratory
EPA	Bioassay	EPA	Aquatic

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

Aquatic = Aquatic Bioassay & Consulting, 29 North Olive Street, Ventura, CA 93001

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80545-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80545-1	Outfall018_20220104_Comp	Water	01/04/22 11:00	01/04/22 17:00

aquatic bioassay & consulting laboratories, inc

January 26, 2022

Mr. Virendra Patel
Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841-1432

Dear Mr. Patel:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013.* Results were as follows:

CLIENT:	Eurofins Calscience
SAMPLE I.D.:	Outfall 018
DATE RECEIVED:	4 Jan - 2022
ABC LAB. NO.:	CSE0122.014

CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY

IWC = 100.00 %

TST RESULT

GROWTH = PASS % EFFECT = -4.43 %

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 25 Jan-22 16:14 (p 1 of 1)
Test Code/ID: CSE0122.014 / 09-0180-9326

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	14-8167-5008	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	06 Jan-22 11:01	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	10 Jan-22 11:20	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	4d 0h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	7d
Sample ID:	10-3308-7683	**Code:**	CSE0122.014	**Project:**	Boeing-SSFL NPDES		
Sample Date:	04 Jan-22 11:00	**Material:**	Sample Water	**Source:**	Bioassay Report		
Receipt Date:	04 Jan-22 14:32	**CAS (PC):**		**Station:**	Outfall 018		
Sample Age:	48h (3.5 °C)	**Client:**	Eurofins Calscience				

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result	S
19-4122-4526	Cell Density	TST-Welch's t Test	<1.0E-05	100% passed cell density	1

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
19-4122-4526	Cell Density	Control CV	0.04028	<<	0.2	Yes	Passes Criteria
19-4122-4526	Cell Density	Control Resp	1.36E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	8	1.356E+6	1.310E+6	1.401E+6	1.295E+6	1.440E+6	1.930E+4	5.459E+4	4.03%	0.00%
100		8	1.416E+6	1.321E+6	1.510E+6	1.327E+6	1.670E+6	3.995E+4	1.130E+5	7.98%	-4.43%

Cell Density Detail — MD5: BE9B3A9F8991E36B4EDCD350B8629FDD

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.310E+6	1.426E+6	1.358E+6	1.318E+6	1.295E+6	1.376E+6	1.321E+6	1.440E+6
100		1.327E+6	1.396E+6	1.416E+6	1.458E+6	1.329E+6	1.334E+6	1.670E+6	1.394E+6

CETIS Analytical Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	19-4122-4526	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	25 Jan-22 16:13	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:	25 Jan-22 16:12	**MD5 Hash:**	86F2AA4E6069B1257FBB85E68FB2F10A	**Editor ID:**	000-189-126-0
Batch ID:	14-8167-5008	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	06 Jan-22 11:01	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	10 Jan-22 11:20	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	4d 0h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 7d
Sample ID:	10-3308-7683	**Code:**	CSE0122.014	**Project:**	Boeing-SSFL NPDES
Sample Date:	04 Jan-22 11:00	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	04 Jan-22 14:32	**CAS (PC):**		**Station:**	Outfall 018
Sample Age:	48h (3.5 °C)	**Client:**	Eurofins Calscience		

Data Transform	Alt Hyp	TST_b	Comparison Result
Untransformed	C*b < T	0.75	100% passed cell density endpoint

TST-Welch's t Test

Control	vs	Conc-%	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:25%)
Negative Control		100*	9.387	0.7064	8	CDF	<1.0E-05	Non-Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.04028	<<	0.2	Yes	Passes Criteria
Control Resp	1.36E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	1.44E+10	1.44E+10	1	1.829	0.1977	Non-Significant Effect
Error	1.102E+11	7.874E+09	14			
Total	1.246E+11		15			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Levene Equality of Variance Test	0.9967	8.862	0.3350	Equal Variances
	Mod Levene Equality of Variance Test	0.5722	8.862	0.4619	Equal Variances
	Variance Ratio F Test	4.284	8.885	0.0740	Equal Variances
Distribution	Anderson-Darling A2 Test	0.8753	3.878	0.0248	Normal Distribution
	D'Agostino Skewness Test	2.946	2.576	0.0032	Non-Normal Distribution
	Kolmogorov-Smirnov D Test	0.1759	0.2471	0.2094	Normal Distribution
	Shapiro-Wilk W Normality Test	0.8364	0.8408	0.0086	Non-Normal Distribution

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	8	1.356E+6	1.310E+6	1.401E+6	1.340E+6	1.295E+6	1.440E+6	1.930E+4	4.03%	0.00%
100		8	1.416E+6	1.321E+6	1.510E+6	1.395E+6	1.327E+6	1.670E+6	3.995E+4	7.98%	-4.43%

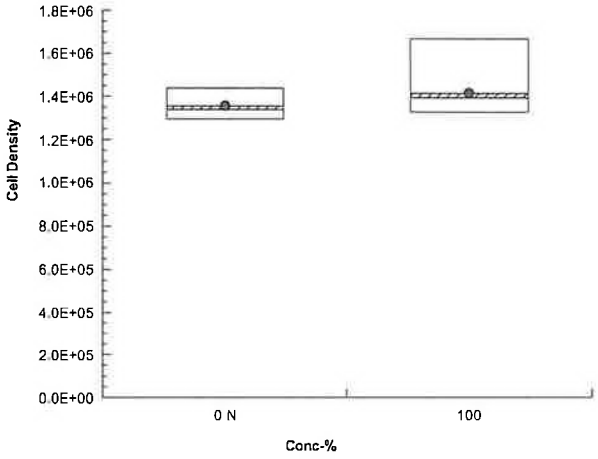
Cell Density Detail

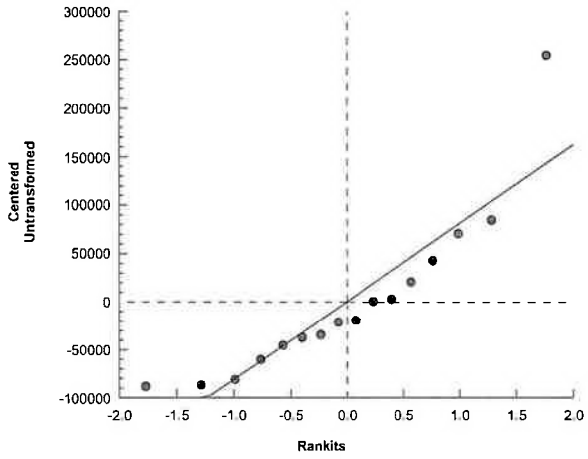
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.310E+6	1.426E+6	1.358E+6	1.318E+6	1.295E+6	1.376E+6	1.321E+6	1.440E+6
100		1.327E+6	1.396E+6	1.416E+6	1.458E+6	1.329E+6	1.334E+6	1.670E+6	1.394E+6

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	19-4122-4526	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	25 Jan-22 16:13	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:	25 Jan-22 16:12	**MD5 Hash:**	86F2AA4E6069B1257FBB85E68FB2F10A	**Editor ID:**	000-189-126-0

Graphics





Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	14-8167-5008	**Test Type:**	Cell Growth	**Analyst:**		
Start Date:	06 Jan-22 11:01	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water	
Ending Date:	10 Jan-22 11:20	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable	
Test Length:	4d 0h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:** 7d

Sample ID:	10-3308-7683	**Code:**	CSE0122.014	**Project:**	Boeing-SSFL NPDES
Sample Date:	04 Jan-22 11:00	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	04 Jan-22 14:32	**CAS (PC):**		**Station:**	Outfall 018
Sample Age:	48h (3.5 °C)	**Client:**	Eurofins Calscience		

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	57	---	---	57	57	---	0	---	0
100		1	46	---	---	46	46	---	0	---	0
Overall		2	51.5	-18.38	121.4	46	57	5.5	7.778	15.10%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	469.2	458.2	480.2	460	484	1.774	8.871	1.89%	0
100		5	432.8	427	438.6	429	440	0.9317	4.658	1.08%	0
Overall		10	451	436.5	465.5	429	484	6.424	20.31	4.50%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	109	---	---	109	109	---	0	---	0
100		1	91	---	---	91	91	---	0	---	0
Overall		2	100	-14.36	214.4	91	109	9	12.73	12.73%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.9	7.812	7.988	7.8	8	0.01414	0.0707	0.89%	0
100		5	7.84	7.729	7.951	7.8	8	0.01789	0.08945	1.14%	0
Overall		10	7.87	7.811	7.929	7.8	8	0.02603	0.08233	1.05%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
100		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
Overall		10	25.8	25.5	26.1	25	26	0.1333	0.4216	1.63%	0 (0%)

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		57					
100				46					

Conductivity-µmhos

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		460					
100				429					
0	N	2		467					
100				430					
0	N	3		468					
100				430					
0	N	4		467					
100				435					
0	N	5		484					
100				440					

Hardness (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		109					
100				91					

pH-Units

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.8					
100				7.8					
0	N	2		7.9					
100				7.8					
0	N	3		7.9					
100				7.8					
0	N	4		7.9					
100				7.8					
0	N	5		8					
100				8					

Temperature-°C

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		26					
100				26					
0	N	2		26					
100				26					
0	N	3		26					
100				26					
0	N	4		26					
100				26					
0	N	5		25					
100				25					

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

2/14/2022

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	**Project Manager: Katherine Miller** 520.269.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs in Blanket Service Agreement# 2C19-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	**Field Manager: Mark Dominick** 978.234.5033, 818.599.0702 (cell)
Sampler: Mark Dominick	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R/A	R	R	R	A	A	A	A	R	QRSW	Comments
									ANALYSIS REQUIRED										
									Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chlorine (toxicity) - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DY-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals: Mercury (E245.1)	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	
																			.014
Outfall 018	Outfall018_20220104_Comp_F	1/4/2022 1100	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall018_20220104_Comp	1/4/2022 * 1100	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~											Extract within 24-Hours of sampling at [illegible] (160)
	Outfall018_20220104_Comp_Extra	1/4/2022 1100	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	~~1~~	None	255	No							H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By: M Dominick	Date/Time: 1-4-2022/1435	Company: H/A	Received By: CS	Date/Time: 01/04/22; 1432	Turn-around time: (Check) 24 Hour: ____ 72 Hour: ____ 10 Day: __X__ 48 Hour: ____ 5 Day: ____ Normal: ____
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:	Sample Integrity: (Check) Intact: ____ On Ice: ____
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time: Temp. deg. C = 3.0 1	Store samples for 6 months. Data Requirements: (Check) No Level IV: ____ All Level IV: __X__

* Hand delivered to ABC Labs by H/A

Chlorine (mg/L) = LO.1

NH3 (mg/L) = LO.1

aquatic bioassay & consulting laboratories, inc

CHRONIC SELENASTRUM GROWTH BIOASSAY

DATE: 6 January - 2021

STANDARD TOXICANT: Cadmium Chloride

NOEC = 20.00 ug/l

IC25 = 66.20 ug/l
IC50 = 136.00 ug/l

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 25 Jan-22 15:49 (p 1 of 1)
Test Code/ID: SEL010622 / 19-6068-6059

Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Batch ID:	04-0871-6453	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	06 Jan-22 11:04	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	10 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	4d 1h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	7d
Sample ID:	05-8955-1529	**Code:**	SEL010622	**Project:**	REF TOX		
Sample Date:	06 Jan-22 11:04	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant		
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX		
Sample Age:	---	**Client:**	Internal Lab				

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	S
17-9444-3655	Cell Density	Dunnett Multiple Comparison Test		20	40	28.28	11.4%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	µg/L	95% LCL	95% UCL	S
11-8061-4337	Cell Density	Linear Interpolation (ICPIN)		IC10	32.99	26.76	53.2	1
				IC15	39.48	30.44	64.2	
				IC20	52.55	29.97	73.88	
				IC25	66.2	42.73	89.41	
				IC40	107.9	89.09	123.8	
				IC50	136	120.6	153.4	

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
11-8061-4337	Cell Density	Control CV	0.04156	<<	0.2	Yes	Passes Criteria
17-9444-3655	Cell Density	Control CV	0.04156	<<	0.2	Yes	Passes Criteria
11-8061-4337	Cell Density	Control Resp	1.76E+6	1000000	>>	Yes	Passes Criteria
17-9444-3655	Cell Density	Control Resp	1.76E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.762E+6	1.645E+6	1.879E+6	1.667E+6	1.845E+6	3.661E+4	7.322E+4	4.16%	0.00%
20		4	1.885E+6	1.579E+6	2.191E+6	1.656E+6	2.068E+6	9.618E+4	1.924E+5	10.20%	-6.99%
40		4	1.543E+6	1.325E+6	1.760E+6	1.419E+6	1.737E+6	6.832E+4	1.366E+5	8.86%	12.44%
80		4	1.276E+6	1.115E+6	1.436E+6	1.177E+6	1.391E+6	5.052E+4	1.010E+5	7.92%	27.61%
140		4	8.855E+5	7.462E+5	1.025E+6	7.730E+5	9.700E+5	4.378E+4	8.756E+4	9.89%	49.74%
180		4	6.262E+5	5.237E+5	7.288E+5	5.490E+5	6.930E+5	3.223E+4	6.445E+4	10.29%	64.46%

Cell Density Detail — MD5: 5D32D8382C52FB4CF0B1C96FCCD75F44

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.761E+6	1.667E+6	1.845E+6	1.775E+6
20		2.018E+6	2.068E+6	1.656E+6	1.799E+6
40		1.737E+6	1.419E+6	1.523E+6	1.492E+6
80		1.328E+6	1.206E+6	1.391E+6	1.177E+6
140		7.730E+5	9.370E+5	9.700E+5	8.620E+5
180		6.930E+5	6.630E+5	6.000E+5	5.490E+5

CETIS Analytical Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	17-9444-3655	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:58	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1
Edit Date:	23 Jan-22 16:55	**MD5 Hash:**	4FF39683B6F639A44296592E1864B33C	**Editor ID:**	000-189-126-0
Batch ID:	04-0871-6453	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	06 Jan-22 11:04	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	10 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	4d 1h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 7d
Sample ID:	05-8955-1529	**Code:**	SEL010622	**Project:**	REF TOX
Sample Date:	06 Jan-22 11:04	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	20	40	28.28	---	200300	11.37%

Dunnett Multiple Comparison Test

Control	vs	Conc-µg/L	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		20	-1.481	2.407	2E+05	6	CDF	0.9956	Non-Significant Effect
		40*	2.635	2.407	2E+05	6	CDF	0.0322	Significant Effect
		80*	5.847	2.407	2E+05	6	CDF	6.1E-05	Significant Effect
		140*	10.53	2.407	2E+05	6	CDF	2.7E-05	Significant Effect
		180*	13.65	2.407	2E+05	6	CDF	2.7E-05	Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.04156	<<	0.2	Yes	Passes Criteria
Control Resp	1.76E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	4.944E+12	9.888E+11	5	71.42	<1.0E-05	Significant Effect
Error	2.492E+11	1.384E+10	18			
Total	5.193E+12		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	4.689	15.09	0.4549	Equal Variances
	Levene Equality of Variance Test	2.608	4.248	0.0607	Equal Variances
	Mod Levene Equality of Variance Test	1.896	4.248	0.1452	Equal Variances
Distribution	Anderson-Darling A2 Test	0.2084	3.878	0.9044	Normal Distribution
	D'Agostino Kurtosis Test	0.08814	2.576	0.9298	Normal Distribution
	D'Agostino Skewness Test	0.03132	2.576	0.9750	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	0.008749	9.21	0.9956	Normal Distribution
	Kolmogorov-Smirnov D Test	0.08117	0.2056	1.0000	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9814	0.884	0.9200	Normal Distribution

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.762E+6	1.645E+6	1.879E+6	1.768E+6	1.667E+6	1.845E+6	3.661E+4	4.16%	0.00%
20		4	1.885E+6	1.579E+6	2.191E+6	1.908E+6	1.656E+6	2.068E+6	9.618E+4	10.20%	-6.99%
40		4	1.543E+6	1.325E+6	1.760E+6	1.508E+6	1.419E+6	1.737E+6	6.832E+4	8.86%	12.44%
80		4	1.276E+6	1.115E+6	1.436E+6	1.267E+6	1.177E+6	1.391E+6	5.052E+4	7.92%	27.61%
140		4	8.855E+5	7.462E+5	1.025E+6	8.995E+5	7.730E+5	9.700E+5	4.378E+4	9.89%	49.74%
180		4	6.262E+5	5.237E+5	7.288E+5	6.315E+5	5.490E+5	6.930E+5	3.223E+4	10.29%	64.46%

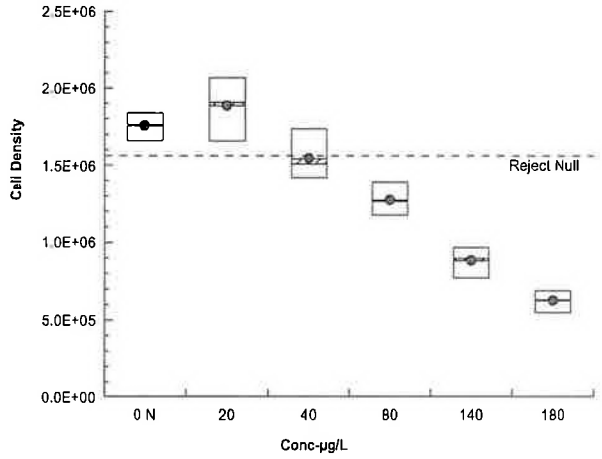
Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

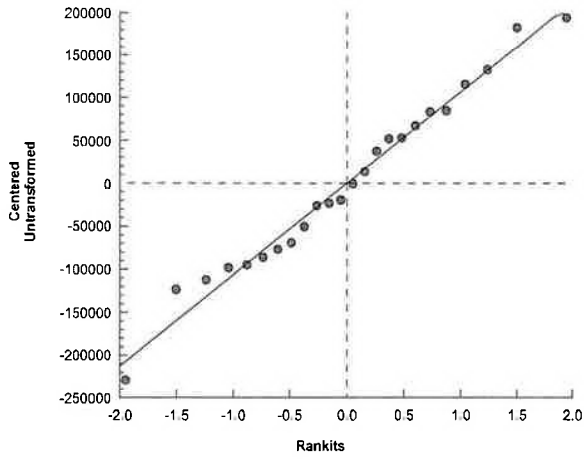
Analysis ID:	17-9444-3655	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:58	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1
Edit Date:	23 Jan-22 16:55	**MD5 Hash:**	4FF39683B6F639A44296592E1864B33C	**Editor ID:**	000-189-126-0

Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.761E+6	1.667E+6	1.845E+6	1.775E+6
20		2.018E+6	2.068E+6	1.656E+6	1.799E+6
40		1.737E+6	1.419E+6	1.523E+6	1.492E+6
80		1.328E+6	1.206E+6	1.391E+6	1.177E+6
140		7.730E+5	9.370E+5	9.700E+5	8.620E+5
180		6.930E+5	6.630E+5	6.000E+5	5.490E+5

Graphics





Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	11-8061-4337	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:58	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	23 Jan-22 16:55	**MD5 Hash:**	4FF39683B6F639A44296592E1864B33C	**Editor ID:**	000-189-126-0
Batch ID:	04-0871-6453	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	06 Jan-22 11:04	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	10 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	4d 1h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 7d
Sample ID:	05-8955-1529	**Code:**	SEL010622	**Project:**	REF TOX
Sample Date:	06 Jan-22 11:04	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.04156	<<	0.2	Yes	Passes Criteria
Control Resp	1.76E+6	1000000	>>	Yes	Passes Criteria

Point Estimates

Level	µg/L	95% LCL	95% UCL
IC10	32.99	26.76	53.2
IC15	39.48	30.44	64.2
IC20	52.55	29.97	73.88
IC25	66.2	42.73	89.41
IC40	107.9	89.09	123.8
IC50	136	120.6	153.4

Cell Density Summary

			Calculated Variate						Isotonic Variate	
Conc-µg/L	**Code**	**Count**	**Mean**	**Median**	**Min**	**Max**	**CV%**	**%Effect**	**Mean**	**%Effect**
0	N	4	1.762E+6	1.768E+6	1.667E+6	1.845E+6	4.16%	0.00%	1.824E+6	0.00%
20		4	1.885E+6	1.908E+6	1.656E+6	2.068E+6	10.20%	-6.99%	1.824E+6	0.00%
40		4	1.543E+6	1.508E+6	1.419E+6	1.737E+6	8.86%	12.44%	1.543E+6	15.40%
80		4	1.276E+6	1.267E+6	1.177E+6	1.391E+6	7.92%	27.61%	1.276E+6	30.06%
140		4	8.855E+5	8.995E+5	7.730E+5	9.700E+5	9.89%	49.74%	8.855E+5	51.44%
180		4	6.262E+5	6.315E+5	5.490E+5	6.930E+5	10.29%	64.46%	6.262E+5	65.66%

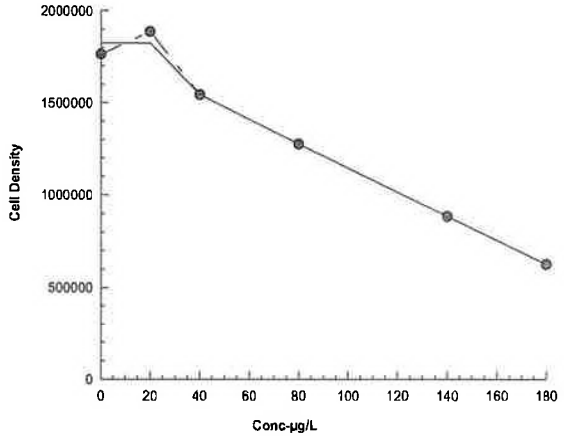
Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.761E+6	1.667E+6	1.845E+6	1.775E+6
20		2.018E+6	2.068E+6	1.656E+6	1.799E+6
40		1.737E+6	1.419E+6	1.523E+6	1.492E+6
80		1.328E+6	1.206E+6	1.391E+6	1.177E+6
140		7.730E+5	9.370E+5	9.700E+5	8.620E+5
180		6.930E+5	6.630E+5	6.000E+5	5.490E+5

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	11-8061-4337	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:58	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	23 Jan-22 16:55	**MD5 Hash:**	4FF39683B6F639A44296592E1864B33C	**Editor ID:**	000-189-126-0

Graphics



Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	04-0871-6453	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	06 Jan-22 11:04	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	10 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	4d 1h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	7d

Sample ID:	05-8955-1529	**Code:**	SEL010622	**Project:**	REF TOX		
Sample Date:	06 Jan-22 11:04	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant		
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX		
Sample Age:	---	**Client:**	Internal Lab				

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	57	---	---	57	57	---	0	---	0
20		1	57	---	---	57	57	---	0	---	0
40		1	57	---	---	57	57	---	0	---	0
80		1	60	---	---	60	60	---	0	---	0
140		1	49	---	---	49	49	---	0	---	0
180		1	51	---	---	51	51	---	0	---	0
Overall		6	55.17	50.74	59.59	49	60	1.721	4.215	7.64%	0 (0%)

Conductivity-µmhos

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	469.2	458.2	480.2	460	484	1.774	8.871	1.89%	0
20		5	481	466.3	495.7	474	502	2.362	11.81	2.46%	0
40		5	465.4	462.5	468.3	462	468	0.4604	2.302	0.49%	0
80		5	445.8	439.3	452.3	440	453	1.053	5.263	1.18%	0
140		5	431.4	427	435.8	426	435	0.7014	3.507	0.81%	0
180		5	397.8	388.9	406.7	391	409	1.438	7.19	1.81%	0
Overall		30	448.4	437.6	459.3	391	502	5.303	29.04	6.48%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	109	---	---	109	109	---	0	---	0
20		1	122	---	---	122	122	---	0	---	0
40		1	137	---	---	137	137	---	0	---	0
80		1	141	---	---	141	141	---	0	---	0
140		1	126	---	---	126	126	---	0	---	0
180		1	125	---	---	125	125	---	0	---	0
Overall		6	126.7	114.7	138.6	109	141	4.652	11.4	9.00%	0 (0%)

pH-Units

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.9	7.812	7.988	7.8	8	0.01414	0.0707	0.89%	0
20		5	7.82	7.658	7.982	7.7	8	0.02608	0.1304	1.67%	0
40		5	7.8	7.648	7.952	7.7	8	0.0245	0.1225	1.57%	0
80		5	7.78	7.618	7.942	7.7	8	0.02608	0.1304	1.68%	0
140		5	7.76	7.593	7.927	7.7	8	0.02683	0.1342	1.73%	0
180		5	7.76	7.593	7.927	7.7	8	0.02683	0.1342	1.73%	0
Overall		30	7.803	7.758	7.849	7.7	8	0.02222	0.1217	1.56%	0 (0%)

Temperature-°C

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
20		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
40		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
80		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
140		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
180		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
Overall		30	25.8	25.65	25.95	25	26	0.07428	0.4068	1.58%	0 (0%)

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		57					
20				57					
40				57					
80				60					
140				49					
180				51					

Conductivity-µmhos

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		460					
20				477					
40				467					
80				449					
140				426					
180				391					
0	N	2		467					
20				477					
40				462					
80				440					
140				430					
180				392					
0	N	3		468					
20				475					
40				465					
80				442					
140				433					
180				399					
0	N	4		467					
20				474					
40				465					
80				445					
140				435					
180				398					
0	N	5		484					
20				502					
40				468					
80				453					
140				433					
180				409					

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		109					
20				122					
40				137					
80				141					
140				126					
180				125					

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

pH-Units

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.8					
20				7.7					
40				7.7					
80				7.7					
140				7.7					
180				7.7					
0	N	2		7.9					
20				7.7					
40				7.7					
80				7.7					
140				7.7					
180				7.7					
0	N	3		7.9					
20				7.8					
40				7.8					
80				7.7					
140				7.7					
180				7.7					
0	N	4		7.9					
20				7.9					
40				7.8					
80				7.8					
140				7.7					
180				7.7					
0	N	5		8					
20				8					
40				8					
80				8					
140				8					
180				8					

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Temperature-°C

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		26					
20				26					
40				26					
80				26					
140				26					
180				26					
0	N	2		26					
20				26					
40				26					
80				26					
140				26					
180				26					
0	N	3		26					
20				26					
40				26					
80				26					
140				26					
180				26					
0	N	4		26					
20				26					
40				26					
80				26					
140				26					
180				26					
0	N	5		25					
20				25					
40				25					
80				25					
140				25					
180				25					

80545

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80545 Chain of Custody

Client Name/Address Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108	Project: Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **ECI #44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606. 520.904.6944 (cell)
Sampler: Mark Dominick /Michelle Dallalah	Field Manager: Mark Dominick 978.234.5033. 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	ANALYSIS REQUIRED: Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl (R/A)	TCDD (and all congeners) (E1613B) (R)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc)) (R)	Surfactants (MBAS) (SM5540C/E425.1) (R)	Cl- F- SO4 Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300) (R/A)	Turbidity TDS (SM2540C/E180.1) (R)	TSS (160.2 (SM2540D)) (R)	Ammonia-N (E350.2) (R)	Priority Pollutants-Pesticides+PCBs (E608) (A)	Priority Pollutants-SVOCs (E625) (A)	Total Recoverable Metals, Mercury (E245.1) (R)	Comments
Outfall 018	Outfall018_20220104_Comp	1/4/2022 1100	WM	500 mL Poly	1	HNO_3	80	No	X											X	
			WM	1 L Glass Amber	2	None	110	No		X											
			WM	1 L Poly	1	None	115	No			X										
			WM	500 mL Poly	2	None	120	No				X									
			WM	500 mL Poly	2	None	125	No					X								48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X							48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X					
			WM	1 L Glass Amber	2	None	250	No									X				
			WM	1 L Glass Amber	2	None	175	No										X			
			WM	1 L Poly	1	None	185	No							X						
	Outfall018_20220104_Comp_Extra	1/4/2022 1100	WM	1 L Glass Amber	2	None	110	No		H											Hold
			WM	500 mL Poly	2	None	120	No				H									Hold
			WM	500 mL Poly	2	None	125	No					H								Hold
			WM	1 L Glass Amber	2	None	250	No										H			Hold
			WM	1 L Glass Amber	2	None	175	No											H		Hold

Legend: A=Annual, R=Routine

Relinquished By: Michelle Dallalah	Date/Time: 1/4/2022 1400	Company: Haley&Aldrich	Received By: ECI
Relinquished By:	Date/Time: 01104/22 17.00	Company:	Received By:	Date/Time: 1/4/22 1700
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:

Received By: ECI Date/Time: 01104/22 14:00

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day: __X__
48 Hour _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

1.8/3.3, 2 3/3 8 SCG

2/14/2022

2019-2020 Rainy Season
Version 5

80545

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

									R/A	R	R	R	A	A	A	A	R	QRSW	
Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Eurofins Calscience Irvine Contact: Virendra Patel ECI #44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218									Project: Boeing-SSFL NPDES Permit 2022 Annual Outfall [001, 002, 011, 018] Outfall 018 Comp									ANALYSIS REQUIRED		
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.									Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)											
Sampler: Mark Dominick / Michelle Dallalah									Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)											
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8) Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0) Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)	Chlorpyrifos, Diazinon (E525.2) Week Labs in Hacienda Heights, CA	Comments
Outfall 018	Outfall018_20220104_Comp_F	1/4/2022 1100	WM	1 L Poly	1	None	190	No	X											Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X			Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall018_20220104_Comp	1/4/2022 1100 *	WM	500 mL Poly	1	NaOH	220	No		X										
			WM	2.5 Gal Cube	1	None	225	No		\	X									Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No												
			WM	1 Gal Cube	6	None	235	No				X								Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X							
			WM	1 L Glass Amber	1	HCl	245	No						X						
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X					
			WM	500 mL Poly	1	None	260	No								X				
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	275	~~No~~										X		Extract within 24-Hours of sampling at Week Labs at OF-001,002,011, or 018.
	Outfall018_20220104_Comp_Extra	1/4/2022 1100	WM	40 mL VOA	3	HCl	240	No					H							Hold
			WM	1 L Glass Amber	~~1~~	None	255	No							H					Hold

Legend A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By: Michelle Dallalah	Date/Time: 1/4/2022 1400	Company: Haley & Aldrich	Received By:	Date/Time: ECI 01/04/22 1400	Turn-around time: (Check) 24 Hour: ____ 72 Hour: ____ 10 Day: __X__ 48 Hour: ____ 5 Day: ____ Normal: ____
Relinquished By:	Date/Time: 01/04/22 17:00	Company:	Received By:	Date/Time: 1/4/22 1700	Sample Integrity: (Check) Intact: ____ On Ice: ____
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:	Store samples for 6 months. Data Requirements: (Check) No Level IV: ____ All Level IV: __X__

* Hand delivered to ABC Labs by HA

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-149015 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80545-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/1/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall18_20220104_Comp (570-80545-1)	1/4/22	11 00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	Relinquished by	Date/Time: 1/5/22 1338	Company	Received by	Date/Time	Company
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/14/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149037 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80545-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/25/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall18_20220104_Comp (570-80545-1)	1/4/22	11 00 Pacific		Water			X		1	Level IV needed
Outfall18_20220104_Comp_Extra (570-80545-2)	1/4/22	11 00 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time.	Method of Shipment:

Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by:	Date/Time: 1/5/22 1442	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-149048 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80545-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/20/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall18_20220104_Comp (570-80545-1)	1/4/22	11 00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L Use Boeing glassware
Outfall18_20220104_Comp_Extra (570-80545-2)	1/4/22	11 00 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time: 1/5/22 1610	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/14/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80545-5

Login Number: 80545
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80638-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/20/2022 7:43:35 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-80638-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Qualifiers

General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80638-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Client Sample ID: Outfall018_20220104_Grab
Lab Sample ID: 570-80638-1

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	330		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: TB-20220104
Lab Sample ID: 570-80638-3

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80638-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall018_20220104_Grab
Lab Sample ID: 570-80638-1
Date Collected: 01/04/22 11:20
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/11/22 01:33	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/11/22 01:33	1
Trichloroethene	ND		0.50	0.17	ug/L			01/11/22 01:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*60 - 140*		*01/11/22 01:33*	*1*
Dibromofluoromethane (Surr)	*115*		*60 - 140*		*01/11/22 01:33*	*1*
Toluene-d8 (Surr)	*99*		*60 - 140*		*01/11/22 01:33*	*1*

Client Sample ID: TB-20220104
Lab Sample ID: 570-80638-3
Date Collected: 01/04/22 11:20
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/11/22 02:00	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/11/22 02:00	1
Trichloroethene	ND		0.50	0.17	ug/L			01/11/22 02:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*60 - 140*		*01/11/22 02:00*	*1*
Dibromofluoromethane (Surr)	*116*		*60 - 140*		*01/11/22 02:00*	*1*
Toluene-d8 (Surr)	*98*		*60 - 140*		*01/11/22 02:00*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80638-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

General Chemistry

Client Sample ID: Outfall018_20220104_Grab
Lab Sample ID: 570-80638-1
Date Collected: 01/04/22 11:20
Matrix: Water
Date Received: 01/04/22 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.53	mg/L		01/13/22 08:40	01/13/22 08:40	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	**330**		1.0	1.0	umhos/cm			01/06/22 12:00	1
Settleable Solids	ND	BU	0.10	0.10	mL/L/Hr			01/18/22 14:31	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80638-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
		BFB	DBFM	TOL						
Lab Sample ID	Client Sample ID	(60-140)	(60-140)	(60-140)						
570-79597-G-1 MS	Matrix Spike	97	106	92						
570-79597-G-1 MSD	Matrix Spike Duplicate	95	104	99						
570-80638-1	Outfall018_20220104_Grab	99	115	99						
570-80638-3	TB-20220104	97	116	98						
LCS 440-664145/1002	Lab Control Sample	99	102	99						
MB 440-664145/4	Method Blank	94	108	98						

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-664145/4
Matrix: Water
Analysis Batch: 664145

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/10/22 16:51	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/10/22 16:51	1
Trichloroethene	ND		0.50	0.17	ug/L			01/10/22 16:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*60 - 140*		*01/10/22 16:51*	*1*
Dibromofluoromethane (Surr)	*108*		*60 - 140*		*01/10/22 16:51*	*1*
Toluene-d8 (Surr)	*98*		*60 - 140*		*01/10/22 16:51*	*1*

Lab Sample ID: LCS 440-664145/1002
Matrix: Water
Analysis Batch: 664145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	25.0	28.5		ug/L		114	19 - 212
1,2-Dichloroethane	25.0	23.8		ug/L		95	72 - 137
Trichloroethene	25.0	26.9		ug/L		108	75 - 138

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*60 - 140*
Dibromofluoromethane (Surr)	*102*		*60 - 140*
Toluene-d8 (Surr)	*99*		*60 - 140*

Lab Sample ID: 570-79597-G-1 MS
Matrix: Water
Analysis Batch: 664145

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	3.1		25.0	31.1		ug/L		112	10 - 234
1,2-Dichloroethane	ND		25.0	25.5		ug/L		102	49 - 155
Trichloroethene	4.8		25.0	32.3		ug/L		110	70 - 157

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*60 - 140*
Dibromofluoromethane (Surr)	*106*		*60 - 140*
Toluene-d8 (Surr)	*92*		*60 - 140*

Lab Sample ID: 570-79597-G-1 MSD
Matrix: Water
Analysis Batch: 664145

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	3.1		25.0	27.6		ug/L		98	10 - 234	12	32
1,2-Dichloroethane	ND		25.0	24.7		ug/L		99	49 - 155	3	49
Trichloroethene	4.8		25.0	30.7		ug/L		104	70 - 157	5	48

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-79597-G-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664145

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*60 - 140*
Dibromofluoromethane (Surr)	*104*		*60 - 140*
Toluene-d8 (Surr)	*99*		*60 - 140*

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-207196/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207327 — **Prep Batch: 207196**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		01/13/22 08:40	01/13/22 08:40	1

Lab Sample ID: LCS 570-207196/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207327 — **Prep Batch: 207196**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM (Oil & Grease)	40.0	37.9		mg/L		95	78 - 114

Lab Sample ID: LCSD 570-207196/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207327 — **Prep Batch: 207196**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM (Oil & Grease)	40.0	37.7		mg/L		94	78 - 114	1	18

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 440-663912/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 663912

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			01/06/22 12:00	1

Lab Sample ID: LCS 440-663912/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 663912

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	687	663		umhos/cm		96	90 - 110

Lab Sample ID: 570-80637-D-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 663912

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	370		372		umhos/cm		0.4	5

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80638-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

GC/MS VOA

Analysis Batch: 664145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80638-1	Outfall018_20220104_Grab	Total/NA	Water	624.1	
570-80638-3	TB-20220104	Total/NA	Water	624.1	
MB 440-664145/4	Method Blank	Total/NA	Water	624.1	
LCS 440-664145/1002	Lab Control Sample	Total/NA	Water	624.1	
570-79597-G-1 MS	Matrix Spike	Total/NA	Water	624.1	
570-79597-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	624.1	

General Chemistry

Prep Batch: 207196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80638-1	Outfall018_20220104_Grab	Total/NA	Water	1664A	
MB 570-207196/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-207196/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-207196/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

Analysis Batch: 207327

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80638-1	Outfall018_20220104_Grab	Total/NA	Water	1664A	207196
MB 570-207196/1-A	Method Blank	Total/NA	Water	1664A	207196
LCS 570-207196/2-A	Lab Control Sample	Total/NA	Water	1664A	207196
LCSD 570-207196/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	207196

Analysis Batch: 663912

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80638-1	Outfall018_20220104_Grab	Total/NA	Water	SM 2510B	
MB 440-663912/3	Method Blank	Total/NA	Water	SM 2510B	
LCS 440-663912/4	Lab Control Sample	Total/NA	Water	SM 2510B	
570-80637-D-1 DU	Duplicate	Total/NA	Water	SM 2510B	

Analysis Batch: 664736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80638-1	Outfall018_20220104_Grab	Total/NA	Water	SM 2540F	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80638-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Client Sample ID: Outfall018_20220104_Grab
Lab Sample ID: 570-80638-1
Date Collected: 01/04/22 11:20
Matrix: Water
Date Received: 01/04/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	664145	01/11/22 01:33	A1W	IRV 2
	Instrument ID: GCMS32									
Total/NA	Prep	1664A			968 mL	1000 mL	207196	01/13/22 08:40	UWEZ	ECL 1
Total/NA	Analysis	1664A		1			207327	01/13/22 08:40	L6IE	ECL 1
	Instrument ID: NO EQUIQ									
Total/NA	Analysis	SM 2510B		1			663912	01/06/22 12:00	VY3D	IRV 2
	Instrument ID: COND13									
Total/NA	Analysis	SM 2540F		1	1000 mL	1000 mL	664736	01/18/22 14:31	W1BQ	IRV 2
	Instrument ID: NOEQUIP									

Client Sample ID: TB-20220104
Lab Sample ID: 570-80638-3
Date Collected: 01/04/22 11:20
Matrix: Water
Date Received: 01/04/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	664145	01/11/22 02:00	A1W	IRV 2
	Instrument ID: GCMS32									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80638-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80638-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	IRV 2
1664A	HEM and SGT-HEM	1664A	ECL 1
SM 2510B	Conductivity, Specific Conductance	SM	IRV 2
SM 2540F	Solids, Settleable	SM	IRV 2
1664A	HEM and SGT-HEM (Aqueous)	1664A	ECL 1

Protocol References:

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80638-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80638-1	Outfall018_20220104_Grab	Water	01/04/22 11:20	01/04/22 17:00
570-80638-3	TB-20220104	Water	01/04/22 11:20	01/04/22 17:00

80638

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address.
Haley & Aldrich
5333 Mission Center Rd Suite 300
San Diego, CA 92108

Eurofins Calscience Irvine Contact: Virendra Patel
17461 Derian Ave Suite #100
Irvine CA 92614
Tel 949-260-3218

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiar es and affiliates, and TestAmerica Laboratories Inc.

Sampler: michelle dallalah

Project
Boeing-SSFL NPDES
Permit 2022
Routine Outfall [001, 002, 011, 018]
Outfall 018
Grab

Project Manager: Katherine Miller
520.289.8606, 520.904.6944 (cell)

Field Manager: Mark Dominick
978.234.5033, 818.599 0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R Oil & Grease (E1664A-HEM)	R VOCs - only 1,1-DCE, 1,2-DCA, TCE (E624)	R Settleable Solids (E160.5 (SM2540F))	R Conductivity (SM2510B / E120.1)	Comments
Outfall 018	Outfall018_20220104_Grab	1/4/2022 1120	WM	1 L Glass Amber	2	HCl	15	No	X				
			WM	40 mL VOA	3	HCl	30	No		X			
			WM	1L Poly	1	None	70	No			X		
			WM	500 mL Poly	1	None	75	No				X	
	Outfall018_20220104_Grab_Extra	1/4/2022 1120	WM	1 L Glass Amber	2	HCl	15	No	H				Hold
			WM	40 mL VOA	3	HCl	30	No		H			Hold
			WM	500 mL Poly	1	None	75	No				H	Hold
Trip Blanks	TB-20220104	1/4/2022	WQ	40 mL VOA	3	HCl	30	No		X			

Field Readings | Meter serial #

Field Readings: (Include units)
Time of Readings: 11:10 AM
DO [illegible] mg/L 10.15mg/L
pH [illegible] pH unit 7.24 pH
Temp [illegible] °C/°F 50.7°F

Field readings QC
Checked by: Michelle Dallalah
Date/Time: 11:10 AM

570-80638 Chain of Custody

Legend: R=Routine

Relinquished By	Date/Time	Company	Received By	Date/Time
Michelle Dallalah	1/4/2022 1400	Haley & Aldrich	[illegible]	01/04/22 1400
[illegible]	01/04/22 1700	EC1	[illegible]	01/4/22 1700

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: X
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: X

2.6/4.1 SCC

1/20/2022

2019-2020 Rainy Season
Version 4

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148948 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80638-1
Address: 2841 Dow Avenue	Due Date Requested: 1/14/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Grab	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A HCL	M - Hexane
B NaOH	N - None
C Zn Acetate	O AsNaO2
D Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2540F/ Solids, Settleable	624.1_LL/624_Prep 624.1_LL-12DCA, 11DCE, TCE	2510B	624.1_LL/624_Prep 624.1_LL-12DCA, 11DCE, TCE (Hold)	2510B (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
Outfall018_20220104_Grab (570-80638-1)	1/4/22	11 20 Pacific		Water			X	X	X			3	
Outfall018_20220104_Grab_Extra (570-80638-2)	1/4/22	11 20 Pacific		Water						X	X	3	
TB-20220104 (570-80638-3)	1/4/22	11 20 Pacific		Water				X				3	

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II, III IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements. ER-89 1.4/1.4

Empty Kit Relinquished by	Date	Time	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	01/05/22	EZI			
Relinquished by	Date/Time	Company	Received by: Olga Olmedas	Date/Time 01/05/22 1130	Company EGT
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80638-1

Login Number: 80638
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80638-1

Login Number: 80638
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 01/05/22 01:07 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80749-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp
Revision: 1

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/28/2022 4:57:12 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

GC Semi VOA

Qualifier	Qualifier Description
PI	Primary and confirm results varied by > than 40% RPD

HPLC/IC

Qualifier	Qualifier Description
EY	Result exceeds normal dynamic range; reported as a min. est.
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

Metals

Qualifier	Qualifier Description
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TNTC	Too Numerous To Count

Client: Haley & Aldrich, Inc. Job ID: 570-80749-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Job ID: 570-80749-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80749-1

Comments
No additional comments.

Receipt
The samples were received on 1/5/2022 6:25 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.1º C, 3.5º C and 3.6º C.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method Filtration: The following samples were not filtered within 15 minutes of sample collection as required by the method: Outfall018_20220105_F (570-80749-3), (570-80749-A-3 MS) and (570-80749-A-3 MSD). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall018_20220105_F (570-80749-3). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with insufficient time to filter within the HT.

01/07/21 @ 19:18 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall018_20220105_F (570-80749-3). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with insufficient time to filter within the HT.

01/07/21 @ 19:54 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method 180.1: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: Outfall018_20220105_Comp (570-80749-1).

Method SM5210B: The following sample underdepleted: Outfall018_20220105_Comp (570-80749-1). Results have been reported and may be biased high.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with

Job ID: 570-80749-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

preparation batch 570-205520. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 625.1 Sim

Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-206098. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 608/608 LL

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	1.9	J,DX	5.0	1.8	ug/L	1		625.1 SIM	Total/NA
Chloride	4.9		1.0	0.36	mg/L	1		300.0	Total/NA
Nitrate as N	3.7		0.10	0.024	mg/L	1		300.0	Total/NA
Sulfate	95		1.0	0.24	mg/L	1		300.0	Total/NA
Nitrate Nitrite as N	3.7		0.20	0.071	mg/L	1		NO2NO3 Calc	Total/NA
Iron	530		100	50	ug/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	16	J,DX	20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Copper	1.6	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Turbidity	0.20	BU	0.10	0.05	NTU	1		180.1	Total/NA
Total Dissolved Solids	220		10	3.0	mg/L	1		SM 2540C	Total/NA
Ammonia (as N)	0.222		0.200	0.100	mg/L	1		SM 4500 NH3 G	Total/NA

Client Sample ID: Outfall018_20220105_Comp_F
Lab Sample ID: 570-80749-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	12	J,DX	20	6.8	ug/L	1		200.7 Rev 4.4	Dissolved
Copper	1.7	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.12	J,DX BU	0.25	0.12	ug/L	1		245.1	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.068	ug/L		01/06/22 05:37	01/07/22 12:29	1
2,4-Dinitrotoluene	ND		0.20	0.11	ug/L		01/06/22 05:37	01/07/22 12:29	1
Bis(2-ethylhexyl) phthalate	**1.9**	**J,DX**	5.0	1.8	ug/L		01/06/22 05:37	01/07/22 12:29	1
N-Nitrosodimethylamine	ND		0.20	0.14	ug/L		01/06/22 05:37	01/07/22 12:29	1
Pentachlorophenol	ND		1.0	0.11	ug/L		01/06/22 05:37	01/07/22 12:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*46*		*31 - 120*	*01/06/22 05:37*	*01/07/22 12:29*	*1*
Phenol-d6 (Surr)	*24*		*10 - 120*	*01/06/22 05:37*	*01/07/22 12:29*	*1*
p-Terphenyl-d14 (Surr)	*68*		*45 - 120*	*01/06/22 05:37*	*01/07/22 12:29*	*1*
2,4,6-Tribromophenol	*73*		*28 - 127*	*01/06/22 05:37*	*01/07/22 12:29*	*1*
2-Fluorophenol	*36*		*17 - 120*	*01/06/22 05:37*	*01/07/22 12:29*	*1*
Nitrobenzene-d5	*49*		*27 - 120*	*01/06/22 05:37*	*01/07/22 12:29*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.00080	ug/L		01/07/22 08:26	01/11/22 17:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*35*	*PI*	*20 - 139*	*01/07/22 08:26*	*01/11/22 17:27*	*1*
DCB Decachlorobiphenyl (Surr)	*31*		*20 - 154*	*01/07/22 08:26*	*01/11/22 17:27*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4.9**		1.0	0.36	mg/L			01/06/22 18:06	1
Nitrite as N	ND		0.10	0.018	mg/L			01/06/22 18:06	1
Nitrate as N	**3.7**		0.10	0.024	mg/L			01/06/22 18:06	1
Sulfate	**95**		1.0	0.24	mg/L			01/06/22 18:06	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 314.0 - Perchlorate (IC)

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/07/22 15:58	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	3.7		0.20	0.071	mg/L			01/09/22 11:32	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/20/22 06:32	01/20/22 17:10	1
Iron	**530**		100	50	ug/L		01/20/22 06:32	01/20/22 17:10	1
Manganese	**16**	**J,DX**	20	6.8	ug/L		01/20/22 06:32	01/20/22 17:10	1
Zinc	ND		20	12	ug/L		01/20/22 06:32	01/20/22 17:10	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: Outfall018_20220105_Comp_F
Lab Sample ID: 570-80749-3
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/10/22 08:35	01/10/22 15:51	1
Iron	ND		100	50	ug/L		01/10/22 08:35	01/10/22 15:51	1
Manganese	**12**	**J,DX**	20	6.8	ug/L		01/10/22 08:35	01/10/22 15:51	1
Zinc	ND		20	12	ug/L		01/10/22 08:35	01/10/22 15:51	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/20/22 06:46	01/20/22 13:49	1
Copper	**1.6**	**J,DX**	2.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:49	1
Lead	ND		1.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:49	1
Selenium	ND		2.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:49	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall018_20220105_Comp_F
Lab Sample ID: 570-80749-3
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/10/22 08:31	01/10/22 13:03	1
Copper	**1.7**	**J,DX**	2.0	0.50	ug/L		01/10/22 08:31	01/10/22 13:03	1
Lead	ND		1.0	0.50	ug/L		01/10/22 08:31	01/10/22 13:03	1
Selenium	ND		2.0	0.50	ug/L		01/10/22 08:31	01/10/22 13:03	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 245.1 - Mercury (CVAA)

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/17/22 17:42	01/18/22 18:04	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall018_20220105_Comp_F
Lab Sample ID: 570-80749-3
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.12	J,DX BU	0.25	0.12	ug/L		01/24/22 16:25	01/25/22 14:42	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

General Chemistry

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	**0.20**	**BU**	0.10	0.05	NTU			01/19/22 18:30	1
Total Dissolved Solids	**220**		10	3.0	mg/L			01/11/22 10:10	1
Total Suspended Solids	ND		1.0	0.50	mg/L			01/07/22 15:00	1
Cyanide, Total	ND		0.0030	0.0014	mg/L		01/18/22 12:00	01/18/22 23:40	1
Ammonia (as N)	**0.222**		0.200	0.100	mg/L			01/07/22 12:03	1
MBAS	ND		0.30	0.15	mg/L		01/05/22 21:30	01/05/22 23:05	1
Biochemical Oxygen Demand	ND		3.0	3.0	mg/L			01/06/22 20:27	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	PHL6	TPHd14	TBP	2FP	NBZ
Lab Sample ID	Client Sample ID	(31-120)	(10-120)	(45-120)	(28-127)	(17-120)	(27-120)
570-80749-1	Outfall018_20220105_Comp	46	24	68	73	36	49
LCS 570-205520/2-A	Lab Control Sample	59	32	80	85	49	65
LCSD 570-205520/3-A	Lab Control Sample Dup	65	33	79	81	50	67
MB 570-205520/1-A	Method Blank	64	31	72	91	50	71

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
PHL6 = Phenol-d6 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)
TBP = 2,4,6-Tribromophenol
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5

Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		TCX1	DCB1
Lab Sample ID	Client Sample ID	(20-139)	(20-154)
570-80749-1	Outfall018_20220105_Comp	35 PI	31
LCS 570-206098/2-A	Lab Control Sample	76	76
LCSD 570-206098/3-A	Lab Control Sample Dup	74	77
MB 570-206098/1-A	Method Blank	55 PI	64

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl (Surr)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-205520/1-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205520

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.067	ug/L		01/05/22 06:03	01/05/22 17:08	1
2,4-Dinitrotoluene	ND		0.20	0.11	ug/L		01/05/22 06:03	01/05/22 17:08	1
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		01/05/22 06:03	01/05/22 17:08	1
N-Nitrosodimethylamine	ND		0.20	0.14	ug/L		01/05/22 06:03	01/05/22 17:08	1
Pentachlorophenol	ND		1.0	0.11	ug/L		01/05/22 06:03	01/05/22 17:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*64*		*31 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
Phenol-d6 (Surr)	*31*		*10 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
p-Terphenyl-d14 (Surr)	*72*		*45 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
2,4,6-Tribromophenol	*91*		*28 - 127*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
2-Fluorophenol	*50*		*17 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
Nitrobenzene-d5	*71*		*27 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*

Lab Sample ID: LCS 570-205520/2-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205520

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,6-Trichlorophenol	20.0	16.3		ug/L		81	52 - 129
2,4-Dinitrotoluene	20.0	16.5		ug/L		82	48 - 127
Bis(2-ethylhexyl) phthalate	20.0	20.2		ug/L		101	29 - 137
N-Nitrosodimethylamine	20.0	11.8		ug/L		59	30 - 100
Pentachlorophenol	20.0	15.1		ug/L		76	38 - 152

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*59*		*31 - 120*
Phenol-d6 (Surr)	*32*		*10 - 120*
p-Terphenyl-d14 (Surr)	*80*		*45 - 120*
2,4,6-Tribromophenol	*85*		*28 - 127*
2-Fluorophenol	*49*		*17 - 120*
Nitrobenzene-d5	*65*		*27 - 120*

Lab Sample ID: LCSD 570-205520/3-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205520

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4,6-Trichlorophenol	20.0	16.7		ug/L		84	52 - 129	3	35
2,4-Dinitrotoluene	20.0	16.0		ug/L		80	48 - 127	3	25
Bis(2-ethylhexyl) phthalate	20.0	19.7		ug/L		98	29 - 137	3	50
N-Nitrosodimethylamine	20.0	10.9		ug/L		55	30 - 100	8	20
Pentachlorophenol	20.0	14.2		ug/L		71	38 - 152	6	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*65*		*31 - 120*
Phenol-d6 (Surr)	*33*		*10 - 120*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-205520/3-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205520

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
p-Terphenyl-d14 (Surr)	*79*		*45 - 120*
2,4,6-Tribromophenol	*81*		*28 - 127*
2-Fluorophenol	*50*		*17 - 120*
Nitrobenzene-d5	*67*		*27 - 120*

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-206098/1-A
Matrix: Water
Analysis Batch: 206435

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 206098

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.00080	ug/L		01/07/22 08:26	01/11/22 16:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*55*	*PI*	*20 - 139*	*01/07/22 08:26*	*01/11/22 16:30*	*1*
DCB Decachlorobiphenyl (Surr)	*64*		*20 - 154*	*01/07/22 08:26*	*01/11/22 16:30*	*1*

Lab Sample ID: LCS 570-206098/2-A
Matrix: Water
Analysis Batch: 206925

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 206098

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
alpha-BHC			0.0333	0.0302		ug/L		91	37 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*76*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*76*		*20 - 154*

Lab Sample ID: LCSD 570-206098/3-A
Matrix: Water
Analysis Batch: 206925

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 206098

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
alpha-BHC			0.0333	0.0305		ug/L		91	37 - 140	1	36

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*74*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*77*		*20 - 154*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-205908/5
Matrix: Water
Analysis Batch: 205908

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.36	mg/L			01/06/22 12:29	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 570-205908/5
Matrix: Water
Analysis Batch: 205908

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.24	mg/L			01/06/22 12:29	1

Lab Sample ID: LCS 570-205908/6
Matrix: Water
Analysis Batch: 205908

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			50.0	47.9		mg/L		96	90 - 110		
Fluoride			2.50	2.54		mg/L		102	90 - 110		
Sulfate			50.0	49.2		mg/L		98	90 - 110		

Lab Sample ID: LCSD 570-205908/7
Matrix: Water
Analysis Batch: 205908

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			50.0	47.6		mg/L		95	90 - 110	1	15
Fluoride			2.50	2.50		mg/L		100	90 - 110	1	15
Sulfate			50.0	48.8		mg/L		98	90 - 110	1	15

Lab Sample ID: 570-80778-E-1 MS
Matrix: Water
Analysis Batch: 205908

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	50		50.0	104	EY	mg/L		108	80 - 120		
Fluoride	0.33		2.50	2.91		mg/L		103	80 - 120		
Sulfate	140	EY	50.0	198	EY	mg/L		120	80 - 120		

Lab Sample ID: 570-80778-E-1 MSD
Matrix: Water
Analysis Batch: 205908

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50		50.0	106	EY	mg/L		114	80 - 120	3	20
Fluoride	0.33		2.50	3.02		mg/L		107	80 - 120	4	20
Sulfate	140	EY	50.0	201	EY LM	mg/L		126	80 - 120	1	20

Lab Sample ID: MB 570-205909/5
Matrix: Water
Analysis Batch: 205909

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			01/06/22 12:29	1
Nitrate as N	ND		0.10	0.024	mg/L			01/06/22 12:29	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 570-205909/6
Matrix: Water
Analysis Batch: 205909

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N			2.50	2.41		mg/L		96	90 - 110		
Nitrate as N			5.00	4.95		mg/L		99	90 - 110		

Lab Sample ID: LCSD 570-205909/7
Matrix: Water
Analysis Batch: 205909

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N			2.50	2.50		mg/L		100	90 - 110	3	15
Nitrate as N			5.00	4.92		mg/L		98	90 - 110	1	15

Lab Sample ID: 570-80778-E-1 MS
Matrix: Water
Analysis Batch: 205909

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N	ND		2.50	2.41		mg/L		96	80 - 120		
Nitrate as N	5.8		5.00	11.3	EY	mg/L		110	80 - 120		

Lab Sample ID: 570-80778-E-1 MSD
Matrix: Water
Analysis Batch: 205909

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	ND		2.50	2.44		mg/L		98	80 - 120	1	20
Nitrate as N	5.8		5.00	11.3	EY	mg/L		110	80 - 120	0	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-206102/6
Matrix: Water
Analysis Batch: 206102

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/07/22 10:40	1

Lab Sample ID: LCS 570-206102/7
Matrix: Water
Analysis Batch: 206102

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			25.0	25.3		ug/L		101	85 - 115		

Lab Sample ID: LCSD 570-206102/8
Matrix: Water
Analysis Batch: 206102

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate			25.0	23.3		ug/L		93	85 - 115	9	15

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: 570-80749-1 MS
Matrix: Water
Analysis Batch: 206102

Client Sample ID: Outfall018_20220105_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	ND		50.0	56.1		ug/L		112	80 - 120

Lab Sample ID: 570-80749-1 MSD
Matrix: Water
Analysis Batch: 206102

Client Sample ID: Outfall018_20220105_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		50.0	56.4		ug/L		113	80 - 120	0	15

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-664923/1-A
Matrix: Water
Analysis Batch: 665020

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664923

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/20/22 06:32	01/20/22 16:07	1
Iron	ND		100	50	ug/L		01/20/22 06:32	01/20/22 16:07	1
Manganese	ND		20	6.8	ug/L		01/20/22 06:32	01/20/22 16:07	1
Zinc	ND		20	12	ug/L		01/20/22 06:32	01/20/22 16:07	1

Lab Sample ID: LCS 440-664923/2-A
Matrix: Water
Analysis Batch: 665020

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664923

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	489		ug/L		98	85 - 115
Iron	500	500		ug/L		100	85 - 115
Manganese	500	500		ug/L		100	85 - 115
Zinc	500	499		ug/L		100	85 - 115

Lab Sample ID: 440-294369-A-1-B MS
Matrix: Water
Analysis Batch: 665020

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664923

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		500	565		ug/L		113	70 - 130
Iron	1900		500	2370		ug/L		93	70 - 130
Manganese	120		500	670		ug/L		110	70 - 130
Zinc	130		500	686		ug/L		110	70 - 130

Lab Sample ID: 440-294369-A-1-C MSD
Matrix: Water
Analysis Batch: 665020

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664923

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	536		ug/L		107	70 - 130	5	20
Iron	1900		500	2330		ug/L		83	70 - 130	2	20
Manganese	120		500	641		ug/L		104	70 - 130	4	20
Zinc	130		500	655		ug/L		104	70 - 130	5	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-664037/1-D
Matrix: Water
Analysis Batch: 664155

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 664111

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/10/22 08:35	01/10/22 15:45	1
Iron	ND		100	50	ug/L		01/10/22 08:35	01/10/22 15:45	1
Manganese	ND		20	6.8	ug/L		01/10/22 08:35	01/10/22 15:45	1
Zinc	ND		20	12	ug/L		01/10/22 08:35	01/10/22 15:45	1

Lab Sample ID: LCS 440-664037/2-D
Matrix: Water
Analysis Batch: 664155

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 664111

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	491		ug/L		98	85 - 115
Iron	500	483		ug/L		97	85 - 115
Manganese	500	491		ug/L		98	85 - 115
Zinc	500	502		ug/L		100	85 - 115

Lab Sample ID: 570-80749-3 MS
Matrix: Water
Analysis Batch: 664155

Client Sample ID: Outfall018_20220105_Comp_F
Prep Type: Dissolved
Prep Batch: 664111

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		500	488		ug/L		98	70 - 130
Iron	ND		500	481		ug/L		96	70 - 130
Manganese	12	J,DX	500	494		ug/L		96	70 - 130
Zinc	ND		500	509		ug/L		102	70 - 130

Lab Sample ID: 570-80749-3 MSD
Matrix: Water
Analysis Batch: 664155

Client Sample ID: Outfall018_20220105_Comp_F
Prep Type: Dissolved
Prep Batch: 664111

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	502		ug/L		100	70 - 130	3	20
Iron	ND		500	487		ug/L		97	70 - 130	1	20
Manganese	12	J,DX	500	497		ug/L		97	70 - 130	1	20
Zinc	ND		500	513		ug/L		103	70 - 130	1	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-664924/1-A
Matrix: Water
Analysis Batch: 664984

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664924

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/20/22 06:46	01/20/22 13:12	1
Copper	ND		2.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:12	1
Lead	ND		1.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:12	1
Selenium	ND		2.0	0.50	ug/L		01/20/22 06:46	01/20/22 13:12	1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 440-664924/2-A
Matrix: Water
Analysis Batch: 664984

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664924

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cadmium			80.0	80.2		ug/L		100	85 - 115		
Copper			80.0	79.3		ug/L		99	85 - 115		
Lead			80.0	80.8		ug/L		101	85 - 115		
Selenium			80.0	83.4		ug/L		104	85 - 115		

Lab Sample ID: 570-80509-A-2-B MS
Matrix: Water
Analysis Batch: 664984

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664924

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cadmium	ND		80.0	81.9		ug/L		102	70 - 130		
Copper	13		80.0	94.7		ug/L		102	70 - 130		
Lead	ND		80.0	82.1		ug/L		103	70 - 130		
Selenium	ND		80.0	78.8		ug/L		99	70 - 130		

Lab Sample ID: 570-80509-A-2-C MSD
Matrix: Water
Analysis Batch: 664984

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664924

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	81.3		ug/L		102	70 - 130	1	20
Copper	13		80.0	95.4		ug/L		103	70 - 130	1	20
Lead	ND		80.0	82.3		ug/L		103	70 - 130	0	20
Selenium	ND		80.0	80.5		ug/L		101	70 - 130	2	20

Lab Sample ID: MB 440-664037/1-C
Matrix: Water
Analysis Batch: 664141

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 664110

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/10/22 08:31	01/10/22 12:53	1
Copper	ND		2.0	0.50	ug/L		01/10/22 08:31	01/10/22 12:53	1
Lead	ND		1.0	0.50	ug/L		01/10/22 08:31	01/10/22 12:53	1
Selenium	ND		2.0	0.50	ug/L		01/10/22 08:31	01/10/22 12:53	1

Lab Sample ID: LCS 440-664037/2-C
Matrix: Water
Analysis Batch: 664141

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 664110

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cadmium			80.0	76.0		ug/L		95	85 - 115		
Copper			80.0	81.1		ug/L		101	85 - 115		
Lead			80.0	78.7		ug/L		98	85 - 115		
Selenium			80.0	74.6		ug/L		93	85 - 115		

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-80746-C-3-C MS
Matrix: Water
Analysis Batch: 664141

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 664110

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	73.1		ug/L		91	70 - 130
Copper	1.5	J,DX	80.0	79.6		ug/L		98	70 - 130
Lead	ND		80.0	74.7		ug/L		93	70 - 130
Selenium	ND		80.0	73.1		ug/L		91	70 - 130

Lab Sample ID: 570-80746-C-3-D MSD
Matrix: Water
Analysis Batch: 664141

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 664110

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	75.5		ug/L		94	70 - 130	3	20
Copper	1.5	J,DX	80.0	82.9		ug/L		102	70 - 130	4	20
Lead	ND		80.0	77.8		ug/L		97	70 - 130	4	20
Selenium	ND		80.0	75.6		ug/L		94	70 - 130	3	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-208112/1-A
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208112

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/17/22 17:42	01/18/22 17:34	1

Lab Sample ID: LCS 570-208112/2-A
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208112

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	11.0		ug/L		110	85 - 115

Lab Sample ID: LCSD 570-208112/3-A
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208112

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	10.0	11.0		ug/L		110	85 - 115	0	10

Lab Sample ID: 440-293718-B-1-E MS
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 208112

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		10.0	10.9		ug/L		109	70 - 130

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 440-293718-B-1-F MSD
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 208112

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	10.9		ug/L		109	70 - 130	0	10

Lab Sample ID: MB 570-209151/1-B
Matrix: Water
Analysis Batch: 209351

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 209173

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/24/22 16:25	01/25/22 14:37	1

Lab Sample ID: LCS 570-209151/2-B
Matrix: Water
Analysis Batch: 209351

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 209173

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			10.0	9.89		ug/L		99	85 - 115		

Lab Sample ID: LCSD 570-209151/3-B
Matrix: Water
Analysis Batch: 209351

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 209173

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			10.0	10.0		ug/L		100	85 - 115	2	10

Lab Sample ID: 570-80749-3 MS
Matrix: Water
Analysis Batch: 209351

Client Sample ID: Outfall018_20220105_Comp_F
Prep Type: Dissolved
Prep Batch: 209173

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.12	J,DX BU	10.0	10.4		ug/L		104	70 - 130		

Lab Sample ID: 570-80749-3 MSD
Matrix: Water
Analysis Batch: 209351

Client Sample ID: Outfall018_20220105_Comp_F
Prep Type: Dissolved
Prep Batch: 209173

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.12	J,DX BU	10.0	10.2		ug/L		102	70 - 130	2	10

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 440-664889/6
Matrix: Water
Analysis Batch: 664889

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	ND		0.10	0.05	NTU			01/19/22 18:28	1

Method: 180.1 - Turbidity, Nephelometric (Continued)

Lab Sample ID: MRL 440-664889/5
Matrix: Water
Analysis Batch: 664889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	0.100	0.10		NTU		90	50 - 150

Lab Sample ID: 570-80231-I-1 DU
Matrix: Water
Analysis Batch: 664889

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Turbidity	0.40		0.35		NTU		10	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-663806/1
Matrix: Water
Analysis Batch: 663806

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	3.0	mg/L			01/11/22 10:10	1

Lab Sample ID: LCS 440-663806/2
Matrix: Water
Analysis Batch: 663806

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	974		mg/L		97	90 - 110

Lab Sample ID: 570-80544-E-1 DU
Matrix: Water
Analysis Batch: 663806

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	160		157		mg/L		1	5

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-664016/1
Matrix: Water
Analysis Batch: 664016

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			01/07/22 15:00	1

Lab Sample ID: LCS 440-664016/2
Matrix: Water
Analysis Batch: 664016

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	1000	903		mg/L		90	85 - 115

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: 440-293899-A-3 DU
Matrix: Water
Analysis Batch: 664016

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	62		63.0		mg/L		2	5

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 570-208185/1-A
Matrix: Water
Analysis Batch: 208184

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208185

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0030	0.0014	mg/L		01/18/22 12:00	01/18/22 23:31	1

Lab Sample ID: LCS 570-208185/2-A
Matrix: Water
Analysis Batch: 208184

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208185

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0100	0.0103		mg/L		103	80 - 120

Lab Sample ID: LCSD 570-208185/3-A
Matrix: Water
Analysis Batch: 208184

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208185

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.0100	0.00979		mg/L		98	80 - 120	5	20

Lab Sample ID: 570-81289-H-6-A MS
Matrix: Water
Analysis Batch: 208184

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 208185

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	ND		0.0100	0.0110		mg/L		110	74 - 115

Lab Sample ID: 570-81289-H-6-B MSD
Matrix: Water
Analysis Batch: 208184

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 208185

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		0.0100	0.00950		mg/L		95	74 - 115	15	20

Lab Sample ID: 570-81289-H-6-D DU
Matrix: Water
Analysis Batch: 208184

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 208185

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cyanide, Total	ND		ND		mg/L		NC	25

Method: SM 4500 NH3 G - Ammonia

Lab Sample ID: MB 440-664022/10
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.200	0.100	mg/L			01/07/22 11:11	1

Lab Sample ID: LCS 440-664022/11
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	5.00	5.370		mg/L		107	90 - 110

Lab Sample ID: MRL 440-664022/9
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.200	0.1950	J,DX	mg/L		98	50 - 150

Lab Sample ID: 570-80545-H-1 MS
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.845		5.00	5.760		mg/L		98	90 - 110

Lab Sample ID: 570-80545-H-1 MSD
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.845		5.00	5.710		mg/L		97	90 - 110	1	15

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 570-205960/5-A
Matrix: Water
Analysis Batch: 206228

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205960

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.30	0.15	mg/L		01/05/22 21:30	01/05/22 22:59	1

Lab Sample ID: LCS 570-205960/6-A
Matrix: Water
Analysis Batch: 206228

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205960

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
MBAS	1.00	1.03		mg/L		103	85 - 111

Method: SM 5540C - Methylene Blue Active Substances (MBAS) (Continued)

Lab Sample ID: LCSD 570-205960/7-A
Matrix: Water
Analysis Batch: 206228

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205960

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MBAS			1.00	1.01		mg/L		101	85 - 111	3	7

Lab Sample ID: 570-80746-G-1-A MS
Matrix: Water
Analysis Batch: 206228

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 205960

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
MBAS	ND		1.00	1.23		mg/L		123	75 - 125		

Lab Sample ID: 570-80746-G-1-B MSD
Matrix: Water
Analysis Batch: 206228

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 205960

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MBAS	ND		1.00	1.22		mg/L		122	75 - 125	1	12

Method: SM5210B - BOD, 5 Day

Lab Sample ID: USB 440-664304/2
Matrix: Water
Analysis Batch: 664304

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			01/06/22 09:10	1

Lab Sample ID: LCS 440-664304/4
Matrix: Water
Analysis Batch: 664304

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Biochemical Oxygen Demand			199	178		mg/L		89	85 - 115		

Lab Sample ID: 440-293813-B-1 DU
Matrix: Water
Analysis Batch: 664304

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Biochemical Oxygen Demand	54			56.7		mg/L				5	20

GC/MS Semi VOA

Prep Batch: 205520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	625	
MB 570-205520/1-A	Method Blank	Total/NA	Water	625	
LCS 570-205520/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-205520/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 205774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-205520/1-A	Method Blank	Total/NA	Water	625.1 SIM	205520
LCS 570-205520/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	205520
LCSD 570-205520/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	205520

Analysis Batch: 206168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	625.1 SIM	205520

GC Semi VOA

Prep Batch: 206098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	608	
MB 570-206098/1-A	Method Blank	Total/NA	Water	608	
LCS 570-206098/2-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-206098/3-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 206435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	608.3	206098
MB 570-206098/1-A	Method Blank	Total/NA	Water	608.3	206098

Analysis Batch: 206925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-206098/2-A	Lab Control Sample	Total/NA	Water	608.3	206098
LCSD 570-206098/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	206098

HPLC/IC

Analysis Batch: 205908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	300.0	
MB 570-205908/5	Method Blank	Total/NA	Water	300.0	
LCS 570-205908/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-205908/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80778-E-1 MS	Matrix Spike	Total/NA	Water	300.0	
570-80778-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 205909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	300.0	
MB 570-205909/5	Method Blank	Total/NA	Water	300.0	
LCS 570-205909/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-205909/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80778-E-1 MS	Matrix Spike	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 205909 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80778-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 206102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	314.0	
MB 570-206102/6	Method Blank	Total/NA	Water	314.0	
LCS 570-206102/7	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-206102/8	Lab Control Sample Dup	Total/NA	Water	314.0	
570-80749-1 MS	Outfall018_20220105_Comp	Total/NA	Water	314.0	
570-80749-1 MSD	Outfall018_20220105_Comp	Total/NA	Water	314.0	

Analysis Batch: 206420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	NO2NO3 Calc	

Metals

Prep Batch: 208112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	245.1	
MB 570-208112/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-208112/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-208112/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
440-293718-B-1-E MS	Matrix Spike	Total/NA	Water	245.1	
440-293718-B-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 208127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	245.1	208112
MB 570-208112/1-A	Method Blank	Total/NA	Water	245.1	208112
LCS 570-208112/2-A	Lab Control Sample	Total/NA	Water	245.1	208112
LCSD 570-208112/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	208112
440-293718-B-1-E MS	Matrix Spike	Total/NA	Water	245.1	208112
440-293718-B-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	208112

Filtration Batch: 209151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-3	Outfall018_20220105_Comp_F	Dissolved	Water	Filtration	
MB 570-209151/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-209151/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-209151/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-80749-3 MS	Outfall018_20220105_Comp_F	Dissolved	Water	Filtration	
570-80749-3 MSD	Outfall018_20220105_Comp_F	Dissolved	Water	Filtration	

Prep Batch: 209173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-3	Outfall018_20220105_Comp_F	Dissolved	Water	245.1	209151
MB 570-209151/1-B	Method Blank	Dissolved	Water	245.1	209151
LCS 570-209151/2-B	Lab Control Sample	Dissolved	Water	245.1	209151
LCSD 570-209151/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	209151
570-80749-3 MS	Outfall018_20220105_Comp_F	Dissolved	Water	245.1	209151

Metals (Continued)

Prep Batch: 209173 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-3 MSD	Outfall018_20220105_Comp_F	Dissolved	Water	245.1	209151

Analysis Batch: 209351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-3	Outfall018_20220105_Comp_F	Dissolved	Water	245.1	209173
MB 570-209151/1-B	Method Blank	Dissolved	Water	245.1	209173
LCS 570-209151/2-B	Lab Control Sample	Dissolved	Water	245.1	209173
LCSD 570-209151/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	209173
570-80749-3 MS	Outfall018_20220105_Comp_F	Dissolved	Water	245.1	209173
570-80749-3 MSD	Outfall018_20220105_Comp_F	Dissolved	Water	245.1	209173

Filtration Batch: 664037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-3	Outfall018_20220105_Comp_F	Dissolved	Water	FILTRATION	
MB 440-664037/1-C	Method Blank	Dissolved	Water	FILTRATION	
MB 440-664037/1-D	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-664037/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-664037/2-D	Lab Control Sample	Dissolved	Water	FILTRATION	
570-80746-C-3-C MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80746-C-3-D MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
570-80749-3 MS	Outfall018_20220105_Comp_F	Dissolved	Water	FILTRATION	
570-80749-3 MSD	Outfall018_20220105_Comp_F	Dissolved	Water	FILTRATION	

Prep Batch: 664110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-3	Outfall018_20220105_Comp_F	Dissolved	Water	200.2	664037
MB 440-664037/1-C	Method Blank	Dissolved	Water	200.2	664037
LCS 440-664037/2-C	Lab Control Sample	Dissolved	Water	200.2	664037
570-80746-C-3-C MS	Matrix Spike	Dissolved	Water	200.2	664037
570-80746-C-3-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	664037

Prep Batch: 664111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-3	Outfall018_20220105_Comp_F	Dissolved	Water	200.2	664037
MB 440-664037/1-D	Method Blank	Dissolved	Water	200.2	664037
LCS 440-664037/2-D	Lab Control Sample	Dissolved	Water	200.2	664037
570-80749-3 MS	Outfall018_20220105_Comp_F	Dissolved	Water	200.2	664037
570-80749-3 MSD	Outfall018_20220105_Comp_F	Dissolved	Water	200.2	664037

Analysis Batch: 664141

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-3	Outfall018_20220105_Comp_F	Dissolved	Water	200.8	664110
MB 440-664037/1-C	Method Blank	Dissolved	Water	200.8	664110
LCS 440-664037/2-C	Lab Control Sample	Dissolved	Water	200.8	664110
570-80746-C-3-C MS	Matrix Spike	Dissolved	Water	200.8	664110
570-80746-C-3-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	664110

Analysis Batch: 664155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-3	Outfall018_20220105_Comp_F	Dissolved	Water	200.7 Rev 4.4	664111
MB 440-664037/1-D	Method Blank	Dissolved	Water	200.7 Rev 4.4	664111

Metals (Continued)

Analysis Batch: 664155 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-664037/2-D	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	664111
570-80749-3 MS	Outfall018_20220105_Comp_F	Dissolved	Water	200.7 Rev 4.4	664111
570-80749-3 MSD	Outfall018_20220105_Comp_F	Dissolved	Water	200.7 Rev 4.4	664111

Prep Batch: 664923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total Recoverable	Water	200.2	
MB 440-664923/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664923/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
440-294369-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.2	
440-294369-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Prep Batch: 664924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total Recoverable	Water	200.2	
MB 440-664924/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664924/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80509-A-2-B MS	Matrix Spike	Total Recoverable	Water	200.2	
570-80509-A-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 664984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total Recoverable	Water	200.8	664924
MB 440-664924/1-A	Method Blank	Total Recoverable	Water	200.8	664924
LCS 440-664924/2-A	Lab Control Sample	Total Recoverable	Water	200.8	664924
570-80509-A-2-B MS	Matrix Spike	Total Recoverable	Water	200.8	664924
570-80509-A-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	664924

Analysis Batch: 665020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total Recoverable	Water	200.7 Rev 4.4	664923
MB 440-664923/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	664923
LCS 440-664923/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	664923
440-294369-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	664923
440-294369-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	664923

General Chemistry

Prep Batch: 205960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	SM 5540C	
MB 570-205960/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-205960/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-205960/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	
570-80746-G-1-A MS	Matrix Spike	Total/NA	Water	SM 5540C	
570-80746-G-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5540C	

Analysis Batch: 206228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	SM 5540C	205960
MB 570-205960/5-A	Method Blank	Total/NA	Water	SM 5540C	205960

General Chemistry (Continued)

Analysis Batch: 206228 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-205960/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	205960
LCSD 570-205960/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	205960
570-80746-G-1-A MS	Matrix Spike	Total/NA	Water	SM 5540C	205960
570-80746-G-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5540C	205960

Analysis Batch: 208184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	SM 4500 CN E	208185
MB 570-208185/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	208185
LCS 570-208185/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	208185
LCSD 570-208185/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	208185
570-81289-H-6-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	208185
570-81289-H-6-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	208185
570-81289-H-6-D DU	Duplicate	Total/NA	Water	SM 4500 CN E	208185

Prep Batch: 208185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	SM 4500 CN C	
MB 570-208185/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-208185/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-208185/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-81289-H-6-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN C	
570-81289-H-6-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN C	
570-81289-H-6-D DU	Duplicate	Total/NA	Water	SM 4500 CN C	

Analysis Batch: 663806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	SM 2540C	
MB 440-663806/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-663806/2	Lab Control Sample	Total/NA	Water	SM 2540C	
570-80544-E-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 664016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	SM 2540D	
MB 440-664016/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-664016/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-293899-A-3 DU	Duplicate	Total/NA	Water	SM 2540D	

Analysis Batch: 664022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	SM 4500 NH3 G	
MB 440-664022/10	Method Blank	Total/NA	Water	SM 4500 NH3 G	
LCS 440-664022/11	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
MRL 440-664022/9	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
570-80545-H-1 MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 G	
570-80545-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 G	

Analysis Batch: 664304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	SM5210B	

General Chemistry (Continued)

Analysis Batch: 664304 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
USB 440-664304/2	Method Blank	Total/NA	Water	SM5210B	
LCS 440-664304/4	Lab Control Sample	Total/NA	Water	SM5210B	
440-293813-B-1 DU	Duplicate	Total/NA	Water	SM5210B	

Analysis Batch: 664889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	180.1	
MB 440-664889/6	Method Blank	Total/NA	Water	180.1	
MRL 440-664889/5	Lab Control Sample	Total/NA	Water	180.1	
570-80231-I-1 DU	Duplicate	Total/NA	Water	180.1	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			995 mL	2 mL	205520	01/06/22 05:37	H1SH	ECL 1
Total/NA	Analysis	625.1 SIM		1			206168	01/07/22 12:29	ULLI	ECL 1
	Instrument ID: GCMSJJJ									
Total/NA	Prep	608			1500 mL	1 mL	206098	01/07/22 08:26	OAJ3	ECL 1
Total/NA	Analysis	608.3		1			206435	01/11/22 17:27	UHHN	ECL 1
	Instrument ID: GC44									
Total/NA	Analysis	300.0		1	4 mL	1.0 mL	205908	01/06/22 18:06	URMH	ECL 1
	Instrument ID: IC9									
Total/NA	Analysis	300.0		1			205909	01/06/22 18:06	URMH	ECL 1
	Instrument ID: IC9									
Total/NA	Analysis	314.0		1			206102	01/07/22 15:58	URMH	ECL 1
	Instrument ID: IC13									
Total/NA	Analysis	NO2NO3 Calc		1			206420	01/09/22 11:32	URMH	ECL 1
	Instrument ID: IC9									
Total Recoverable	Prep	200.2			25 mL	25 mL	664923	01/20/22 06:32		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			665020	01/20/22 17:10	P1R	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	664924	01/20/22 06:46		IRV 2
Total Recoverable	Analysis	200.8		1			664984	01/20/22 13:49	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total/NA	Prep	245.1			50 mL	100 mL	208112	01/17/22 17:42	VWJ7	ECL 4
Total/NA	Analysis	245.1		1			208127	01/18/22 18:04	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Analysis	180.1		1			664889	01/19/22 18:30	W1BQ	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	663806	01/11/22 10:10	VY3D	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	664016	01/07/22 15:00	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	208185	01/18/22 12:00	UAPD	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	5 mL	5 mL	208184	01/18/22 23:40	UAPD	ECL 1
	Instrument ID: UV9									
Total/NA	Analysis	SM 4500 NH3 G		1	0.8 mL	8.0 mL	664022	01/07/22 12:03	GG0B	IRV 2
	Instrument ID: LACHAT01									
Total/NA	Prep	SM 5540C			100 mL	100 mL	205960	01/05/22 21:30	WN6Y	ECL 1
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	206228	01/05/22 23:05	WN6Y	ECL 1
	Instrument ID: UV9									
Total/NA	Analysis	SM5210B		1			664304	01/06/22 20:27	VY3D	IRV 2
	Instrument ID: BOD 10									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Client Sample ID: Outfall018_20220105_Comp_F
Lab Sample ID: 570-80749-3

Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			150 mL	150 mL	664037	01/07/22 18:54	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	664111	01/10/22 08:35	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			664155	01/10/22 15:51	K1UV	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			150 mL	150 mL	664037	01/07/22 18:54	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	664110	01/10/22 08:31	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664141	01/10/22 13:03	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	209151	01/24/22 16:04	UIAS	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	209173	01/24/22 16:25	VWJ7	ECL 4
Dissolved	Analysis	245.1		1			209351	01/25/22 14:42	VWJ7	ECL 1
	Instrument ID: HG7									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method	Method Description	Protocol	Laboratory
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	40CFR136A	ECL 1
608.3	Organochlorine Pesticides in Water	40CFR136A	ECL 1
300.0	Anions, Ion Chromatography	MCAWW	ECL 1
314.0	Perchlorate (IC)	EPA	ECL 1
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	ECL 1
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	ECL 1
180.1	Turbidity, Nephelometric	MCAWW	IRV 2
SM 2540C	Solids, Total Dissolved (TDS)	SM	IRV 2
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 2
SM 4500 CN E	Cyanide, Total (Low Level)	SM	ECL 1
SM 4500 NH3 G	Ammonia	SM	IRV 2
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	ECL 1
SM5210B	BOD, 5 Day	SM	IRV 2
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	ECL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	ECL 1
625	Liquid-Liquid Extraction	40CFR136A	ECL 1
Filtration	Sample Filtration	None	ECL 4
FILTRATION	Sample Filtration	None	IRV 2
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1
SM 5540C	Preparation, Methylene Blue Active Substances (MBAS)	SM	ECL 1

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80749-1	Outfall018_20220105_Comp	Water	01/05/22 09:35	01/05/22 18:25
570-80749-3	Outfall018_20220105_Comp_F	Water	01/05/22 09:35	01/05/22 18:25

80749

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80749 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2022 Routine Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: michelle dallalah	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R Total Recoverable Metals (E200.7) Zn (E200.8) Cu, Pb, Cd, Se	R TCDD (and all congeners) (E1613B)	R BOD5 (20 degrees C) (E405.1(SM5210B_BODCalc))	R Surfactants (MBAS) (SM5540C/E425.1)	R Cl- SO_4, Nitrate-N Nitrite-N NO3+NO2-N Perchlorate (E300)	R Turbidity TDS (SM2540C/E160.1)	R TSS (160.2 (SM2540D))	R Ammonia-N (350.2)	R alpha-BHC (E608)	R 2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	R Total Recoverable Metals. Mercury (E245.1)	C Total Recoverable Metals (E200.7) As, Mn Fe		Comments
Outfall 018	Outfall018_20220105_Comp	1/5/2022 0935	WM	500 mL Poly	1	HNO_3	90	No	X										X	X		~~Outfall 001 analyze for Fe~~ NDD Outfall 002 analyze for Fe. ~~Outfall 011 analyze for As, Mn and Fe~~ NDD
			WM	1 L Glass Amber	2	None	110	No		X												
			WM	1L Poly	1	None	115	No			X											
			WM	500 mL Poly	2	None	120	No				X										
			WM	500 mL Poly	2	None	130	No					X									48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X								48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X						
			WM	1 L Glass Amber	2	None	170	No									X					
			WM	1 L Glass Amber	2	None	180	No										X				
			WM	1L Poly	1	None	185	No							X							
	Outfall018_20220105_Comp_Extra	1/5/2022 0935	WM	1 L Glass Amber	2	None	110	No		H												Hold
			WM	500 mL Poly	2	None	120	No				H										Hold
			WM	500 mL Poly	2	None	130	No					H									Hold
			WM	1 L Glass Amber	2	None	170	No									H					Hold
			WM	1 L Glass Amber	2	None	180	No										H				Hold

Legend: C=Conditional, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Michelle Dallalah	1/5/2022 1300	Haley & Aldrich		ECI 01/05/22 1300
	01/05/22	ECI 1825		1/5/22 1825

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV: _____ All Level IV: ___X___

1.6|3 1,20|35, 2.1|3 6 SCG

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address.	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108	Boeing-SSFL NPDES Permit 2022 Routine Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: michelle dallalah	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	ANALYSIS REQUIRED: Total Dissolved Metals. (E200.7) Zn (E200.8): Cu, Pb, Cd, Se	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0) Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, Cs-137 (E901.0 or E901.1)	Total Dissolved Metals: Mercury (E245.1)	Total Dissolved Metals (E200.7) As, Mn, Fe	Comments
Outfall 018	Outfall018_20220105_Comp_F	1/5/2022 0935	WM	1L Poly	1	None	200	No	X				X	Filter and preserve within 24hrs of receipt at lab ~~Outfall 001 analyze for Fe~~ ND Outfall 002 analyze for Fe. ~~Outfall 011 analyze for Mn and Fe~~ ND
			WM	borosilicate vials	1	None	320	No				X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall018_20220105_Comp	1/5/2022 0935	WM	500 mL Poly	1	NaOH	220	No		X				
				2.5 Gal Cube	1	None	225	No			X			Unfiltered and unpreserved analysis. Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
				1 L Glass Amber	1	None	230	No						Only test if first or second rain event of the year ND
				~~1 Gal Cube~~	~~0~~		~~260~~							Deliver to ABC Labs in Ventura, CA.

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Michelle Dallalah	1/5/2022 1300	Haley & Aldrich		ECI 01105122 1300
	01105122	ECI 1825		1/5/22 1825

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements. (Check)
No Level IV: _____ All Level IV: __X__

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-149367 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80749-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/2/2022			
City: Earth City	TAT Requested (days)			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O AsNaO2, P Na2O4S, Q - Na2SO3, R Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V MCAA, W - pH 4-5, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall018_20220105_Comp (570-80749-1)	1/5/22	09:35 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		1/6/22 1540				
2	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149377 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80749-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/21/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S H2SO4, T TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall018_20220105_Comp (570-80749-1)	1/5/22	09:35 Pacific		Water			X		2	See QAS. Boeing_w/u to zero, ug/L, Use Boeing glassware
Outfall018_20220105_Extra (570-80749-2)	1/5/22	09:35 Pacific		Water				X	2	See QAS. Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time: 1/6/22 1636	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-149248 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80749-1
Address: 2841 Dow Avenue	Due Date Requested: 1/17/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.8/200.2 Cd,Pb,Cu,Se	245.1/245.1_Prep Mercury	200.7/200.2 Outfall 011 - 200.7 Total List	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	180.1/ Turbidity	SM4500NH3_G/ Ammonia	SM5210B_BODCalc/ BOD, 5 Day	200.8/FILTRATION (MOD) Diss Cd,Pb,Cu,Se	200.8/200.2 (MOD) Diss Cd,Pb,Cu,Se	245.1/FILTRATION Diss Mercury	245.1/245.1_Prep Diss Mercury	200.7/FILTRATION Outfall 011 - 200.7 Diss List	Total Number of containers	Special Instructions/Note:
				Preservation Code:																	
Outfall018_20220105_Comp (570-80749-1)	1/5/22	09 35 Pacific		Water			X	X	X	X	X	X	X	X						6	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall018_20220105_F (570-80749-3)	1/5/22	09 35 Pacific		Water											X	X	X	X	X	3	Filter within 24 hours, use VOA vials from LL Hg Kit-Clean Hands procedure Filter

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		1/6/22 1130	GC			
2	Relinquished by:	Date/Time:	Company	Received by: Olga Cinelas	Date/Time: 01/06/22 1130	Company: ECT
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 21/21 IR-89

Ver 06 08 2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-149248 2
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Environment Testing Southwest		Accreditations Required (See note): State Program - California		Job #: 570-80749-1
Address: 2841 Dow Avenue	Due Date Requested: 1/17/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200 7/200 2 Outfall 011 - 200.7 Diss List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall018_20220105_Comp (570-80749-1)	1/5/22	09 35 Pacific		Water				6	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall018_20220105_F (570-80749-3)	1/5/22	09 35 Pacific		Water			X	3	Filter within 24 hours, use VOA vials from LL Hg Kit-Clean Hands procedure Filter

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	Relinquished by: [signature]	Date/Time: 1/6/22 1130	Company: EC	Received by:		
	Relinquished by	Date/Time	Company	Received by: Olga Omelus	Date/Time: 01/06/22 1130	Company: EOT
	Relinquished by	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver 06 08 2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80749-1

Login Number: 80749
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80749-1

Login Number: 80749
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80749-2
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/26/2022 6:56:10 PM

Virendra Patel, Project Manager I
(714)895-5494
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Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80749-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80749-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80749-2

Comments
No additional comments.

Receipt
The samples were received on 1/5/2022 6:25 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.1º C, 3.5º C and 3.6º C.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV012122). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 10D5 exceeded this criteria: (CCV 320-559828/1), (LCS 320-557282/2-A), (LCSD 320-557282/3-A) and (MB 320-557282/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: The ending resolution check was done after more than 48 hours due to an electronic glitch in the system over the weekend which caused the acquisition of the samples in the queue to stop. The resolution check performed in the morning on the following Monday meets all the required criteria without changing any parameter of the initial tune.

(CCV 320-559828/1), (LCS 320-557282/2-A), (LCSD 320-557282/3-A), (MB 320-557282/1-A) and (WDM 320-559828/2)

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 10D5 exceeded this criteria: Outfall018_20220105_Comp (570-80749-1) and (CCV 320-560230/2). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: No ending resolution check was run after the continuing calibration verification (CCV) standard. However resolution checks were run before the CCV standard, and at the end of the next sequence. The instrument maintained stability and held 10,000 resolution. There is no negative impact on the data.

Outfall018_20220105_Comp (570-80749-1)

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: Outfall018_20220105_Comp (570-80749-1) and (CCV 320-560784/2). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000022	J,DX MB	0.000051	0.00000036	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.00000041	J,DX q	0.000051	0.00000040	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.00000073	J,DX q	0.000051	0.00000033	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.00000085	J,DX	0.000051	0.00000024	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.00000062	J,DX	0.000051	0.00000025	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.00000079	J,DX	0.000051	0.00000021	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.00000080	J,DX	0.000051	0.00000021	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000022	J,DX MB	0.000051	0.00000017	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000010	J,DX q MB	0.000051	0.00000032	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.00000076	J,DX q	0.000051	0.00000033	ug/L	1		1613B	Total/NA
OCDD	0.0000084	J,DX MB	0.00010	0.00000035	ug/L	1		1613B	Total/NA
OCDF	0.0000025	J,DX q MB	0.00010	0.00000034	ug/L	1		1613B	Total/NA
Total TCDF	0.00000057	J,DX MB	0.000010	0.00000021	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000034	J,DX q MB	0.000051	0.00000033	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000031	J,DX	0.000051	0.00000021	ug/L	1		1613B	Total/NA
Total HpCDD	0.0000033	J,DX MB	0.000051	0.00000017	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000018	J,DX q MB	0.000051	0.00000032	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall018_20220105_Comp
Date Collected: 01/05/22 09:35
Date Received: 01/05/22 18:25

Lab Sample ID: 570-80749-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000038	ug/L		01/11/22 11:43	01/24/22 13:00	1
1,2,3,7,8-PeCDD	ND		0.000051	0.00000047	ug/L		01/11/22 11:43	01/24/22 13:00	1
1,2,3,7,8-PeCDF	ND		0.000051	0.00000035	ug/L		01/11/22 11:43	01/24/22 13:00	1
2,3,4,7,8-PeCDF	ND		0.000051	0.00000034	ug/L		01/11/22 11:43	01/24/22 13:00	1
1,2,3,4,7,8-HxCDD	**0.0000022**	**J,DX MB**	0.000051	0.00000036	ug/L		01/11/22 11:43	01/24/22 13:00	1
1,2,3,6,7,8-HxCDD	**0.00000041**	**J,DX q**	0.000051	0.00000040	ug/L		01/11/22 11:43	01/24/22 13:00	1
1,2,3,7,8,9-HxCDD	**0.00000073**	**J,DX q**	0.000051	0.00000033	ug/L		01/11/22 11:43	01/24/22 13:00	1
1,2,3,4,7,8-HxCDF	**0.00000085**	**J,DX**	0.000051	0.00000024	ug/L		01/11/22 11:43	01/24/22 13:00	1
1,2,3,6,7,8-HxCDF	**0.00000062**	**J,DX**	0.000051	0.00000025	ug/L		01/11/22 11:43	01/24/22 13:00	1
1,2,3,7,8,9-HxCDF	**0.00000079**	**J,DX**	0.000051	0.00000021	ug/L		01/11/22 11:43	01/24/22 13:00	1
2,3,4,6,7,8-HxCDF	**0.00000080**	**J,DX**	0.000051	0.00000021	ug/L		01/11/22 11:43	01/24/22 13:00	1
1,2,3,4,6,7,8-HpCDD	**0.0000022**	**J,DX MB**	0.000051	0.00000017	ug/L		01/11/22 11:43	01/24/22 13:00	1
1,2,3,4,6,7,8-HpCDF	**0.0000010**	**J,DX q MB**	0.000051	0.00000032	ug/L		01/11/22 11:43	01/24/22 13:00	1
1,2,3,4,7,8,9-HpCDF	**0.00000076**	**J,DX q**	0.000051	0.00000033	ug/L		01/11/22 11:43	01/24/22 13:00	1
OCDD	**0.0000084**	**J,DX MB**	0.00010	0.00000035	ug/L		01/11/22 11:43	01/24/22 13:00	1
OCDF	**0.0000025**	**J,DX q MB**	0.00010	0.00000034	ug/L		01/11/22 11:43	01/24/22 13:00	1
Total TCDD	ND		0.000010	0.00000038	ug/L		01/11/22 11:43	01/24/22 13:00	1
Total TCDF	**0.00000057**	**J,DX MB**	0.000010	0.00000021	ug/L		01/11/22 11:43	01/24/22 13:00	1
Total PeCDD	ND		0.000051	0.00000047	ug/L		01/11/22 11:43	01/24/22 13:00	1
Total PeCDF	ND		0.000051	0.00000034	ug/L		01/11/22 11:43	01/24/22 13:00	1
Total HxCDD	**0.0000034**	**J,DX q MB**	0.000051	0.00000033	ug/L		01/11/22 11:43	01/24/22 13:00	1
Total HxCDF	**0.0000031**	**J,DX**	0.000051	0.00000021	ug/L		01/11/22 11:43	01/24/22 13:00	1
Total HpCDD	**0.0000033**	**J,DX MB**	0.000051	0.00000017	ug/L		01/11/22 11:43	01/24/22 13:00	1
Total HpCDF	**0.0000018**	**J,DX q MB**	0.000051	0.00000032	ug/L		01/11/22 11:43	01/24/22 13:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*78*		*25 - 164*	*01/11/22 11:43*	*01/24/22 13:00*	*1*
13C-2,3,7,8-TCDF	*79*		*24 - 169*	*01/11/22 11:43*	*01/24/22 13:00*	*1*
13C-1,2,3,7,8-PeCDD	*76*		*25 - 181*	*01/11/22 11:43*	*01/24/22 13:00*	*1*
13C-1,2,3,7,8-PeCDF	*79*		*24 - 185*	*01/11/22 11:43*	*01/24/22 13:00*	*1*
13C-2,3,4,7,8-PeCDF	*89*		*21 - 178*	*01/11/22 11:43*	*01/24/22 13:00*	*1*
13C-1,2,3,4,7,8-HxCDD	*90*		*32 - 141*	*01/11/22 11:43*	*01/24/22 13:00*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall018_20220105_Comp **Lab Sample ID: 570-80749-1**
Date Collected: 01/05/22 09:35 **Matrix: Water**
Date Received: 01/05/22 18:25

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDD	85		28 - 130	01/11/22 11:43	01/24/22 13:00	1
13C-1,2,3,4,7,8-HxCDF	93		26 - 152	01/11/22 11:43	01/24/22 13:00	1
13C-1,2,3,6,7,8-HxCDF	84		26 - 123	01/11/22 11:43	01/24/22 13:00	1
13C-1,2,3,7,8,9-HxCDF	81		29 - 147	01/11/22 11:43	01/24/22 13:00	1
13C-2,3,4,6,7,8-HxCDF	83		28 - 136	01/11/22 11:43	01/24/22 13:00	1
13C-1,2,3,4,6,7,8-HpCDD	86		23 - 140	01/11/22 11:43	01/24/22 13:00	1
13C-1,2,3,4,6,7,8-HpCDF	88		28 - 143	01/11/22 11:43	01/24/22 13:00	1
13C-1,2,3,4,7,8,9-HpCDF	107		26 - 138	01/11/22 11:43	01/24/22 13:00	1
13C-OCDD	102		17 - 157	01/11/22 11:43	01/24/22 13:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	92		35 - 197	01/11/22 11:43	01/24/22 13:00	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000026	ug/L		01/11/22 11:43	01/26/22 13:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*84*		*24 - 169*	*01/11/22 11:43*	*01/26/22 13:26*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*92*		*35 - 197*	*01/11/22 11:43*	*01/26/22 13:26*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	37TCDD (35-197)							
570-80749-1	Outfall018_20220105_Comp	92							
570-80749-1 - RA	Outfall018_20220105_Comp	92							
MB 320-557282/1-A	Method Blank	85							
MB 320-557282/1-A - RA	Method Blank	82							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	37TCDD (31-191)							
LCS 320-557282/2-A	Lab Control Sample	94							
LCSD 320-557282/3-A	Lab Control Sample Dup	92							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-80749-1	Outfall018_20220105_Comp	78	79	76	79	89	90	85	93
570-80749-1 - RA	Outfall018_20220105_Comp		84						
MB 320-557282/1-A	Method Blank	69	69	84	75	89	77	73	74
MB 320-557282/1-A - RA	Method Blank		72						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-80749-1	Outfall018_20220105_Comp	84	81	83	86	88	107	102
570-80749-1 - RA	Outfall018_20220105_Comp							
MB 320-557282/1-A	Method Blank	66	66	67	73	71	86	83
MB 320-557282/1-A - RA	Method Blank							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-557282/2-A	Lab Control Sample	66	66	83	75	87	74	69	70
LCSD 320-557282/3-A	Lab Control Sample Dup	75	75	92	84	99	86	80	82

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-557282/2-A	Lab Control Sample	64	65	65	71	69	84	83
LCSD 320-557282/3-A	Lab Control Sample Dup	74	75	77	85	80	97	95

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80749-2

Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-557282/1-A
Matrix: Water
Analysis Batch: 559828

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 557282

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000081	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000071	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000052	ug/L		01/11/22 11:43	01/21/22 19:11	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000048	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,4,7,8-HxCDD	0.00000163	J,DX q	0.000050	0.00000044	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.00000046	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.00000039	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.00000049	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.00000053	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,7,8,9-HxCDF	ND		0.000050	0.00000043	ug/L		01/11/22 11:43	01/21/22 19:11	1
2,3,4,6,7,8-HxCDF	ND		0.000050	0.00000044	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,4,6,7,8-HpCDD	0.000000967	J,DX q	0.000050	0.00000022	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,4,6,7,8-HpCDF	0.000000604	J,DX q	0.000050	0.00000031	ug/L		01/11/22 11:43	01/21/22 19:11	1
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.00000033	ug/L		01/11/22 11:43	01/21/22 19:11	1
OCDD	0.00000421	J,DX	0.00010	0.00000041	ug/L		01/11/22 11:43	01/21/22 19:11	1
OCDF	0.00000109	J,DX	0.00010	0.00000051	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total TCDD	ND		0.000010	0.00000081	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total TCDF	0.000000418	J,DX q	0.000010	0.00000039	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total PeCDD	ND		0.000050	0.00000071	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total PeCDF	ND		0.000050	0.00000048	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total HxCDD	0.00000163	J,DX q	0.000050	0.00000039	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total HxCDF	ND		0.000050	0.00000043	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total HpCDD	0.00000248	J,DX q	0.000050	0.00000022	ug/L		01/11/22 11:43	01/21/22 19:11	1
Total HpCDF	0.000000604	J,DX q	0.000050	0.00000031	ug/L		01/11/22 11:43	01/21/22 19:11	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*69*		*25 - 164*	*01/11/22 11:43*	*01/21/22 19:11*	*1*
13C-2,3,7,8-TCDF	*69*		*24 - 169*	*01/11/22 11:43*	*01/21/22 19:11*	*1*
13C-1,2,3,7,8-PeCDD	*84*		*25 - 181*	*01/11/22 11:43*	*01/21/22 19:11*	*1*
13C-1,2,3,7,8-PeCDF	*75*		*24 - 185*	*01/11/22 11:43*	*01/21/22 19:11*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-557282/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 559828 **Prep Batch: 557282**

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	89		21 - 178	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,4,7,8-HxCDD	77		32 - 141	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,6,7,8-HxCDD	73		28 - 130	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,4,7,8-HxCDF	74		26 - 152	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,6,7,8-HxCDF	66		26 - 123	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,7,8,9-HxCDF	66		29 - 147	01/11/22 11:43	01/21/22 19:11	1
13C-2,3,4,6,7,8-HxCDF	67		28 - 136	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,4,6,7,8-HpCDD	73		23 - 140	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,4,6,7,8-HpCDF	71		28 - 143	01/11/22 11:43	01/21/22 19:11	1
13C-1,2,3,4,7,8,9-HpCDF	86		26 - 138	01/11/22 11:43	01/21/22 19:11	1
13C-OCDD	83		17 - 157	01/11/22 11:43	01/21/22 19:11	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	85		35 - 197	01/11/22 11:43	01/21/22 19:11	1

Lab Sample ID: LCS 320-557282/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 559828 **Prep Batch: 557282**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000212		ug/L		106	67 - 158
2,3,7,8-TCDF	0.000200	0.000202		ug/L		101	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.00104		ug/L		104	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.00101		ug/L		101	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000911		ug/L		91	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000898		ug/L		90	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000946		ug/L		95	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000900		ug/L		90	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000931		ug/L		93	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.00102		ug/L		102	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.00102		ug/L		102	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.00104		ug/L		104	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000979		ug/L		98	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000937		ug/L		94	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000862		ug/L		86	78 - 138
OCDD	0.00200	0.00184		ug/L		92	78 - 144
OCDF	0.00200	0.00185		ug/L		93	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	66		20 - 175
13C-2,3,7,8-TCDF	66		22 - 152
13C-1,2,3,7,8-PeCDD	83		21 - 227
13C-1,2,3,7,8-PeCDF	75		21 - 192
13C-2,3,4,7,8-PeCDF	87		13 - 328
13C-1,2,3,4,7,8-HxCDD	74		21 - 193
13C-1,2,3,6,7,8-HxCDD	69		25 - 163
13C-1,2,3,4,7,8-HxCDF	70		19 - 202
13C-1,2,3,6,7,8-HxCDF	64		21 - 159

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-557282/2-A
Matrix: Water
Analysis Batch: 559828

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 557282

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,7,8,9-HxCDF	65		17 - 205
13C-2,3,4,6,7,8-HxCDF	65		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	71		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	69		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	84		20 - 186
13C-OCDD	83		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	94		31 - 191

Lab Sample ID: LCSD 320-557282/3-A
Matrix: Water
Analysis Batch: 559828

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 557282

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000193		ug/L		97	67 - 158	9	50
2,3,7,8-TCDF			0.000200	0.000188		ug/L		94	75 - 158	7	50
1,2,3,7,8-PeCDD			0.00100	0.000964		ug/L		96	70 - 142	8	50
1,2,3,7,8-PeCDF			0.00100	0.000947		ug/L		95	80 - 134	7	50
2,3,4,7,8-PeCDF			0.00100	0.000841		ug/L		84	68 - 160	8	50
1,2,3,4,7,8-HxCDD			0.00100	0.000838		ug/L		84	70 - 164	7	50
1,2,3,6,7,8-HxCDD			0.00100	0.000911		ug/L		91	76 - 134	4	50
1,2,3,7,8,9-HxCDD			0.00100	0.000858		ug/L		86	64 - 162	5	50
1,2,3,4,7,8-HxCDF			0.00100	0.000868		ug/L		87	72 - 134	7	50
1,2,3,6,7,8-HxCDF			0.00100	0.000971		ug/L		97	84 - 130	5	50
1,2,3,7,8,9-HxCDF			0.00100	0.000960		ug/L		96	78 - 130	6	50
2,3,4,6,7,8-HxCDF			0.00100	0.000971		ug/L		97	70 - 156	6	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.000944		ug/L		94	70 - 140	4	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.000895		ug/L		90	82 - 122	5	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000826		ug/L		83	78 - 138	4	50
OCDD			0.00200	0.00181		ug/L		91	78 - 144	2	50
OCDF			0.00200	0.00180		ug/L		90	63 - 170	3	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	75		20 - 175
13C-2,3,7,8-TCDF	75		22 - 152
13C-1,2,3,7,8-PeCDD	92		21 - 227
13C-1,2,3,7,8-PeCDF	84		21 - 192
13C-2,3,4,7,8-PeCDF	99		13 - 328
13C-1,2,3,4,7,8-HxCDD	86		21 - 193
13C-1,2,3,6,7,8-HxCDD	80		25 - 163
13C-1,2,3,4,7,8-HxCDF	82		19 - 202
13C-1,2,3,6,7,8-HxCDF	74		21 - 159
13C-1,2,3,7,8,9-HxCDF	75		17 - 205
13C-2,3,4,6,7,8-HxCDF	77		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	85		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	80		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	97		20 - 186

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-557282/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 559828 **Prep Batch: 557282**

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-OCDD	95		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	92		31 - 191

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-557282/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 560151 **Prep Batch: 557282**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	ND		0.000010	0.0000068	ug/L		01/11/22 11:43	01/24/22 12:37	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF - RA	72		24 - 169	01/11/22 11:43	01/24/22 12:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD - RA	82		35 - 197	01/11/22 11:43	01/24/22 12:37	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Specialty Organics

Prep Batch: 557282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	1613B	
570-80749-1 - RA	Outfall018_20220105_Comp	Total/NA	Water	1613B	
MB 320-557282/1-A	Method Blank	Total/NA	Water	1613B	
MB 320-557282/1-A - RA	Method Blank	Total/NA	Water	1613B	
LCS 320-557282/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-557282/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 559828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-557282/1-A	Method Blank	Total/NA	Water	1613B	557282
LCS 320-557282/2-A	Lab Control Sample	Total/NA	Water	1613B	557282
LCSD 320-557282/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	557282

Analysis Batch: 560151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-557282/1-A - RA	Method Blank	Total/NA	Water	1613B	557282

Analysis Batch: 560230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	1613B	557282

Analysis Batch: 560784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1 - RA	Outfall018_20220105_Comp	Total/NA	Water	1613B	557282

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			981.9 mL	20.0 uL	557282	01/11/22 11:43	CB	TAL SAC
Total/NA	Analysis	1613B		1			560230	01/24/22 13:00	DB	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		981.9 mL	20.0 uL	557282	01/11/22 11:43	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			560784	01/26/22 13:26	DB	TAL SAC
	Instrument ID: 11D2									

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80749-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-29-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-23
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-21 *
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80749-1	Outfall018_20220105_Comp	Water	01/05/22 09:35	01/05/22 18:25

80749

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80749 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2022 Routine Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: michelle dallalah	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals (E200.7) Zn (E200.8) Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1(SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- SO_4, Nitrate-N Nitrite-N NO3+NO2-N Perchlorate (E300)	Turbidity TDS (SM2540C/E160.1)	TSS (160.2 (SM2540D))	Ammonia-N (350.2)	alpha-BHC (E608)	2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	Total Recoverable Metals. Mercury (E245.1)	Total Recoverable Metals (E200.7) As, Mn Fe		Comments
									R	R	R	R	R	R	R	R	R	R	R	C	
Outfall 018	Outfall018_20220105_Comp	1/5/2022 0935	WM	500 mL Poly	1	HNO_3	90	No	X										X	X		~~Outfall 001 analyze for Fe~~ NVD Outfall 002 analyze for Fe. ~~Outfall 011 analyze for As, Mn and Fe~~ NVD
			WM	1 L Glass Amber	2	None	110	No		X												
			WM	1L Poly	1	None	115	No			X											
			WM	500 mL Poly	2	None	120	No				X										
			WM	500 mL Poly	2	None	130	No					X									48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X								48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X						
			WM	1 L Glass Amber	2	None	170	No									X					
			WM	1 L Glass Amber	2	None	180	No										X				
			WM	1L Poly	1	None	185	No							X							
	Outfall018_20220105_Comp_Extra	1/5/2022 0935	WM	1 L Glass Amber	2	None	110	No		H												Hold
			WM	500 mL Poly	2	None	120	No				H										Hold
			WM	500 mL Poly	2	None	130	No					H									Hold
			WM	1 L Glass Amber	2	None	170	No									H					Hold
			WM	1 L Glass Amber	2	None	180	No										H				Hold

Legend: C=Conditional, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Michelle Dallalah	1/5/2022 1300	Haley & Aldrich		ECI 01/05/22 1300
	01/05/22	ECI 1825		1/5/22 1825

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV: _____ All Level IV: ___X___

1.6|3 1,20|35, 2.1|3 6 SCG

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address.	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108	Boeing-SSFL NPDES Permit 2022 Routine Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: michelle dallalah	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	ANALYSIS REQUIRED: Total Dissolved Metals. (E200.7) Zn (E200.8): Cu, Pb, Cd, Se	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0) Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Total Dissolved Metals: Mercury (E245.1)	Total Dissolved Metals (E200.7) As, Mn, Fe	Comments
Outfall 018	Outfall018_20220105_Comp_F	1/5/2022 0935	WM	1L Poly	1	None	200	No	X				X	Filter and preserve within 24hrs of receipt at lab Outfall 002 analyze for Fe. ~~Outfall 001 analyze for Fe~~ ~~Outfall 011 analyze for Mn and Fe~~ ND
			WM	borosilicate vials	1	None	320	No				X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall018_20220105_Comp	1/5/2022 0935	WM	500 mL Poly	1	NaOH	220	No		X				
			WM	2.5 Gal Cube	1	None	225	No			X			Unfiltered and unpreserved analysis. Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
				1 L Glass Amber	1	None	230	No						Only test if first or second rain event of the season ND
				~~1 Gal Cube~~	~~0~~		~~260~~							Deliver to ABC Labs in Ventura, CA.

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Michelle Dallalah	1/5/2022 1300	Haley & Aldrich		ECI 01105122 1300
	01105122	ECI 1825		1/5/22 1825

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements. (Check)
No Level IV: _____ All Level IV: __X__

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-149367 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80749-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/2/2022			
City: Earth City	TAT Requested (days)			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O AsNaO2, P Na2O4S, Q - Na2SO3, R Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V MCAA, W - pH 4-5, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PreceSep_21 Radium-226	904.0/PreceSep_0 Radium-228	905_Sr90/PreceSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall018_20220105_Comp (570-80749-1)	1/5/22	09:35 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	1/6/22 1540				
Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/26/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149377 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80749-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/21/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S H2SO4, T TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall018_20220105_Comp (570-80749-1)	1/5/22	09:35 Pacific		Water			X		2	See QAS_Boeing_w/u to zero, ug/L, Use Boeing glassware
Outfall018_20220105_Extra (570-80749-2)	1/5/22	09:35 Pacific		Water				X	2	See QAS_Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time: 1/6/22 1636	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/26/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149377.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80749-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/21/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site:	SSOW#:			

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
Preservation Code:										
Outfall018_20220105_Comp (570-80749-1)	1/5/22	09:35 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall018_20220105_Extra (570-80749-2)	1/5/22	09:35 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:			
Relinquished by:	Date/Time: 1/6/22 1636	Company	Received by:	Date/Time: 1/6/22 1135	Company		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: Seal | Cooler Temperature(s) °C and Other Remarks: 4.6

Ver: 06/08/2021

1/26/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80749-2

Login Number: 80749
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80749-2

Login Number: 80749
List Number: 3
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 01/07/22 04:00 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.6c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80749-3
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/7/2022 4:42:02 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80749-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80749-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80749-3

Comments
No additional comments.

Receipt
The samples were received on 1/5/2022 6:25 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.1º C, 3.5º C and 3.6º C.

RAD
Method 900.0: Gross alpha beta batch 547126
The detection goal was not met for the following sample due to a reduction of the sample size attributed to high residual mass: Outfall018_20220105_Comp (570-80749-1). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross Alpha Beta prep batch 160-547126:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall018_20220105_Comp (570-80749-1), (LCS 160-547126/2-A), (LCSB 160-547126/3-A), (MB 160-547126/1-A), (570-80548-R-1-O), (570-80548-R-1-U DU), (570-80548-R-1-S MS) and (570-80548-R-1-T MSBT)

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Method 901.1: Gamma Prep Batch 160-546005

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is

Job ID: 570-80749-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall018_20220105_Comp (570-80749-1) and (570-80749-R-1-G DU)

Method 903.0: Radium 226 Batch 160-545836:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall018_20220105_Comp (570-80749-1), (LCS 160-545836/1-A), (LCSD 160-545836/2-A) and (MB 160-545836/24-A)

Method 904.0: Radium 228 batch 545838
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall018_20220105_Comp (570-80749-1), (LCS 160-545838/1-A), (LCSD 160-545838/2-A) and (MB 160-545838/24-A)

Method 905: Strontium 90 batch 545840
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall018_20220105_Comp (570-80749-1), (LCS 160-545840/1-A), (LCSD 160-545840/2-A) and (MB 160-545840/12-A)

Method 906.0: Tritium in Liquid batch 160-545833
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
Outfall018_20220105_Comp (570-80749-1), (LCS 160-545833/2-A), (MB 160-545833/1-A), (570-80746-Q-1-A), (570-80746-Q-1-B MS) and (570-80749-Q-1-B DU)

Method A-01-R: Isotopic Uranium Batch 160-545831:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall018_20220105_Comp (570-80749-1), (LCS 160-545831/2-A), (MB 160-545831/1-A) and (570-80749-R-1-E DU)

Method PrecSep_0: Radium-228 Prep Batch 160-545838

The following samples were prepared at a reduced aliquot due to Matrix: Outfall018_20220105_Comp (570-80749-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Job ID: 570-80749-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Method PrecSep-21: Radium-226 Prep Batch 160-545836

The following samples were prepared at a reduced aliquot due to Matrix: Outfall018_20220105_Comp (570-80749-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-545840

The following samples were prepared at a reduced aliquot due to Matrix: Outfall018_20220105_Comp (570-80749-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1

No Detections.

This Detection Summary does not include radiochemical test results.

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall018_20220105_Comp **Lab Sample ID: 570-80749-1**
Date Collected: 01/05/22 09:35 **Matrix: Water**
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.542	U G	4.34	4.34	3.00	8.07	pCi/L	01/19/22 09:35	01/21/22 13:53	1
Gross Beta	**4.50**	**G**	2.63	2.66	4.00	4.01	pCi/L	01/19/22 09:35	01/21/22 13:53	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	3.59	U	6.77	6.79	20.0	8.16	pCi/L	01/12/22 09:57	01/25/22 12:23	1
Potassium-40	**88.6**		49.2	50.3		50.2	pCi/L	01/12/22 09:57	01/25/22 12:23	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall018_20220105_Comp
Date Collected: 01/05/22 09:35
Date Received: 01/05/22 18:25

Lab Sample ID: 570-80749-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0114	U	0.149	0.149	1.00	0.290	pCi/L	01/11/22 12:38	02/07/22 11:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*01/11/22 12:38*	*02/07/22 11:43*	*1*

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall018_20220105_Comp
Date Collected: 01/05/22 09:35
Date Received: 01/05/22 18:25

Lab Sample ID: 570-80749-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.950		0.348	0.358	1.00	0.469	pCi/L	01/11/22 13:24	02/05/22 12:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:34*	*1*
Y Carrier	*82.2*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:34*	*1*

Method: 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall018_20220105_Comp
Date Collected: 01/05/22 09:35
Date Received: 01/05/22 18:25

Lab Sample ID: 570-80749-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.320	U	0.370	0.371	3.00	0.609	pCi/L	01/11/22 13:52	01/24/22 16:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*86.9*		*40 - 110*	*01/11/22 13:52*	*01/24/22 16:56*	*1*
Y Carrier	*88.2*		*40 - 110*	*01/11/22 13:52*	*01/24/22 16:56*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-90.1	U	210	210	500	396	pCi/L	01/11/22 12:29	01/14/22 17:05	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall018_20220105_Comp
Date Collected: 01/05/22 09:35
Date Received: 01/05/22 18:25

Lab Sample ID: 570-80749-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.0721	U	0.07374	0.07392	1.00	0.111	pCi/L	01/11/22 11:42	01/16/22 16:25	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*108*		*30 - 110*	*01/11/22 11:42*	*01/16/22 16:25*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
570-80749-1	Outfall018_20220105_Comp	102
LCS 160-545836/1-A	Lab Control Sample	91.4
LCSD 160-545836/2-A	Lab Control Sample Dup	95.2
MB 160-545836/24-A	Method Blank	103

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80749-1	Outfall018_20220105_Comp	102	82.2
LCS 160-545838/1-A	Lab Control Sample	91.4	83.4
LCSD 160-545838/2-A	Lab Control Sample Dup	95.2	84.5
MB 160-545838/24-A	Method Blank	103	90.1

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Sr	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80749-1	Outfall018_20220105_Comp	86.9	88.2
LCS 160-545840/1-A	Lab Control Sample	85.2	85.2
LCSD 160-545840/2-A	Lab Control Sample Dup	81.5	90.8
MB 160-545840/12-A	Method Blank	87.7	87.5

Tracer/Carrier Legend

Sr = Sr Carrier
Y = Y Carrier

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		U-232
Lab Sample ID	Client Sample ID	(30-110)
570-80749-1	Outfall018_20220105_Comp	108
570-80749-1 DU	Outfall018_20220105_Comp	90.5
LCS 160-545831/2-A	Lab Control Sample	91.9
MB 160-545831/1-A	Method Blank	83.7

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-547126/1-A
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 547126

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.04269	U	0.612	0.612	3.00	1.19	pCi/L	01/19/22 09:35	01/21/22 13:53	1
Gross Beta	0.5433	U	0.532	0.535	4.00	0.861	pCi/L	01/19/22 09:35	01/21/22 13:53	1

Lab Sample ID: LCS 160-547126/2-A
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	52.84		7.62	3.00	2.09	pCi/L	104	75 - 125

Lab Sample ID: LCSB 160-547126/3-A
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.6	74.43		7.97	4.00	1.06	pCi/L	98	75 - 125

Lab Sample ID: 570-80548-R-1-S MS
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	1.07	U	50.6	33.21		6.09	3.00	3.28	pCi/L	64	60 - 140

Lab Sample ID: 570-80548-R-1-T MSBT
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	2.34		75.6	76.60		8.22	4.00	1.01	pCi/L	98	60 - 140

Lab Sample ID: 570-80548-R-1-U DU
Matrix: Water
Analysis Batch: 547960

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	1.07	U	1.137	U	1.53	3.00	2.53	pCi/L	0.02	1
Gross Beta	2.34		2.080		0.584	4.00	0.728	pCi/L	0.21	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-546005/1-A
Matrix: Water
Analysis Batch: 547972

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 546005

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-4.333	U	11.2	11.2	20.0	13.2	pCi/L	01/12/22 09:57	01/25/22 16:40	1
Potassium-40	54.77	U	93.6	93.8		98.4	pCi/L	01/12/22 09:57	01/25/22 16:40	1

Lab Sample ID: LCS 160-546005/2-A
Matrix: Water
Analysis Batch: 547972

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 546005

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium-241	135000	138500		16500		435	pCi/L	102	75 - 125
Cesium-137	42000	42890		5110	20.0	101	pCi/L	102	75 - 125
Cobalt-60	20800	21330		2540		49.6	pCi/L	103	75 - 125

Lab Sample ID: 570-80749-1 DU
Matrix: Water
Analysis Batch: 547984

Client Sample ID: Outfall018_20220105_Comp
Prep Type: Total/NA
Prep Batch: 546005

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Cesium-137	3.59	U	-6.217	U	13.5	20.0	16.5	pCi/L	0.48	1
Potassium-40	88.6		-65.58	U	121		186	pCi/L	0.90	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-545836/24-A
Matrix: Water
Analysis Batch: 549570

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545836

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.03016	U	0.101	0.101	1.00	0.228	pCi/L	01/11/22 12:38	02/07/22 12:17	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*01/11/22 12:38*	*02/07/22 12:17*	*1*

Lab Sample ID: LCS 160-545836/1-A
Matrix: Water
Analysis Batch: 549569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545836

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.1	13.84		1.60	1.00	0.255	pCi/L	92	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.4*		*40 - 110*

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-545836/2-A
Matrix: Water
Analysis Batch: 549569

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 545836

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	13.98		1.60	1.00	0.279	pCi/L	92	75 - 125	0.04	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*95.2*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-545838/24-A
Matrix: Water
Analysis Batch: 549231

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545838

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.6159		0.326	0.331	1.00	0.487	pCi/L	01/11/22 13:24	02/05/22 12:35	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:35*	*1*
Y Carrier	*90.1*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:35*	*1*

Lab Sample ID: LCS 160-545838/1-A
Matrix: Water
Analysis Batch: 549232

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545838

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			11.9	13.74		1.58	1.00	0.462	pCi/L	116	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.4*		*40 - 110*
Y Carrier	*83.4*		*40 - 110*

Lab Sample ID: LCSD 160-545838/2-A
Matrix: Water
Analysis Batch: 549232

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 545838

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			11.9	14.06		1.60	1.00	0.452	pCi/L	119	75 - 125	0.10	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*95.2*		*40 - 110*
Y Carrier	*84.5*		*40 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-545840/12-A
Matrix: Water
Analysis Batch: 547961

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545840

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.05652	U	0.219	0.219	3.00	0.380	pCi/L	01/11/22 13:52	01/24/22 17:00	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*87.7*		*40 - 110*	*01/11/22 13:52*	*01/24/22 17:00*	*1*
Y Carrier	*87.5*		*40 - 110*	*01/11/22 13:52*	*01/24/22 17:00*	*1*

Lab Sample ID: LCS 160-545840/1-A
Matrix: Water
Analysis Batch: 547796

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545840

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Strontium-90			7.56	7.927		0.876	3.00	0.353	pCi/L	105	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*85.2*		*40 - 110*
Y Carrier	*85.2*		*40 - 110*

Lab Sample ID: LCSD 160-545840/2-A
Matrix: Water
Analysis Batch: 547796

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 545840

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Strontium-90			7.56	7.865		0.875	3.00	0.407	pCi/L	104	75 - 125	0.04	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*81.5*		*40 - 110*
Y Carrier	*90.8*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-545833/1-A
Matrix: Water
Analysis Batch: 546736

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545833

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-85.59	U	210	210	500	394	pCi/L	01/11/22 12:29	01/14/22 14:05	1

Lab Sample ID: LCS 160-545833/2-A
Matrix: Water
Analysis Batch: 546736

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545833

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			2240	1986		398	500	399	pCi/L	89	75 - 125		

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 570-80749-1 DU **Client Sample ID: Outfall018_20220105_Comp**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 546915 **Prep Batch: 545833**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	-90.1	U		-132.9	U	155	500	290	pCi/L			0.12	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-545831/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 546580 **Prep Batch: 545831**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.1253	U	0.1306	0.1308	1.00	0.154	pCi/L	01/11/22 11:42	01/16/22 16:25	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*83.7*		*30 - 110*	*01/11/22 11:42*	*01/16/22 16:25*	*1*

Lab Sample ID: LCS 160-545831/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 546581 **Prep Batch: 545831**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Uranium-234			18.2	18.21		1.99	1.00	0.148	pCi/L	100	75 - 125		
Uranium-238			18.6	18.24		1.99	1.00	0.107	pCi/L	98	75 - 125		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*91.9*		*30 - 110*

Lab Sample ID: 570-80749-1 DU **Client Sample ID: Outfall018_20220105_Comp**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 546589 **Prep Batch: 545831**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Total Uranium	0.0721	U		0.09260	U	0.09449	1.00	0.113	pCi/L			0.12	1

Tracer	*DU %Yield*	*DU Qualifier*	*Limits*
Uranium-232	*90.5*		*30 - 110*

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Prep Batch: 545831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	ExtChrom	
MB 160-545831/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-545831/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
570-80749-1 DU	Outfall018_20220105_Comp	Total/NA	Water	ExtChrom	

Prep Batch: 545833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-545833/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-545833/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
570-80749-1 DU	Outfall018_20220105_Comp	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 545836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	PrecSep-21	
MB 160-545836/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-545836/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-545836/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 545838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	PrecSep_0	
MB 160-545838/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-545838/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-545838/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 545840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	PrecSep-7	
MB 160-545840/12-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-545840/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-545840/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Prep Batch: 546005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-546005/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-546005/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-80749-1 DU	Outfall018_20220105_Comp	Total/NA	Water	Fill_Geo-0	

Prep Batch: 547126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	Evaporation	
MB 160-547126/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-547126/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-547126/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-80548-R-1-S MS	Matrix Spike	Total/NA	Water	Evaporation	
570-80548-R-1-T MSBT	Matrix Spike	Total/NA	Water	Evaporation	
570-80548-R-1-U DU	Duplicate	Total/NA	Water	Evaporation	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1

Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			50.02 mL	1.0 g	547126	01/19/22 09:35	KG	TAL SL
Total/NA	Analysis	900.0		1	1.0 mL	1.0 mL	547481	01/21/22 13:53	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	546005	01/12/22 09:57	SRE	TAL SL
Total/NA	Analysis	901.1		1			547972	01/25/22 12:23	JCB	TAL SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			749.48 mL	1.0 g	545836	01/11/22 12:38	LPS	TAL SL
Total/NA	Analysis	903.0		1			549569	02/07/22 11:43	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			749.48 mL	1.0 g	545838	01/11/22 13:24	LPS	TAL SL
Total/NA	Analysis	904.0		1			549231	02/05/22 12:34	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-7			500.11 mL	1.0 g	545840	01/11/22 13:52	LPS	TAL SL
Total/NA	Analysis	905		1			547796	01/24/22 16:56	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	LSC_Dist_Susp			100.15 mL	1.0 g	545833	01/11/22 12:29	BAL	TAL SL
Total/NA	Analysis	906.0		1			546736	01/14/22 17:05	JLP	TAL SL
	Instrument ID: LSCTEAL									
Total/NA	Prep	ExtChrom			499.90 mL	1.0 mL	545831	01/11/22 11:42	MLO	TAL SL
Total/NA	Analysis	A-01-R		1			546588	01/16/22 16:25	CLP	TAL SL
	Instrument ID: ALPHAVISION									

Laboratory References:
TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80749-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	TAL SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	TAL SL

Protocol References:

DOE = U.S. Department of Energy
EPA = US Environmental Protection Agency
None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80749-1	Outfall018_20220105_Comp	Water	01/05/22 09:35	01/05/22 18:25

80749

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80749 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2022 Routine Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: michelle dallalah	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals (E200.7) Zn (E200.8) Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1(SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- SO_4, Nitrate-N Nitrite-N NO3+NO2-N Perchlorate (E300)	Turbidity TDS (SM2540C/E160.1)	TSS (160.2 (SM2540D))	Ammonia-N (350.2)	alpha-BHC (E608)	2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	Total Recoverable Metals. Mercury (E245.1)	Total Recoverable Metals (E200.7) As, Mn Fe		Comments
									R	R	R	R	R	R	R	R	R	R	R	C	
Outfall 018	Outfall018_20220105_Comp	1/5/2022 0935	WM	500 mL Poly	1	HNO_3	90	No	X										X	X		~~Outfall 001 analyze for Fe~~ NDD Outfall 002 analyze for Fe. ~~Outfall 011 analyze for As, Mn and Fe~~ NDD
			WM	1 L Glass Amber	2	None	110	No		X												
			WM	1L Poly	1	None	115	No			X											
			WM	500 mL Poly	2	None	120	No				X										
			WM	500 mL Poly	2	None	130	No					X									48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X								48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X						
			WM	1 L Glass Amber	2	None	170	No									X					
			WM	1 L Glass Amber	2	None	180	No										X				
			WM	1L Poly	1	None	185	No							X							
	Outfall018_20220105_Comp_Extra	1/5/2022 0935	WM	1 L Glass Amber	2	None	110	No		H												Hold
			WM	500 mL Poly	2	None	120	No				H										Hold
			WM	500 mL Poly	2	None	130	No					H									Hold
			WM	1 L Glass Amber	2	None	170	No									H					Hold
			WM	1 L Glass Amber	2	None	180	No										H				Hold

Legend: C=Conditional, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Michelle Dallalah	1/5/2022 1300	Haley & Aldrich		ECI 01/05/22 1300
	01/05/22	ECI 1825		1/5/22 1825

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV: _____ All Level IV: ___X___

1.6|3 1,20|35, 2.1|3 6 SCG

2/7/2022

2019-2020 Rainy Season
Version 4

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address.	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108	Boeing-SSFL NPDES Permit 2022 Routine Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: michelle dallalah	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	ANALYSIS REQUIRED: Total Dissolved Metals. (E200.7) Zn (E200.8): Cu, Pb, Cd, Se	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0) Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, Cs-137 (E901.0 or E901.1)	Total Dissolved Metals: Mercury (E245.1)	Total Dissolved Metals (E200.7) As, Mn, Fe	Comments
Outfall 018	Outfall018_20220105_Comp_F	1/5/2022 0935	WM	1L Poly	1	None	200	No	X				X	Filter and preserve within 24hrs of receipt at lab ~~Outfall 001 analyze for Fe~~ ND Outfall 002 analyze for Fe. ~~Outfall 011 analyze for Mn and Fe~~ ND
			WM	borosilicate vials	1	None	320	No				X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall018_20220105_Comp	1/5/2022 0935	WM	500 mL Poly	1	NaOH	220	No		X				
				2.5 Gal Cube	1	None	225	No			X			Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
				1 L Glass Amber	1	None	230	No						
				~~1 Gal Cube~~	~~0~~		~~200~~							~~Only test if first or second rain events of the season~~ ND Deliver to ABC Labs in Ventura, CA.

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Michelle Dallalah	1/5/2022 1300	Haley & Aldrich		ECI 01105122 1300
	01105122	ECI 1825		1/5/22 1825

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements. (Check)
No Level IV: _____ All Level IV: __X__

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-149367 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80749-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/2/2022			
City: Earth City	TAT Requested (days)			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall018_20220105_Comp (570-80749-1)	1/5/22	09:35 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	1/6/22 1540				
Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2/7/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149377 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80749-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/21/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S H2SO4, T TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall018_20220105_Comp (570-80749-1)	1/5/22	09:35 Pacific		Water			X		2	See QAS_Boeing_w/u to zero, ug/L, Use Boeing glassware
Outfall018_20220105_Extra (570-80749-2)	1/5/22	09:35 Pacific		Water				X	2	See QAS_Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	1/6/22 1636				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-149367.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80749-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/2/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall018_20220105_Comp (570-80749-1)	1/5/22	09:35 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	1/6/22 1540		FED EX		
2	FED EX			Sierra Worthington	1110/22 0910	ETAS
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80749-3

Login Number: 80749
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80749-3

Login Number: 80749
List Number: 4
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 01/10/22 10:10 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-80749-4
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
3/15/2022 1:50:34 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Job ID: 570-80749-4

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80749-4

Comments
No additional comments.

Receipt
The samples were received on 1/5/2022 6:25 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.1º C, 3.5º C and 3.6º C.

The subject sample was re-analyzed for Iron confirmation per the client's request on 03/09/2022.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		100	50	ug/L		03/10/22 04:59	03/10/22 13:50	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-668757/1-A
Matrix: Water
Analysis Batch: 668799

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 668757

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		100	50	ug/L		03/10/22 04:59	03/10/22 13:45	1

Lab Sample ID: LCS 440-668757/2-A
Matrix: Water
Analysis Batch: 668799

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 668757

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Iron			500	475		ug/L		95	85 - 115		

Lab Sample ID: 570-80749-1 MS
Matrix: Water
Analysis Batch: 668799

Client Sample ID: Outfall018_20220105_Comp
Prep Type: Total Recoverable
Prep Batch: 668757

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Iron	ND		500	549		ug/L		110	70 - 130		

Lab Sample ID: 570-80749-1 MSD
Matrix: Water
Analysis Batch: 668799

Client Sample ID: Outfall018_20220105_Comp
Prep Type: Total Recoverable
Prep Batch: 668757

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	ND		500	537		ug/L		107	70 - 130	2	20

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Metals

Prep Batch: 668757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total Recoverable	Water	200.2	
MB 440-668757/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-668757/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80749-1 MS	Outfall018_20220105_Comp	Total Recoverable	Water	200.2	
570-80749-1 MSD	Outfall018_20220105_Comp	Total Recoverable	Water	200.2	

Analysis Batch: 668799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total Recoverable	Water	200.7 Rev 4.4	668757
MB 440-668757/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	668757
LCS 440-668757/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	668757
570-80749-1 MS	Outfall018_20220105_Comp	Total Recoverable	Water	200.7 Rev 4.4	668757
570-80749-1 MSD	Outfall018_20220105_Comp	Total Recoverable	Water	200.7 Rev 4.4	668757

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.2			25 mL	25 mL	668757	03/10/22 04:59		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			668799	03/10/22 13:50	K1UV	IRV 2
	Instrument ID: ICP8									

Laboratory References:

IRV 2 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80749-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Laboratory: Eurofins Calscience

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method	Method Description	Protocol	Laboratory
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

IRV 2 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80749-1	Outfall018_20220105_Comp	Water	01/05/22 09:35	01/05/22 18:25

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80749-4

Login Number: 80749
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80749-4

Login Number: 80749
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-80749-5
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp
Revision: 1

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/24/2022 9:26:55 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@et.eurofinsus.com

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Qualifiers

Metals

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-80749-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Job ID: 570-80749-5

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80749-5

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 4/19/2022. The report (revision 1) is being revised due to: Due to a laboratory error, the analyte list has been revised to only include confirmation analytes requested on April 6, 2022..

Receipt
The samples were received on 1/5/2022 6:25 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.1º C, 3.5º C and 3.6º C.

Revision: Due to a laboratory error, the analyte list has been revised to only include confirmation analytes requested on April 6, 2022

RAD
Method 901.1: Gamma 160-558303

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall018_20220105_Comp (570-80749-1), (MB 160-558303/1-A), (570-80241-R-1-K) and (570-80241-R-1-L DU)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Potassium	2.7		0.10	0.017	mg/L	1		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	2.7		0.10	0.017	mg/L		04/07/22 14:09	04/07/22 17:28	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Potassium-40	52.3	U	93.2	93.4		98.4	pCi/L	04/01/22 18:20	04/01/22 22:03	1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 570-225082/1-A
Matrix: Water
Analysis Batch: 225142

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 225082

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.10	0.017	mg/L		04/07/22 14:09	04/07/22 17:10	1

Lab Sample ID: LCS 570-225082/2-A
Matrix: Water
Analysis Batch: 225142

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 225082

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Potassium	1.00	1.12		mg/L		112	80 - 120

Lab Sample ID: LCSD 570-225082/3-A
Matrix: Water
Analysis Batch: 225142

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 225082

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Potassium	1.00	1.09		mg/L		109	80 - 120	3	20

Lab Sample ID: 570-80241-C-1-M MS
Matrix: Water
Analysis Batch: 225142

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 225082

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Potassium	4.1		1.00	4.90	BB	mg/L		84	80 - 120

Lab Sample ID: 570-80241-C-1-N MSD
Matrix: Water
Analysis Batch: 225142

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 225082

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Potassium	4.1		1.00	5.05	BB	mg/L		99	80 - 120	3	20

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-558303/1-A
Matrix: Water
Analysis Batch: 558240

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 558303

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Potassium-40	-73.00	U	131	131		212	pCi/L	04/01/22 18:20	04/01/22 21:45	1

Lab Sample ID: LCS 160-558303/2-A
Matrix: Water
Analysis Batch: 558248

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 558303

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Americium-241	135000	139600		16600		455	pCi/L	103	75 - 125
Cesium-137	41800	43090		5140	20.0	107	pCi/L	103	75 - 125
Cobalt-60	20300	21110		2520		51.1	pCi/L	104	75 - 125

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS) (Continued)

Lab Sample ID: 570-80241-R-1-L DU
Matrix: Water
Analysis Batch: 558249

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 558303

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Potassium-40	-31.4	U		-47.92	U	109		166	pCi/L			0.07	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Metals

Prep Batch: 225082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total Recoverable	Water	3005A	
MB 570-225082/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 570-225082/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 570-225082/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
570-80241-C-1-M MS	Matrix Spike	Total Recoverable	Water	3005A	
570-80241-C-1-N MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 225142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total Recoverable	Water	6020	225082
MB 570-225082/1-A	Method Blank	Total Recoverable	Water	6020	225082
LCS 570-225082/2-A	Lab Control Sample	Total Recoverable	Water	6020	225082
LCSD 570-225082/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020	225082
570-80241-C-1-M MS	Matrix Spike	Total Recoverable	Water	6020	225082
570-80241-C-1-N MSD	Matrix Spike Duplicate	Total Recoverable	Water	6020	225082

Rad

Prep Batch: 558303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-1	Outfall018_20220105_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-558303/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-558303/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-80241-R-1-L DU	Duplicate	Total/NA	Water	Fill_Geo-0	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Client Sample ID: Outfall018_20220105_Comp
Lab Sample ID: 570-80749-1
Date Collected: 01/05/22 09:35
Matrix: Water
Date Received: 01/05/22 18:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	225082	04/07/22 14:09	WL8G	ECL 4
Total Recoverable	Analysis	6020		1			225142	04/07/22 17:28	UFLE	ECL 4
	Instrument ID: ICPMS05									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	558303	04/01/22 18:20	ZTH	TAL SL
Total/NA	Analysis	901.1		1			558242	04/01/22 22:03	JCB	TAL SL
	Instrument ID: GAMMAVISION									

Laboratory References:

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-31-23
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	04-17-22
ANAB	Dept. of Defense ELAP	L2305	04-05-22
ANAB	Dept. of Energy	L2305.01	04-05-22
ANAB	ISO/IEC 17025	L2305	04-05-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	07-01-22
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-23
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	NELAP	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80749-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
West Virginia DEP	State	381	10-31-22

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80749-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	ECL 4
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	ECL 4
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Comp

Job ID: 570-80749-5

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80749-1	Outfall018_20220105_Comp	Water	01/05/22 09:35	01/05/22 18:25

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80749-5

Login Number: 80749
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80749-5

Login Number: 80749
List Number: 4
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 01/10/22 10:10 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Suite 100
Tucson, AZ 85701
520.289.8621

Data Usability Summary Report

Project Name: Boeing NPDES SSFL

Project Description: First Quarter 2022

Sample Date(s): 3 January through 29 March 2022

Analytical Laboratory: Eurofins Calscience – Garden Grove/Tustin, CA

Validation Performed by: Sean Fischer

Validation Date: 10 March 2022

Haley & Aldrich, Inc. prepared this Data Usability Summary Report (DUSR) to summarize the review and validation of the analytical results for Sample Delivery Group(s) (SDG) listed in Section 1.1. This report is organized into the following five sections.

1. First Quarter 2022

2. Explanations

3. Glossary

4. Abbreviations

5. Qualifiers

This data validation and usability assessment was performed per the guidance and requirements established by the United States Environmental Protection Agency's (USEPA) using the following reference materials:

- National Functional Guidelines (NFG) for Inorganic Data Review.
- NFG for Organic Data Review.
- USEPA Contract Laboratory Program (CLP) NFG for Chlorinated Dioxin/Furan Data Review.
- The project-specific Quality Assurance Project Plan (QAPP), herein referred to as the specified limits (see references section).

Data reported in this sampling event were reported to the laboratory estimated detection limit (EDL) or method detection limit (MDL). Results found between the EDL or MDL and laboratory reporting limit (RL) are flagged J as estimated.

Sample data were qualified in accordance with the laboratory's standard operating procedures (SOP). The results presented in each laboratory report were found to be compliant with the data quality objectives for the project and therefore usable; any exceptions are noted in Table 1.

1. First Quarter 2022

1.1 SAMPLE MANAGEMENT

This DUSR summarizes the review of the following samples:

Sample ID	Sample Type	Lab ID	Sample Date	Matrix	Methods
Outfall018_20220103_Grab	N	456329-001*	01/03/2022	WM	A
Outfall002_20220104_Grab	N	456331-001*	01/04/2022	WM	A
Outfall002_20220110_Grab	N	456591-001*	01/10/2022	WM	A
Outfall002_20220113_Grab	N	456805-001*	01/13/2022	WM	A
OUTFALL002_20220118_GRAB	N	456997-001*	01/18/2022	WM	A
OUTFALL001_20220119_GRAB	N	457058-001*	01/19/2022	WM	A
Outfall002_20220121_Grab	N	457165-001*	01/21/2022	WM	A
ArroyoSimi_20220215_Grab	N	458331-001*	2/15/2022	WS	A
ArroyoSimi_20220218_Grab	N	458535-001*	2/18/2022	WS	A
ArroyoSimi_20220329_Grab	N	460464-001*	3/29/2022	WS	A
Outfall009_20220104_Comp	N	570-80544-1	01/04/2022	WM	B
Outfall018_20220104_Comp	N	570-80545-1	01/04/2022	WM	B, C, D
Outfall018_20220104_Comp_F	N	570-80545-3	01/04/2022	WM	C, D
Outfall002_20220104_Comp	N	570-80548-1	01/04/2022	WM	B
Outfall002_20220105_Comp	N	570-80746-1	01/05/2022	WM	B
Outfall018_20220105_Comp	N	570-80749-1	01/05/2022	WM	B, C, D
Outfall018_20220105_Comp_F	N	570-80749-3	01/05/2022	WM	C, D
Outfall002_20220119_Comp	N	570-82063-1	01/19/2022	WM	B
OUTFALL001_20220119_COMP	N	570-82066-1	01/19/2022	WM	B
Outfall011_20220119_Comp	N	570-82068-1	01/19/2022	WM	B
Arroyo Simi_20220315_Grab	N	570-88122-1	3/15/2022	WM	B

Method SM9223B subcontracted to Enthalpy Analytical – Orange, CA

Method Holding Times			
A.	SM9223B	Escherichia coli (E. coli)	8 hours for liquid, preserved
B.	E1613B	Dioxins/Furans	1 year, unpreserved
C.	E200.7	Metals, Total or Dissolved	180 days for liquid, preserved
D.	E200.8	Metals, Total or Dissolved	180 days for liquid, preserved

Samples were collected, preserved, and shipped following standard chain of custody (COC) protocol. Samples were also received appropriately, identified correctly, and analyzed according to the COC. Issues noted with sample management are listed below:

- Custody seals were not used when transported between subcontracted laboratories.
- In SDG 570-80749-4, sample Outfall018_20220105_Comp was re-analyzed for Iron confirmation per the client's request on 03/09/2022.

1.2 HOLDING TIMES/PRESERVATION

The samples arrived at the laboratory at the proper temperature and were prepared and analyzed within the holding time and preservation criteria specified per method protocol with the following exceptions:

Method	Matrix	Holding Time	Preservation	Sample ID, Violation, Qualification
SM9223B	Water	8 hours for liquid, preserved	Cool to ≤ 6 °C; $Na_2S_2O_3$; No Headspace	Outfall018_20220103_Grab, Outfall002_20220110_Grab, Outfall002_20220113_Grab, OUTFALL002_20220121_GRAB, and OUTFALL002_20220118_GRAB were analyzed outside the holding time; qualified "J/UJ."

1.3 SURROGATE RECOVERY COMPLIANCE

Refer to section E 1.2. The percent recovery (%R) for each surrogate compound added to each project sample were determined to be within the laboratory specified QC limits.

1.4 LABORATORY CONTROL SAMPLES

Refer to section E 1.3. Compounds associated with the laboratory control samples/laboratory control sample duplicates (LCS/LCSD) analyses exhibited recoveries and relative percent differences (RPD) within the specified limits.

1.5 MATRIX SPIKE SAMPLES

Refer to section E 1.4. The sample(s) below were used for matrix spike/matrix spike duplicate (MS/MSD):

Lab Sample Number	Matrix Spike/Matrix Spike Duplicate Sample Client ID	Method(s)
570-80749-3 MS/MSD	Outfall018_20220105_Comp_F	E200.7
570-80749-1 MS/MSD	Outfall018_20220105_Comp	E200.7

The MS/MSD recoveries and the RPD between the MS and MSD results were within the specified limits.

1.6 BLANK SAMPLE ANALYSIS

Refer to section E 1.5. Method blank samples had no detections, indicating that no contamination from laboratory activities occurred with the following exceptions:

Blank Type	Batch ID	Analyte Detected in Blank	Laboratory Concentration/ Qualifier (µg/L)	Validation Qualifier	Affected Samples
	558766	1,2,3,7,8-PeCDD	0.00000467 J,DX	NA	None, samples are ND

Blank Type	Batch ID	Analyte Detected in Blank	Laboratory Concentration/ Qualifier (µg/L)	Validation Qualifier	Affected Samples
Method Blank		1,2,3,7,8-PeCDF	0.00000401 J,DX	NA	
		2,3,4,7,8-PeCDF	0.00000412 J,DX	NA	
		1,2,3,4,7,8-HxCDD	0.00000550 J,DXq	NA	
		1,2,3,6,7,8-HxCDD	0.00000657 J,DX	NA	
		1,2,3,7,8,9-HxCDD	0.00000690 J,DXq	NA	
		1,2,3,4,7,8-HxCDF	0.00000382 J,DXq	NA	
		1,2,3,6,7,8-HxCDF	0.00000445 J,DXq	NA	
		2,3,4,6,7,8-HxCDF	0.00000499 J,DX	NA	
		1,2,3,4,7,8,9-HpCDF	0.00000709 J,DX	NA	
		OCDF	0.0000123 J,DX	NA	
		OCDD	0.0000172 J,DX	NA	None, samples are >10x blank
		1,2,3,7,8,9-HxCDF	0.00000579 J,DX	Result U	Outfall009_20220104_Comp
		1,2,3,4,6,7,8-HpCDD	0.00000880 J,DX		
		1,2,3,4,6,7,8-HpCDF	0.00000623 J,DX		
	559828	1,2,3,4,7,8-HxCDD	0.00000163 J,DXq	Result U	Outfall002_20220104_Comp Outfall002_20220105_Comp Outfall018_20220104_Comp Outfall018_20220105_Comp
		1,2,3,4,6,7,8-HpCDD	0.000000967 J,DXq		
		1,2,3,4,6,7,8-HpCDF	0.000000604 J,DXq		
		OCDD	0.00000421 J,DX		
		OCDF	0.00000109 J,DX		
Method Blank	565138	1,2,3,7,8-PeCDF	0.00000442 J,DX	Result U	OUTFALL001_20220119_COMP
		2,3,4,7,8-PeCDF	0.00000287 J,DX		
		1,2,3,6,7,8-HxCDD	0.00000323 J,DX	Result U	OUTFALL001_20220119_COMP Outfall002_20220119_Comp
		1,2,3,7,8,9-HxCDD	0.00000258 J,DXq		
		1,2,3,4,7,8-HxCDF	0.00000671 J,DX		
		1,2,3,6,7,8-HxCDF	0.00000500 J,DX		
		2,3,4,6,7,8-HxCDF	0.00000230 J,DX		
		1,2,3,4,7,8-HxCDD	0.00000330 J,DX	Result U	OUTFALL001_20220119_COMP Outfall002_20220119_Comp Outfall011_20220119_Comp
		1,2,3,7,8,9-HxCDF	0.00000523 J,DX		
		1,2,3,4,6,7,8-HpCDD	0.00000638 J,DX		
		1,2,3,4,6,7,8-HpCDF	0.0000184 J,DX		
		1,2,3,4,7,8,9-HpCDF	0.00000763 J,DX		
		OCDD	0.0000232 J,DX		
		OCDF	0.0000399 J,DX		

Blank Type	Batch ID	Analyte Detected in Blank	Laboratory Concentration/ Qualifier (µg/L)	Validation Qualifier	Affected Samples
	566566	2,3,7,8-TCDF - RA	0.00000338 J,DX	NA	None, samples are ND
	577745	2,3,7,8-TCDF	0.00000225 J,DX	NA	Not analyzed for in batch
		1,2,3,7,8-PeCDD	0.00000237 J,DX	NA	None, samples are ND
		1,2,3,7,8-PeCDF	0.00000224 J,DX		
		2,3,4,7,8-PeCDF	0.00000205 J,DX		
		1,2,3,6,7,8-HxCDD	0.00000321 J,DX		
		1,2,3,7,8,9-HxCDD	0.00000250 J,DX		
		1,2,3,4,7,8-HxCDF	0.00000273 J,DX		
		1,2,3,6,7,8-HxCDF	0.00000236 J,DX		
		2,3,4,6,7,8-HxCDF	0.00000293 J,DX		
		1,2,3,4,7,8,9-HpCDF	0.00000283 J,DX		
		1,2,3,4,7,8-HxCDD	0.00000414 J,DX	Result U	Arroyo Simi_20220315_Grab
		1,2,3,7,8,9-HxCDF	0.00000451 J,DX		
		1,2,3,4,6,7,8-HpCDD	0.00000379 J,DX		
		1,2,3,4,6,7,8-HpCDF	0.00000289 J,DX		
		OCDD	0.0000132 J,DX		
		OCDF	0.00000660 J,DX		
	579217	2,3,7,8-TCDF	0.00000136 J,DX	Result U	Arroyo Simi_20220315_Grab

1.7 DUPLICATE SAMPLE ANALYSIS

Refer to section E 1.6. No client samples were used for laboratory duplicate analysis.

1.8 DIOXIN/FURAN ESTIMATED MAXIMUM POSSIBLE CONCENTRATION (EMPC)

Refer to section E 1.9. A result previously qualified as a non-detect for method blank contamination was not further qualified as an EMPC. The laboratory reported the following EMPC flags:

Method	Lab ID	Analyte	Laboratory Concentration/Qualifier (µg/L)	Validation Qualifier	Affected Samples
E1613B	570-80545-1	1,2,3,7,8,9-HxCDD	0.00000061 J,DXq	Result UJ	Outfall018_20220104_Comp
		1,2,3,4,7,8,9-HpCDF	0.0000012 J,DXq		
		1,2,3,6,7,8-HxCDD	0.00000088 J,DXq		
		1,2,3,4,7,8-HxCDF	0.0000014 J,DXq		
	570-80548-1	1,2,3,7,8-PeCDF	0.00000096 J,DXq	Result UJ	Outfall002_20220104_Comp
	570-80746-1	1,2,3,7,8,9-HxCDD	0.00000067 J,DXq	Result UJ	Outfall002_20220105_Comp
		1,2,3,7,8-PeCDF	0.00000065 J,DXq		

Method	Lab ID	Analyte	Laboratory Concentration/Qualifier (µg/L)	Validation Qualifier	Affected Samples
		1,2,3,6,7,8-HxCDF	0.00000069 J,DXq		
		2,3,4,6,7,8-HxCDF	0.00000047 J,DXq		
		1,2,3,4,7,8-HxCDF	0.0000007 J,DXq		
	570-80749-1	1,2,3,7,8,9-HxCDD	0.00000073 J,DXq	Result UJ	Outfall018_20220105_Comp
		1,2,3,4,7,8,9-HpCDF	0.00000076 J,DXq		
		1,2,3,6,7,8-HxCDD	0.00000041 J,DXq		

1.9 COMPOUND IDENTIFICATION

The second-column confirmation analysis for isomer 2,3,7,8-TCDF did not confirm the initial result for samples from 1/4, 1/5, and 1/19 including Outfalls 001, 002, 011, and 018. As the confirmation column is more specific for the detection of 2,3,7,8-TCDF, the confirmation results were retained and the initial result rejected (R) as duplicate data.

1.10 SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

The results presented in this DUSR were found to comply with the data quality objectives for the project and the guidelines specified by the analytical method. Based on the review of this report, the data are useable and acceptable. A summary of qualifiers applied to this data set are shown in Table 1.

2. Explanations

The following explanations include more detailed information regarding each of the sections in the DUSR above. Not all sections in the Explanations are represented:

- E 1.2 Surrogate Recovery Compliance
  - Surrogates, also known as system monitoring compounds, are compounds added to each sample prior to sample preparation to determining the efficiency of the extraction procedure by evaluating the percent recovery (%R) of the compounds.
- E 1.3 Laboratory Control Samples
  - The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analyses are used to assess the precision and accuracy of the analytical method independent of matrix interferences.
  - For radiological isotope data, the normalized difference was calculated between the spike result and the expected value to determine if the results differed significantly when compared to their respective TPU.
- E 1.4 Matrix Spike Samples
  - Matrix spike/matrix spike duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method and evaluate the effects of the sample matrix on the sample preparation procedures and measurement methodologies.
  - For inorganic methods, when a matrix spike recovery falls outside of the control limits and the sample result is less than four times the spike added, a post digestion spike (PDS) is performed.
  - For radiological isotope data, the normalized difference was calculated between the spike result and the expected value to determine if the results differed significantly when compared to their respective TPU.
- E 1.5 Blank Sample Analysis
  - Method blanks are prepared by the analytical laboratory and analyzed concurrently with the project samples to assess possible laboratory contamination.
- E 1.6 Laboratory and Field Duplicate Sample Analysis
  - The laboratory duplicate sample analysis is used by the laboratory at the time of the analysis to demonstrate acceptable method precision. The RPD or absolute difference was evaluated for each duplicate sample pair to monitor the reproducibility of the data.
- E 1.9 Dioxin/Furan Estimated Maximum Possible Concentration
  - An Estimated Maximum Possible Concentration (EMPC) is a worst-case estimate of the concentration for a dioxin/furan based on all identification criteria being met except the ion abundance ratio criteria, or if a peak representing a chlorinated diphenyl ether was detected.

3. Glossary

Not all of the following symbols, acronyms, or qualifiers occur in this document.

- Sample Types:
  - N — Primary Sample
- Units:
  - µg/L — microgram per liter
  - mpn/100mL — Most probable number per 100 milliliters
- Matrices:
  - WM — Stormwater
  - WS — Surface Water
- Fraction:
  - N — Normal (method cannot be filtered)
  - D — Dissolved (filtered)
  - T — Total (unfiltered)
- Table Footnotes:
  - NA — Not applicable
  - ND — Non-detect
  - NR — Not reported
- Common Symbols:
  - % — percent
  - < — less than
  - > — greater than
  - = — equal
  - °C — degrees Celsius
  - ± — plus or minus
  - ~ — approximately
  - x — times (multiplier)
- Laboratory Qualifiers:
  - MB — Laboratory method blank contamination.
  - DX — Results found between the EDL or MDL and laboratory reporting limit (RL) are flagged DX by the laboratory.
  - q — EMPC flags
- Validation Note:
  - -- — No qualifier
  - *III — Unusual problems found with the data that have been described in the validation report.
  - B — Laboratory method blank contamination.
  - D — The analysis with this flag should not be used because another more technically sound analysis is available.
  - DNQ — Detected but not quantified (constituent value greater than or equal to the laboratory method detection limit and less than the laboratory reporting limit).
  - H — Holding time was exceeded
  - R — The sample results were rejected as unusable; the compound may or may not be present in the sample

4. Abbreviations

%D	Percent Difference
%R	Percent Recovery
%RSD	Percent Relative Standard Deviation
µg/L	micrograms per liter
2s	2 sigma
4,4-DDT	4 4-dichlorodiphenyltrichloroethane
Abs Diff	Absolute Difference
BPJ	Best Professional Judgement
BS	Blank Spike
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CCVL	Continuing Calibration Verification Low
COC	Chain of Custody
COM	Combined Isotope Calculation
Cr (VI)	Hexavalent Chromium
CRI	Collision Reaction Interface
DoD	Department of Defense
DUSR	Data Usability Summary Report
EMPC	Estimated Maximum Possible Concentration
FBK	Field Blank Contamination
FDP	Field Duplicate
GC	Gas Chromatograph
GC/MS	Gas Chromatography/Mass Spectrometry
GPC	Gel Permeation Chromatography
HCl	Hydrochloric Acid
ICAL	Initial Calibration
ICB	Initial Calibration Blank
ICP/MS	Inductively Coupled Plasma/ Mass Spectrometry
ICV	Initial Calibration Verification
ICVL	Initial Calibration Verification Low
IPA	Isopropyl Alcohol
LC	Laboratory Control
LCS/LCSD	Laboratory Control Sample/Laboratory Control Sample Duplicate
MBK	Method Blank Contamination
MDC	Minimum Detectable Concentration
MDL	Laboratory Method Detection Limit
mg/kg	milligrams per kilogram
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NA	not applicable
ND	Non-Detect
NFG	National Functional Guidelines
NH_3	Ammonia
NYSDEC	New York State Department of Environmental Conservation
PAH	polyaromatic hydrocarbons
PCB	Polychlorinated Biphenyl
PDS	Post Digestion Spike
PEM	Performance Evaluation Mixture
PFAS	Per- and Polyfluoroalkyl Substances
PFBA	Perfluorbutanoic Acid
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctanoic Acid
PFPeA	nonafluorovaleric acid
QAPP	Quality Assurance Project Plan
QC	Quality Control
QSM	Quality Systems Manual
Ra-226	Radium-226
Ra-228	Radium-228
RESC	Resolution Check Measure
RL	Laboratory Reporting Limit
RPD	Relative Percent Difference
RRF	Relative Response Factors
RT	Retention Time
SAP	sampling analysis plan
SDG	Sample Delivery Group
SIM	Selected ion monitoring
SOP	Laboratory Standard Operating Procedures
SPE	Solid Phase Extraction
SVOC	Semi-Volatile Organic Compounds
TIC	Tentatively Identified Compound
TKN	Total Kjeldahl Nitrogen
TPH	Total Petroleum Hydrocarbon
TPU	Total Propagated Uncertainty
u	atomic mass unit
USEPA	U.S. Environmental Protection Agency
VOC	Volatile Organic Compounds
WP	Work Plan

5. Qualifiers

The qualifiers below are from the USEPA National Functional Guidelines and the data in the DUSR may contain these qualifiers:

- Validation Qualifiers:
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - R The sample results were rejected as unusable; the compound may or may not be present in the sample.
  - U The compound was analyzed for but not detected. The associated value is either the compound quantitation limit if not detected by the analytical instrument or could be the reported or blank concentration if qualified by blank contamination. This can also be displayed as less than the associated compound quantitation limit (<RL or <MDL), or “ND”.
  - UJ The compound was not detected above the reported sample quantitation limit; however, the reported limit is estimated and may or may not represent the actual limit of quantitation.
  - = No Qualifier

References

1. United States Environmental Protection Agency (USEPA), 2011. USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Chlorinated Dibenzo-p-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs) Data Review. EPA-540-R-11-016. September.
2. USEPA, 2020a. National Functional Guidelines for Inorganic Superfund Methods Data Review. EPA-542-R-20-006. November.
3. USEPA, 2020b. National Functional Guidelines for Organic Superfund Methods Data Review. EPA-540-R-20-005. November.
4. Haley & Aldrich, Inc, 2015. Quality Assurance Project Field Plan for Santa Susana Field Laboratory Stormwater Sampling Program. December.

TABLE 1
DATA USABILITY SUMMARY REPORT
BOEING NPDES SSFL FIRST QUARTER 2022 VALIDATION QUALIFIERS

Outfall	Sample ID	Sample Date	Lab ID	Method	Fraction	Analyte	Result	Laboratory Qualifier	Final Validated Qualifier	Validation Note	Unit	Notes
OUTFALL 001	OUTFALL001_20220119_COMP	1/19/2022	570-82066-1	E1613B	N	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	U	--	ug/L	
OUTFALL 001	OUTFALL001_20220119_COMP	1/19/2022	570-82066-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000015	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 001	OUTFALL001_20220119_COMP	1/19/2022	570-82066-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	0.000045	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 001	OUTFALL001_20220119_COMP	1/19/2022	570-82066-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	0.0000086	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 001	OUTFALL001_20220119_COMP	1/19/2022	570-82066-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	0.0000056	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 001	OUTFALL001_20220119_COMP	1/19/2022	570-82066-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000022	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 001	OUTFALL001_20220119_COMP	1/19/2022	570-82066-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	ND	U	U	--	ug/L	
OUTFALL 001	OUTFALL001_20220119_COMP	1/19/2022	570-82066-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0.0000017	J,DXqMB	R	D	ug/L	
OUTFALL 001	OUTFALL001_20220119_COMP	1/19/2022	570-82066-1	E1613B	N	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	0.0000014	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 001	OUTFALL001_20220119_COMP	1/19/2022	570-82066-1	E1613B	N	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	0.0000011	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 001	OUTFALL001_20220119_COMP	1/19/2022	570-82066-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	0.00000095	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 001	OUTFALL001_20220119_COMP	1/19/2022	570-82066-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.000001	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 001	OUTFALL001_20220119_COMP	1/19/2022	570-82066-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000014	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 001	OUTFALL001_20220119_COMP	1/19/2022	570-82066-1	E1613B	N	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.00000069	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 001	OUTFALL001_20220119_COMP	1/19/2022	570-82066-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.0000033	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 001	OUTFALL001_20220119_COMP	1/19/2022	570-82066-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	0.00000099	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 001	OUTFALL001_20220119_COMP	1/19/2022	570-82066-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	0.0000029	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 001	OUTFALL001_20220119_COMP	1/19/2022	570-82066-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	U	--	ug/L	
OUTFALL 001	OUTFALL001_20220119_GRAB	1/19/2022	457058-001	SM9223B	N	Escherichia coli	9.7		=	--	mpn/100mL	
OUTFALL 002	Outfall002_20220104_Comp	1/4/2022	570-80548-1	E1613B	N	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20220104_Comp	1/4/2022	570-80548-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000014	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20220104_Comp	1/4/2022	570-80548-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	0.000061	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220104_Comp	1/4/2022	570-80548-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	0.0000078	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220104_Comp	1/4/2022	570-80548-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	0.0000056	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220104_Comp	1/4/2022	570-80548-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000026	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220104_Comp	1/4/2022	570-80548-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	0.0000014	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20220104_Comp	1/4/2022	570-80548-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0.00000096	J,DXMB	R	D	ug/L	
OUTFALL 002	Outfall002_20220104_Comp	1/4/2022	570-80548-1	E1613B	N	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	0.0000015	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20220104_Comp	1/4/2022	570-80548-1	E1613B	N	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	0.000001	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20220104_Comp	1/4/2022	570-80548-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	0.00000096	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220104_Comp	1/4/2022	570-80548-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.0000014	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20220104_Comp	1/4/2022	570-80548-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000012	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20220104_Comp	1/4/2022	570-80548-1	E1613B	N	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.0000014	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20220104_Comp	1/4/2022	570-80548-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.0000032	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220104_Comp	1/4/2022	570-80548-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	0.0000014	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20220104_Comp	1/4/2022	570-80548-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	0.0000014	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20220104_Comp	1/4/2022	570-80548-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20220104_Grab	1/4/2022	456331-001	SM9223B	N	Escherichia coli	56		=	--	mpn/100mL	
OUTFALL 002	Outfall002_20220105_Comp	1/5/2022	570-80746-1	E1613B	N	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20220105_Comp	1/5/2022	570-80746-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	0.00000067	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220105_Comp	1/5/2022	570-80746-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	0.000024	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220105_Comp	1/5/2022	570-80746-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	0.0000043	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220105_Comp	1/5/2022	570-80746-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	0.0000041	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220105_Comp	1/5/2022	570-80746-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000019	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220105_Comp	1/5/2022	570-80746-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20220105_Comp	1/5/2022	570-80746-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0.00000098	J,DXqMB	R	D	ug/L	
OUTFALL 002	Outfall002_20220105_Comp	1/5/2022	570-80746-1	E1613B	N	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	0.00000083	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20220105_Comp	1/5/2022	570-80746-1	E1613B	N	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20220105_Comp	1/5/2022	570-80746-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	0.00000065	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220105_Comp	1/5/2022	570-80746-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.00000069	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220105_Comp	1/5/2022	570-80746-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.00000073	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20220105_Comp	1/5/2022	570-80746-1	E1613B	N	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.00000047	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220105_Comp	1/5/2022	570-80746-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.0000016	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220105_Comp	1/5/2022	570-80746-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	0.0000007	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220105_Comp	1/5/2022	570-80746-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	0.0000012	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20220105_Comp	1/5/2022	570-80746-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20220110_Grab	1/10/2022	456591-001	SM9223B	N	Escherichia coli	100	H	J	H	mpn/100mL	
OUTFALL 002	Outfall002_20220113_Grab	1/13/2022	456805-001	SM9223B	N	Escherichia coli	12	H	J	H	mpn/100mL	

TABLE 1
DATA USABILITY SUMMARY REPORT
BOEING NPDES SSFL FIRST QUARTER 2022 VALIDATION QUALIFIERS

Outfall	Sample ID	Sample Date	Lab ID	Method	Fraction	Analyte	Result	Laboratory Qualifier	Final Validated Qualifier	Validation Note	Unit	Notes
OUTFALL 002	OUTFALL002_20220118_GRAB	1/18/2022	456997-001	SM9223B	N	Escherichia coli	3.1	H	J	H	mpn/100mL	
OUTFALL 002	Outfall002_20220119_Comp	1/19/2022	570-82063-1	E1613B	N	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20220119_Comp	1/19/2022	570-82063-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000022	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220119_Comp	1/19/2022	570-82063-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	0.000024	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220119_Comp	1/19/2022	570-82063-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	0.0000055	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220119_Comp	1/19/2022	570-82063-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	0.0000063	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220119_Comp	1/19/2022	570-82063-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000038	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220119_Comp	1/19/2022	570-82063-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20220119_Comp	1/19/2022	570-82063-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0.0000024	J,DXqMB	R	D	ug/L	
OUTFALL 002	Outfall002_20220119_Comp	1/19/2022	570-82063-1	E1613B	N	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	0.0000026	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220119_Comp	1/19/2022	570-82063-1	E1613B	N	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20220119_Comp	1/19/2022	570-82063-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20220119_Comp	1/19/2022	570-82063-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.0000017	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220119_Comp	1/19/2022	570-82063-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000021	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220119_Comp	1/19/2022	570-82063-1	E1613B	N	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.000002	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220119_Comp	1/19/2022	570-82063-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.000006	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220119_Comp	1/19/2022	570-82063-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	0.0000024	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220119_Comp	1/19/2022	570-82063-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	0.0000038	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20220119_Comp	1/19/2022	570-82063-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	U	--	ug/L	
OUTFALL 002	OUTFALL002_20220121_GRAB	1/21/2022	457165-001	SM9223B	N	Escherichia coli	4.1	H	J	H	mpn/100mL	
OUTFALL 009	Outfall009_20220104_Comp	1/4/2022	570-80544-1	E1613B	N	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20220104_Comp	1/4/2022	570-80544-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20220104_Comp	1/4/2022	570-80544-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	0.00031	MB	=	--	ug/L	
OUTFALL 009	Outfall009_20220104_Comp	1/4/2022	570-80544-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	0.000031	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 009	Outfall009_20220104_Comp	1/4/2022	570-80544-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20220104_Comp	1/4/2022	570-80544-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20220104_Comp	1/4/2022	570-80544-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20220104_Comp	1/4/2022	570-80544-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20220104_Comp	1/4/2022	570-80544-1	E1613B	N	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20220104_Comp	1/4/2022	570-80544-1	E1613B	N	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20220104_Comp	1/4/2022	570-80544-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20220104_Comp	1/4/2022	570-80544-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20220104_Comp	1/4/2022	570-80544-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20220104_Comp	1/4/2022	570-80544-1	E1613B	N	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20220104_Comp	1/4/2022	570-80544-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.0000024	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 009	Outfall009_20220104_Comp	1/4/2022	570-80544-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20220104_Comp	1/4/2022	570-80544-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	0.0000011	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 011	Outfall011_20220119_Comp	1/19/2022	570-82068-1	E1613B	N	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20220119_Comp	1/19/2022	570-82068-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20220119_Comp	1/19/2022	570-82068-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	0.000042	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 011	Outfall011_20220119_Comp	1/19/2022	570-82068-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	0.0000068	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 011	Outfall011_20220119_Comp	1/19/2022	570-82068-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	0.0000038	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 011	Outfall011_20220119_Comp	1/19/2022	570-82068-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000023	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 011	Outfall011_20220119_Comp	1/19/2022	570-82068-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20220119_Comp	1/19/2022	570-82068-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0.0000015	J,DXqMB	R	D	ug/L	
OUTFALL 011	Outfall011_20220119_Comp	1/19/2022	570-82068-1	E1613B	N	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	0.00000096	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 011	Outfall011_20220119_Comp	1/19/2022	570-82068-1	E1613B	N	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20220119_Comp	1/19/2022	570-82068-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20220119_Comp	1/19/2022	570-82068-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20220119_Comp	1/19/2022	570-82068-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20220119_Comp	1/19/2022	570-82068-1	E1613B	N	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20220119_Comp	1/19/2022	570-82068-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.0000029	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 011	Outfall011_20220119_Comp	1/19/2022	570-82068-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20220119_Comp	1/19/2022	570-82068-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	0.0000033	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 011	Outfall011_20220119_Comp	1/19/2022	570-82068-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220103_Grab	1/3/2022	456329-001	SM9223B	N	Escherichia coli	6	H	J	H	mpn/100mL	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E1613B	N	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	0.00000061	J,DXq	UJ	*III	ug/L	Report ND at sample concentration

TABLE 1
DATA USABILITY SUMMARY REPORT
BOEING NPDES SSFL FIRST QUARTER 2022 VALIDATION QUALIFIERS

Outfall	Sample ID	Sample Date	Lab ID	Method	Fraction	Analyte	Result	Laboratory Qualifier	Final Validated Qualifier	Validation Note	Unit	Notes
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	0.000033	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	0.0000049	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	0.0000057	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000025	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0.0000012	J,DXqMB	R	D	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E1613B	N	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	0.0000012	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E1613B	N	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.0000012	J,DX	J	DNQ	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.00000088	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E1613B	N	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.00000056	J,DX	J	DNQ	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.0000029	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	0.0000014	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	0.0000011	J,DX	J	DNQ	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E200.7	T	Iron	100		=	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E200.7	T	Manganese	23		=	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E200.7	T	Nickel	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E200.7	T	Arsenic	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E200.7	T	Barium	13		=	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E200.7	T	Beryllium	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E200.7	T	Boron	63		=	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E200.7	T	Chromium	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E200.7	T	Cobalt	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E200.7	T	Vanadium	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E200.7	T	Zinc	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E200.8	T	Lead	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E200.8	T	Silver	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E200.8	T	Thallium	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E200.8	T	Antimony	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E200.8	T	Cadmium	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E200.8	T	Copper	2.4		=	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp	1/4/2022	570-80545-1	E200.8	T	Selenium	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp_F	1/4/2022	570-80545-3	E200.7	D	Iron	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp_F	1/4/2022	570-80545-3	E200.7	D	Manganese	13	J,DX	J	DNQ	ug/L	
OUTFALL 018	Outfall018_20220104_Comp_F	1/4/2022	570-80545-3	E200.7	D	Nickel	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp_F	1/4/2022	570-80545-3	E200.7	D	Arsenic	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp_F	1/4/2022	570-80545-3	E200.7	D	Barium	11		=	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp_F	1/4/2022	570-80545-3	E200.7	D	Beryllium	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp_F	1/4/2022	570-80545-3	E200.7	D	Boron	50		=	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp_F	1/4/2022	570-80545-3	E200.7	D	Chromium	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp_F	1/4/2022	570-80545-3	E200.7	D	Cobalt	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp_F	1/4/2022	570-80545-3	E200.7	D	Vanadium	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp_F	1/4/2022	570-80545-3	E200.7	D	Zinc	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp_F	1/4/2022	570-80545-3	E200.8	D	Lead	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp_F	1/4/2022	570-80545-3	E200.8	D	Silver	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp_F	1/4/2022	570-80545-3	E200.8	D	Thallium	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp_F	1/4/2022	570-80545-3	E200.8	D	Antimony	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp_F	1/4/2022	570-80545-3	E200.8	D	Cadmium	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp_F	1/4/2022	570-80545-3	E200.8	D	Copper	2.6		=	--	ug/L	
OUTFALL 018	Outfall018_20220104_Comp_F	1/4/2022	570-80545-3	E200.8	D	Selenium	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E1613B	N	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	0.00000073	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	0.0000084	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	0.0000022	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	0.0000025	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000022	J,DXMB	U	B	ug/L	Report ND at sample concentration

TABLE 1
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BOEING NPDES SSFL FIRST QUARTER 2022 VALIDATION QUALIFIERS

Outfall	Sample ID	Sample Date	Lab ID	Method	Fraction	Analyte	Result	Laboratory Qualifier	Final Validated Qualifier	Validation Note	Unit	Notes
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0.00000057	J,DXMB	R	D	ug/L	
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E1613B	N	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	0.00000076	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E1613B	N	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.00000062	J,DX	J	DNQ	ug/L	
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.00000041	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E1613B	N	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.0000008	J,DX	J	DNQ	ug/L	
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.000001	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	0.00000085	J,DX	J	DNQ	ug/L	
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	0.00000079	J,DX	J	DNQ	ug/L	
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E200.7	T	Iron	530		=	--	ug/L	
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E200.7	T	Manganese	16	J,DX	J	DNQ	ug/L	
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E200.7	T	Arsenic	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E200.7	T	Zinc	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E200.8	T	Lead	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E200.8	T	Cadmium	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E200.8	T	Copper	1.6	J,DX	J	DNQ	ug/L	
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E200.8	T	Selenium	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220105_Comp	1/5/2022	570-80749-1	E200.7	T	Iron	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220105_Comp_F	1/5/2022	570-80749-3	E200.7	D	Iron	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220105_Comp_F	1/5/2022	570-80749-3	E200.7	D	Manganese	12	J,DX	J	DNQ	ug/L	
OUTFALL 018	Outfall018_20220105_Comp_F	1/5/2022	570-80749-3	E200.7	D	Arsenic	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220105_Comp_F	1/5/2022	570-80749-3	E200.7	D	Zinc	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220105_Comp_F	1/5/2022	570-80749-3	E200.8	D	Lead	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220105_Comp_F	1/5/2022	570-80749-3	E200.8	D	Cadmium	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20220105_Comp_F	1/5/2022	570-80749-3	E200.8	D	Copper	1.7	J,DX	J	DNQ	ug/L	
OUTFALL 018	Outfall018_20220105_Comp_F	1/5/2022	570-80749-3	E200.8	D	Selenium	ND	U	U	--	ug/L	
Arroyo Simi	Arroyo Simi_20220315_Grab	3/15/2022	570-88122-1	E1613B	N	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	U	--	ug/L	
Arroyo Simi	Arroyo Simi_20220315_Grab	3/15/2022	570-88122-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	ND	U	U	--	ug/L	
Arroyo Simi	Arroyo Simi_20220315_Grab	3/15/2022	570-88122-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	0.000016	J,DXMB	U	B	ug/L	Report ND at sample concentration
Arroyo Simi	Arroyo Simi_20220315_Grab	3/15/2022	570-88122-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	0.0000028	J,DXMB	U	B	ug/L	Report ND at sample concentration
Arroyo Simi	Arroyo Simi_20220315_Grab	3/15/2022	570-88122-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	0.0000034	J,DXMB	U	B	ug/L	Report ND at sample concentration
Arroyo Simi	Arroyo Simi_20220315_Grab	3/15/2022	570-88122-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000021	J,DXMB	U	B	ug/L	Report ND at sample concentration
Arroyo Simi	Arroyo Simi_20220315_Grab	3/15/2022	570-88122-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	ND	U	U	--	ug/L	
Arroyo Simi	Arroyo Simi_20220315_Grab	3/15/2022	570-88122-1	E1613B	N	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	ND	U	U	--	ug/L	
Arroyo Simi	Arroyo Simi_20220315_Grab	3/15/2022	570-88122-1	E1613B	N	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
Arroyo Simi	Arroyo Simi_20220315_Grab	3/15/2022	570-88122-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
Arroyo Simi	Arroyo Simi_20220315_Grab	3/15/2022	570-88122-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	ND	U	U	--	ug/L	
Arroyo Simi	Arroyo Simi_20220315_Grab	3/15/2022	570-88122-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	ND	U	U	--	ug/L	
Arroyo Simi	Arroyo Simi_20220315_Grab	3/15/2022	570-88122-1	E1613B	N	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	ND	U	U	--	ug/L	
Arroyo Simi	Arroyo Simi_20220315_Grab	3/15/2022	570-88122-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.0000013	J,DXMB	U	B	ug/L	Report ND at sample concentration
Arroyo Simi	Arroyo Simi_20220315_Grab	3/15/2022	570-88122-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	ND	U	U	--	ug/L	
Arroyo Simi	Arroyo Simi_20220315_Grab	3/15/2022	570-88122-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	0.0000022	J,DXMB	U	B	ug/L	Report ND at sample concentration
Arroyo Simi	Arroyo Simi_20220315_Grab	3/15/2022	570-88122-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0.000001	J,DXMB	U	B	ug/L	Report ND at sample concentration
Arroyo Simi	ArroyoSimi_20220329_Grab	3/29/2022	460464-001	SM9223B	N	Escherichia coli	2000		=	--	mpn/100mL	
Arroyo Simi	ArroyoSimi_20220215_Grab	2/15/2022	458331-001	SM9223B	N	Escherichia coli	920		=	--	mpn/100mL	
Arroyo Simi	ArroyoSimi_20220218_Grab	2/18/2022	458535-001	SM9223B	N	Escherichia coli	460		=	--	mpn/100mL	

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[EQU-9516] Iron Contamination Created: 29Mar2022 Updated: 28Apr2022 Due: 29Apr2022 Resolved: 24Apr2022	
Status:	Closed
Project:	Environment Quality US

Type:	Internal Investigation	**Priority:**	Major
Reporter:	Jenny Magana	**Assignee:**	Terri Garcia
Resolution:	Done		
Labels:	None		

Description

At the client's request, an investigation was conducted due to an unexpected high total iron result. The lab was requested to re-extract and reanalyze the total iron for sample 570-80749-1 that resulted in a non-detect.

Attachments:	570-80749-1 Fe.png
QA Priority:	Standard
QA Issue Type:	CONT contamination
QA Investigation Type:	Unplanned
Client Requested:	Yes
BU/Department:	ECI-GG - Metals
Sample	570-80749-1
Steps taken to investigate:	The sample was initially analyzed for EPA method 200.7 and EPA method 200.8. The EPA method 200.7 initial analysis was 530ug/L and the initial EPA method 200.8 run, which was not reported was 11ug/L. The sample was re-digested and analyzed by EPA method 200.7 and the result was ND. 570-80749 is requested for iron and the issue was seen in the total metals analysis. The prep took place on January 20, 2022, when the labs were combining and there were many carts with samples to be organized from the relocation. Iron could potentially have come from various sources. The racks where samples were being stored were metal. The carts in use were also metal, which are not routinely used in this department. Another possible source is contaminated gloves used by prep analysts. Gloves are routinely changed often, between tasks, but could have contributed to possible contamination from the metals carts during sample mixing and aliquot sampling. The original source sample for the MS/MSD was not from this sample, and the recovery of the MS/MSD was within limits, so there is no contributing evidence that would have placed the batch in question for contamination on

	review before initial reporting. The work order #4 MS/MSD was sample 1, which recovered at 110%.
Detailed Explanation of the Root Cause:	During the combination of the laboratories, relocation of samples resulted in a backup of samples delivered to the metals department. There was a shortage of storage space and metals racks were used to store samples as well as metal carts to organize and mobilize the samples.
Root Cause Category:	Lack of resources
Impact on Sample Data:	Unknown. Subject sample was impacted and required generation of revised report. QC trending for 200.8 was triggered in a method blank on 3/8/22, but it was not a target analyte. There were no trends in QC for iron during the period of January to March.
Corrective Action Plan:	1. The metal cart was removed from the area. 2. The excess sample backlog has been cleared, making space for samples to be stored appropriately. A "cleaning time" has been scheduled by management for every Friday at 3PM, for unrelated reasons, but will contribute to the corrective action arising from this issue. This is a timeout period for all personnel throughout the laboratory to inspect their work spaces and clean up. 3. The implementation of sample splitting and sample running being implemented will reduce the number of carts required in the laboratory.
Investigator:	Adriana Schow, Jenny Magana
Reason Code:	equipment
Watchers:	Adriana Schow, Jenny Magana, Virendra Patel

Attachment:

	AB 665050	AB 668799	AB 664984
	Initial 200.7 run (ug/L) RL = 100 ug/L	200.7 redigestion (ug/L)	Results from the 200.8 run (ug/L)
As	ND	ND	ND
Fe	530	ND	11
Mn	16	12	13
Zn	ND	ND	ND

APPENDIX F

First Quarter 2022 Reasonable Potential Analysis Tables

APPENDIX F

TABLE OF CONTENTS

REASONABLE POTENTIAL ANALYSIS SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Notes:

1. The following Reasonable Potential Analysis (RPA) provides the analytical results as performed by the procedures outlined in *Reasonable Potential Analysis Methodology Technical Memo* (MWH and Flow Science, 2006).

2. The monitoring data set utilized to conduct the RPA consists of all applicable and relevant data from the present reporting quarter.

3. As directed by the CTR and the Regional Water Control Board 2,3,7,8-TCDD (Dioxin) values are to be expressed in NPDES permitting and this RPA as TCDD Total Equivalence units (TEQs). A TCDD TEQ is determined by multiplying each of the seventeen dioxin and furan congeners by their respective toxicity equivalency factor (TEF) and bioaccumulation equivalency factor (BEF) then summing the results of those products. For the purposes of this RPA, the resulting TCDD TEQ does not include those congener concentrations that are reported as DNQ, as specified on Page 26, of the NPDES Permit Effective April 1, 2015 (Water Board, 2015).

4. Data reported with qualifiers (e.g., J [DNQ] or R) are considered estimated or rejected and are not used in this RPA.

5. All of the following abbreviations and/or notes may not occur on every table.

6. Based on ORDER NO. R4-2015-0033, page E-2, Section I.C, only pollutants which do not have a final effluent limitation in the NPDES permit are included in this RPA analysis.

Definition of Acronyms, Abbreviations, and Terminology Used

>=	Greater than or equal to
*	Freshwater aquatic life criteria for metals are expressed as a function of total hardness (mg/L) in the water body. The equations are provided in the CTR, (US EPA, 2011). Values displayed correspond to a total hardness of 100 mg/l.
‡	Available data are below detection limits; detection limit is assigned for maximum effluent concentration (MEC) and is not applicable to compare against lowest water quality criteria concentration (C)
µg/L	Concentration units, micrograms per liter
All Data Qualified	All available monitoring data are qualified and no statistical analysis is performed.
Annual	The 2015 NPDES Permit requires annual monitoring.
ANR	Analysis not required; e.g., constituent or outfall was not required by the NPDES permit to be sampled and analyzed.
Available Data < DL	All available monitoring data that are not qualified are below detection limits.
B	Background
C	Concentration
CCC	Criterion Continuous Concentration
CMC	Criterion Maximum Concentration
CTR	California Toxics Rule
CV	Coefficient of Variation
DL	Detection Limit
EPA TSD	EPA's Technical Support Document for Water Quality Based Toxics Control, (see references).

REASONABLE POTENTIAL ANALYSIS SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Definition of Acronyms, Abbreviations, and Terminology Used (Continued)

Fibers/L	Units for asbestos concentration, fibers per liter
HH O	Human Health criteria for consumption of Organisms only
HH W&OMEC	Maximum Observed Effluent Concentration
mg/L	Concentration units, milligrams per liter
Min	Minimum
MPN/100ml	Most probable number per 100 milliliters
NA	Not Applicable
Narrative	Water quality criteria are expressed as a narrative objective rather than a numeric objective, and therefore are not part of the statistical RPA calculations.
None	No available CTR or Basin Plan criteria.
pH Dependent	CTR Criteria are based on pH.
Discharge	The 2015 NPDES Permit requires monitoring once per discharge event.
Qualified Data	Data qualifier definitions are: (a) J- The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL), (b) UJ- The analyte was not detected in the sample at the detection limit /estimated detection limit (EDL), (c) Nondetect U with blank qualifier(B, F, T) - Analyte found in sample and associated blank, and (d) DNQ- Detected Not Quantified (sample results less than the RL, but great than or equal to the laboratory's MDL)
Reserved	EPA has reserved the CTR criteria.
RPA	Reasonable Potential Analysis
SIP	The State Water Resources Control Board "Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California," (see references).
Tot	Total

Priority Pollutant RPA Column Explanation

OUTFALL	Outfall (or group of outfalls) with sampling data used in RPA.
CTR	Provides CTR constituent reference number.
Constituent	Provides CTR constituent common name.
Units	Provides the data set's concentration units as referenced by 2015 NPDES Permit.
MEC	Provides the outfall monitoring group's maximum value from the applicable data set.
CV	Equal to the standard deviation divided by the average of the applicable data set. If the number of samples is less than 10, the CV is assumed to be 0.6.
Step 1 identifies all applicable water quality criteria.	
CTR Criteria	Concentration criteria as listed in the CTR.
CMC = Acute	The Freshwater CMC is listed as the acute concentration criterion.
CCC = Chronic	The Freshwater CCC is listed as the chronic concentration criterion.
HH W&O (Not App)	The HH W&O is deemed not applicable based on past Regional Board RPAs.
HH O = HH	The HH O is listed as the CTR human health concentration criterion.

REASONABLE POTENTIAL ANALYSIS SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Priority Pollutant RPA Column Explanation (Continued)

Basin Plan Criteria	Applicable Basin Plan Criteria are listed for the Los Angeles River and/or Calleguas Creek watersheds.
C = Lowest Criteria	The comparison concentration (C) is equal to the lowest criterion for a constituent based on the CMC, CCC, HH O, and Basin Plan Criteria listed.
Step 2 defines the applicable data set.	
Is Effluent Data Available	If all data is qualified, then NO. If not, then YES.
Step 3 determines the maximum observed effluent concentration.	
Was Constituent Detected in Effluent Data	If the constituent was detected, then YES. If all monitoring data are non-detect or qualified then NO.
Are all Detection Limits >C	If constituent was detected in effluent data then not applicable (NA). If constituent was not detected and all analysis detection limits are greater than the comparison concentration, then YES, if not then NO.
If DL > C, MEC = Min (DL)	If the previous cell answer was yes, then the MEC is equal to the minimum detection limit. If not, then NA.
Step 4 compares the MEC to the lowest applicable water quality criteria.	
MEC >= C	If the MEC is greater than or equal to the comparison concentration then YES, if not then NO.

Note: Steps 5 and 6 of the Priority Pollutant RPA do not apply to the Santa Susana Site because the Regional Board gives no consideration for receiving water background constituent concentrations. Furthermore, Boeing defers the application of best professional judgment in Step 7 and final determination of reasonable potential in Step 8 to the Regional Board Staff.

Non-priority Pollutant RPA Column Explanation

Constituent	Provides the Non-Priority Pollutant constituent common name
Monitoring	Provides the 2015 NPDES Permit directed monitoring frequency
Units	Provides the data set's concentration units
Number of Samples	Provides the number of available samples that are not qualified
MEC	Provides the outfall monitoring group's maximum value from the applicable data set
CV	Equal to the standard deviation divided by the average of the applicable data set. If the number of samples is less than 10, the CV is assumed to be 0.6.
Multiplier	Utilizes the EPA's TSD calculation to determine multiplier for which the maximum effluent concentration is calculated. (MWH and Flow Science, 2006, or EPA TSD, 1991)
Projected Maximum Effluent Concentration	Utilizes the product of the multiplier and the MEC as an estimate for the projected maximum effluent concentration.
99/99	Statistical technique used in the Environmental Protection Agency's Technical Support Document RPA to compute the upper 99th confidence range of the 99th % value of the log normal distribution of monitoring data.
Dilution Ratio	The Regional Board allocates no dilution ratio to the Santa Susana Site (NA).
Background Concentration	The Regional Board allocates no background concentration to the Santa Susana Site (NA).
Projected Maximum Receiving Water Concentration	The Regional Board estimates the projected maximum receiving water concentration as equal to the projected maximum effluent concentration.

REASONABLE POTENTIAL ANALYSIS SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Non-priority Pollutant RPA Column Explanation (Continued)

Step 1, Determine Water Quality Objectives	The water quality objective is based on appropriate Basin Plan criteria as noted in the Reasonable Potential Analysis Methodology Technical Memo.
BU – Beneficial Use Protection, NC – Human Non-carcinogen, AP- Aquatic Life Protection, TMDL – Total Maximum Daily Load	This is the Regional Board's Basis for determining if reasonable potential should be evaluated for a non-priority pollutant.

Note: Boeing has completed appropriate statistical calculations but defers the application of best professional judgment and the final determination of reasonable potential to the Regional Board Staff.

REASONABLE POTENTIAL ANALYSIS SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

References:

1. Los Angeles Regional Water Quality Control Board, “Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, (Basin Plan).” June 13, 1994.

2. MWH and Flow Science, “Reasonable Potential Analysis Methodology Technical Memo- Version 1, Final, Santa Susan Field Laboratory, Ventura County, California.” April 28, 2006.

3. State Water Resources Control Board, “Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, (SIP)” Resolution No. 2005-0019, February 24, 2005.

4. US EPA, *40CFR part 131, Water Quality Standards; Establishment of numeric Criteria for Priority Toxic Pollutants for the State of California*, (CTR) Federal Registry, 2011, pp. 496 - 507.

5. US EPA, “Technical Support Document for Water Quality-based Toxics Control.” EPA/505/2-90-001, PB-91-127415, March 1991.

TABLE F-1
REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 001, 002, 011, AND 018)

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

						Step 1: Water Quality Criteria, Determine C						Step 2	Step 3			Step 4
						CTR CRITERIA				Basin Plan	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
						Freshwater		Human Health								
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
1, 2, 11, 18	15	Asbestos	Fibers/L	ANR	0.6	NONE	NONE	7,000,000	NONE	7,000,000	7,000,000	No	NA	NA	NA	NA
1, 2, 11, 18	17	Acrolein	µg/L	Available Data <DL	0.6	NONE	NONE	320	780	NONE	780	Yes	No	No	NA	No
1, 2, 11, 18	18	Acrylonitrile	µg/L	Available Data <DL	0.6	NONE	NONE	0.059	0.66	NONE	0.66	Yes	No	Yes	0.66	NA[‡]
1, 2, 11, 18	19	Benzene	µg/L	Available Data <DL	0.6	NONE	NONE	1.2	71	1	1	Yes	No	No	NA	No
1, 2, 11, 18	20	Bromoform	µg/L	Available Data <DL	0.6	NONE	NONE	4.3	360	NONE	360	Yes	No	No	NA	No
1, 2, 11, 18	21	Carbon Tetrachloride	µg/L	Available Data <DL	0.6	NONE	NONE	0.25	4.4	0.5	0.5	Yes	No	No	NA	No
1, 2, 11, 18	22	Chlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	680	21,000	70	70	Yes	No	No	NA	No
1, 2, 11, 18	23	Dibromochloromethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.401	34	NONE	34	Yes	No	No	NA	No
1, 2, 11, 18	24	Chloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	25	2-Chloroethyl vinyl ether	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	26	Chloroform (Trichloromethane)	µg/L	Available Data <DL	0.6	NONE	NONE	Reserved	Reserved	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	27	Dichlorobromomethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.56	46	NONE	46	Yes	No	No	NA	No
1, 2, 11, 18	28	1,1-Dichloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	5	5	Yes	No	No	NA	No
1, 2, 11, 18	31	1,2-Dichloropropane	µg/L	Available Data <DL	0.6	NONE	NONE	0.52	39	5	5	Yes	No	No	NA	No
1, 2, 11, 18	32	cis-1,3-Dichloropropene	µg/L	Available Data <DL	0.6	NONE	NONE	10	1,700	0.5	0.5	Yes	No	No	NA	No
1, 2, 11, 18	32a	trans-1,3-Dichloropropene	µg/L	Available Data <DL	0.6	NONE	NONE	10	1,700	0.5	0.5	Yes	No	No	NA	No
1, 2, 11, 18	33	Ethylbenzene	µg/L	Available Data <DL	0.6	NONE	NONE	3,100	29,000	700	700	Yes	No	No	NA	No
1, 2, 11, 18	34	Bromomethane	µg/L	Available Data <DL	0.6	NONE	NONE	48	4,000	NONE	4,000	Yes	No	No	NA	No
1, 2, 11, 18	35	Chloromethane (Methyl Chloride)	µg/L	Available Data <DL	0.6	NONE	NONE	Narrative	Narrative	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	36	Methylene chloride	µg/L	Available Data <DL	0.6	NONE	NONE	4.7	1,600	NONE	1,600	Yes	No	No	NA	No
1, 2, 11, 18	37	1,1,2,2-Tetrachloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.17	11	1	1	Yes	No	No	NA	No
1, 2, 11, 18	38	Tetrachloroethene	µg/L	Available Data <DL	0.6	NONE	NONE	0.8	8.85	5	5	Yes	No	No	NA	No
1, 2, 11, 18	39	Toluene	µg/L	Available Data <DL	0.6	NONE	NONE	6,800	200,000	150	150	Yes	No	No	NA	No
1, 2, 11, 18	40	trans-1,2-Dichloroethene	µg/L	Available Data <DL	0.6	NONE	NONE	700	140,000	10	10	Yes	No	No	NA	No
1, 2, 11, 18	41	1,1,1-Trichloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	Narrative	Narrative	200	200	Yes	No	No	NA	No
1, 2, 11, 18	42	1,1,2-Trichloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.60	42	5	5	Yes	No	No	NA	No
1, 2, 11, 18	44	Vinyl chloride	µg/L	Available Data <DL	0.6	NONE	NONE	2	525	0.5	0.5	Yes	No	No	NA	No
1, 2, 11, 18	45	2-Chlorophenol	µg/L	Available Data <DL	0.6	NONE	NONE	120	400	NONE	400	Yes	No	No	NA	No
1, 2, 11, 18	46	2,4-Dichlorophenol	µg/L	Available Data <DL	0.6	NONE	NONE	93	790	NONE	790	Yes	No	No	NA	No
1, 2, 11, 18	47	2,4-Dimethylphenol	µg/L	Available Data <DL	0.6	NONE	NONE	540	2,300	NONE	2,300	Yes	No	No	NA	No
1, 2, 11, 18	48	2-Methyl-4,6-dinitrophenol	µg/L	Available Data <DL	0.6	NONE	NONE	13.4	765	NONE	765	Yes	No	No	NA	No
1, 2, 11, 18	49	2,4-Dinitrophenol	µg/L	Available Data <DL	0.6	NONE	NONE	70	14,000	NONE	14,000	Yes	No	No	NA	No
1, 2, 11, 18	50	2-Nitrophenol	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	51	4-Nitrophenol	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	52	4-Chloro-3-methylphenol	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	54	Phenol	µg/L	Available Data <DL	0.6	NONE	NONE	21,000	4,600,000	NONE	4,600,000	Yes	No	No	NA	No
1, 2, 11, 18	56	Acenaphthene	µg/L	Available Data <DL	0.6	NONE	NONE	1,200	2,700	NONE	2,700	Yes	No	No	NA	No
1, 2, 11, 18	57	Acenaphthylene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	58	Anthracene	µg/L	Available Data <DL	0.6	NONE	NONE	9,600	110,000	NONE	110,000	Yes	No	No	NA	No
1, 2, 11, 18	59	Benzidine	µg/L	Available Data <DL	0.6	NONE	NONE	0.00012	0.00054	NONE	0.00054	Yes	No	Yes	0.00054	NA[‡]
1, 2, 11, 18	60	Benzo(a)Anthracene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.049	NA[‡]
1, 2, 11, 18	61	Benzo(a)Pyrene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	0.2	0.049	Yes	No	Yes	0.049	NA[‡]
1, 2, 11, 18	62	Benzo(b)Fluoranthene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.049	NA[‡]
1, 2, 11, 18	63	Benzo(g,h,i)Perylene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	64	Benzo(k)Fluoranthene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.049	NA[‡]
1, 2, 11, 18	65	Bis (2-Chloroethoxy) methane	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	66	Bis (2-Chloroethyl) ether	µg/L	Available Data <DL	0.6	NONE	NONE	0.0310	1.4	NONE	1.4	Yes	No	No	NA	No
1, 2, 11, 18	67	Bis (2-Chloroisopropyl) Ether	µg/L	Available Data <DL	0.6	NONE	NONE	1,400	170,000	NONE	170,000	Yes	No	No	NA	No
1, 2, 11, 18	69	4-Bromophenyl phenyl ether	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

TABLE F-1
REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 001, 002, 011, AND 018)

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

						Step 1: Water Quality Criteria, Determine C						Step 2	Step 3			Step 4
						CTR CRITERIA				Basin Plan	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
						Freshwater		Human Health								
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
1, 2, 11, 18	70	Butyl benzylphthalate	µg/L	Available Data <DL	0.6	NONE	NONE	3,000	5,200	NONE	5,200	Yes	No	No	NA	No
1, 2, 11, 18	71	2-Chloronaphthalene	µg/L	Available Data <DL	0.6	NONE	NONE	1,700	4,300	NONE	4,300	Yes	No	No	NA	No
1, 2, 11, 18	72	4-Chlorophenyl phenyl ether	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	73	Chrysene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.049	NA‡
1, 2, 11, 18	74	Dibenz(a,h)anthracene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.049	NA‡
1, 2, 11, 18	75	1,2-Dichlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	2,700	17,000	600	600	Yes	No	No	NA	No
1, 2, 11, 18	76	1,3-Dichlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	400	2,600	NONE	2,600	Yes	No	No	NA	No
1, 2, 11, 18	77	1,4-Dichlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	400	2,600	5	5	Yes	No	No	NA	No
1, 2, 11, 18	78	3,3'-Dichlorobenzidine	µg/L	Available Data <DL	0.6	NONE	NONE	0.04	0.077	NONE	0.077	Yes	No	Yes	0.077	NA‡
1, 2, 11, 18	79	Diethyl phthalate	µg/L	Available Data <DL	0.6	NONE	NONE	23,000	120,000	NONE	120,000	Yes	No	No	NA	No
1, 2, 11, 18	80	Dimethyl phthalate	µg/L	Available Data <DL	0.6	NONE	NONE	313,000	2,900,000	NONE	2,900,000	Yes	No	No	NA	No
1, 2, 11, 18	81	Di-n-butyl phthalate	µg/L	Available Data <DL	0.6	NONE	NONE	2,700	12,000	NONE	12,000	Yes	No	No	NA	No
1, 2, 11, 18	83	2,6-Dinitrotoluene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	84	Di-n-octyl phthalate	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	85	1,2-Diphenylhydrazine/Azobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	0.040	0.54	NONE	0.54	Yes	No	No	NA	No
1, 2, 11, 18	86	Fluoranthene	µg/L	Available Data <DL	0.6	NONE	NONE	300	370	NONE	370	Yes	No	No	NA	No
1, 2, 11, 18	87	Fluorene	µg/L	Available Data <DL	0.6	NONE	NONE	1,300	14,000	NONE	14,000	Yes	No	No	NA	No
1, 2, 11, 18	88	Hexachlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	0.00075	0.00077	1	0.00077	Yes	No	Yes	0.00077	NA‡
1, 2, 11, 18	89	Hexachlorobutadiene	µg/L	Available Data <DL	0.6	NONE	NONE	0.44	50	NONE	50	Yes	No	No	NA	No
1, 2, 11, 18	90	Hexachlorocyclopentadiene	µg/L	Available Data <DL	0.6	NONE	NONE	240	17,000	50	50	Yes	No	No	NA	No
1, 2, 11, 18	91	Hexachloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	1.9	8.9	NONE	8.9	Yes	No	No	NA	No
1, 2, 11, 18	92	Indeno(1,2,3-cd)Pyrene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.049	NA‡
1, 2, 11, 18	93	Isophorone	µg/L	Available Data <DL	0.6	NONE	NONE	8.4	600	NONE	600	Yes	No	No	NA	No
1, 2, 11, 18	94	Naphthalene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	95	Nitrobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	17	1,900	NONE	1,900	Yes	No	No	NA	No
1, 2, 11, 18	97	n-Nitroso-di-n-propylamine	µg/L	Available Data <DL	0.6	NONE	NONE	0.005	1.4	NONE	1.4	Yes	No	No	NA	No
1, 2, 11, 18	98	N-Nitrosodiphenylamine	µg/L	Available Data <DL	0.6	NONE	NONE	5.0	16	NONE	16	Yes	No	No	NA	No
1, 2, 11, 18	99	Phenanthrene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	100	Pyrene	µg/L	Available Data <DL	0.6	NONE	NONE	960	11,000	NONE	11,000	Yes	No	No	NA	No
1, 2, 11, 18	101	1,2,4-Trichlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	70	70	Yes	No	No	NA	No
1, 2, 11, 18	102	Aldrin	µg/L	Available Data <DL	0.6	3	NONE	0.00013	0.00014	NONE	0.00014	Yes	No	Yes	0.00014	NA‡
1, 2, 11, 18	104	beta-BHC	µg/L	Available Data <DL	0.6	NONE	NONE	0.014	0.046	NONE	0.046	Yes	No	No	NA	No
1, 2, 11, 18	105	gamma-BHC (Lindane)	µg/L	Available Data <DL	0.6	0.95	NONE	0.019	0.063	0.2	0.063	Yes	No	No	NA	No
1, 2, 11, 18	106	delta-BHC	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	107	Chlordane	µg/L	Available Data <DL	0.6	2.4	0.0043	0.00057	0.00059	0.1	0.00059	Yes	No	Yes	0.00059	NA‡
1, 2, 11, 18	108	4,4'-DDT	µg/L	Available Data <DL	0.6	1.1	0.001	0.00059	0.00059	NONE	0.00059	Yes	No	Yes	0.00059	NA‡
1, 2, 11, 18	109	4,4'-DDE	µg/L	Available Data <DL	0.6	NONE	NONE	0.00059	0.00059	NONE	0.00059	Yes	No	Yes	0.00059	NA‡
1, 2, 11, 18	110	4,4'-DDD	µg/L	Available Data <DL	0.6	NONE	NONE	0.00083	0.00084	NONE	0.00084	Yes	No	Yes	0.00084	NA‡
1, 2, 11, 18	111	Dieldrin	µg/L	Available Data <DL	0.6	0.24	0.056	0.00014	0.00014	NONE	0.00014	Yes	No	Yes	0.00014	NA‡
1, 2, 11, 18	112	alpha-Endosulfan	µg/L	Available Data <DL	0.6	0.22	0.056	110	240	NONE	0.056	Yes	No	No	NA	No
1, 2, 11, 18	113	beta-Endosulfan	µg/L	Available Data <DL	0.6	0.22	0.056	110	240	NONE	0.056	Yes	No	No	NA	No
1, 2, 11, 18	114	Endosulfan Sulfate	µg/L	Available Data <DL	0.6	NONE	NONE	110	240	NONE	240	Yes	No	No	NA	No
1, 2, 11, 18	115	Endrin	µg/L	Available Data <DL	0.6	0.086	0.036	0.76	0.81	2	0.036	Yes	No	No	NA	No
1, 2, 11, 18	116	Endrin Aldehyde	µg/L	Available Data <DL	0.6	NONE	NONE	0.76	0.81	NONE	0.81	Yes	No	No	NA	No
1, 2, 11, 18	117	Heptachlor	µg/L	Available Data <DL	0.6	0.52	0.0038	0.00021	0.00021	0.01	0.00021	Yes	No	Yes	0.00021	NA‡
1, 2, 11, 18	118	Heptachlor Epoxide	µg/L	Available Data <DL	0.6	0.52	0.0038	0.00010	0.00011	0.01	0.00011	Yes	No	Yes	0.00011	NA‡
1, 2, 11, 18	119	Aroclor 1016	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.00017	NA‡
1, 2, 11, 18	120	Aroclor 1221	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.00017	NA‡
1, 2, 11, 18	121	Aroclor 1232	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.00017	NA‡

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TABLE F-1
REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 001, 002, 011, AND 018)

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

						Step 1: Water Quality Criteria, Determine C						Step 2	Step 3			Step 4
						CTR CRITERIA										
						Freshwater		Human Health		Basin Plan	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
1, 2, 11, 18	122	Aroclor 1242	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.00017	NA[‡]
1, 2, 11, 18	123	Aroclor 1248	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.00017	NA[‡]
1, 2, 11, 18	124	Aroclor 1254	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.00017	NA[‡]
1, 2, 11, 18	125	Aroclor 1260	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.00017	NA[‡]
1, 2, 11, 18	126	Toxaphene	µg/L	Available Data <DL	0.6	0.73	0.0002	0.00073	0.00075	3	0.0002	Yes	No	Yes	0.0002	NA[‡]
1, 2, 11, 18	127	E. Coli	MPN/100ml	100	0.6	NA	NA	NA	NA	235	235	Yes	Yes	NA	NA	No

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

TABLE F-2
REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 003-007, 009, AND 010)

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

						Step 1: Water Quality Criteria, Determine C						Step 2	Step 3			Step 4
						CTR CRITERIA										
						Freshwater		Human Health		Basin Plan	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
3-7, 9, 10	2	Arsenic	µg/L	Annual	0.6	340	150	NONE	NONE	50	50	No	NA	NA	NA	NA
3-7, 9, 10	3	Beryllium	µg/L	Annual	0.6	NONE	NONE	Narrative	Narrative	4	4	No	NA	NA	NA	NA
3-7, 9, 10	5a	Chromium III	µg/L	Annual	0.6	550	180	Narrative	Narrative	50	50	No	NA	NA	NA	NA
3-7, 9, 10	5b	Chromium VI (Hexavalent)	µg/L	Annual	0.6	16	11	Narrative	Narrative	NONE	11	No	NA	NA	NA	NA
3-7, 9, 10	10	Selenium	µg/L	Available Data <DL	0.6	Reserved	5	Narrative	Narrative	50	5	Yes	No	No	NA	No
3-7, 9, 10	11	Silver	µg/L	Available Data <DL	0.6	3.4	NONE	NONE	NONE	NONE	3.4	Yes	No	No	NA	No
3-7, 9, 10	15	Asbestos	Fibers/L	Annual	0.6	NONE	NONE	7,000,000	NONE	7,000,000	7,000,000	No	NA	NA	NA	NA
3-7, 9, 10	17	Acrolein	µg/L	Annual	0.6	NONE	NONE	320	780	NONE	780	No	NA	NA	NA	NA
3-7, 9, 10	18	Acrylonitrile	µg/L	Annual	0.6	NONE	NONE	0.059	0.66	NONE	0.66	No	NA	NA	NA	NA
3-7, 9, 10	19	Benzene	µg/L	Annual	0.6	NONE	NONE	1.2	71	1	1	No	NA	NA	NA	NA
3-7, 9, 10	20	Bromoform	µg/L	Annual	0.6	NONE	NONE	4.3	360	NONE	360	No	NA	NA	NA	NA
3-7, 9, 10	21	Carbon Tetrachloride	µg/L	Annual	0.6	NONE	NONE	0.25	4.4	0.5	0.5	No	NA	NA	NA	NA
3-7, 9, 10	22	Chlorobenzene	µg/L	Annual	0.6	NONE	NONE	680	21,000	70	70	No	NA	NA	NA	NA
3-7, 9, 10	23	Dibromochloromethane	µg/L	Annual	0.6	NONE	NONE	0.401	34	NONE	34	No	NA	NA	NA	NA
3-7, 9, 10	24	Chloroethane	µg/L	Annual	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	25	2-Chloroethyl vinyl ether	µg/L	Annual	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	26	Chloroform	µg/L	Annual	0.6	NONE	NONE	Reserved	Reserved	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	27	Dichlorobromomethane	µg/L	Annual	0.6	NONE	NONE	0.56	46	NONE	46	No	NA	NA	NA	NA
3-7, 9, 10	28	1,1-Dichloroethane	µg/L	Annual	0.6	NONE	NONE	NONE	NONE	5	5	No	NA	NA	NA	NA
3-7, 9, 10	29	1,2-Dichloroethane	µg/L	Annual	0.6	NONE	NONE	0.38	99	0.5	0.5	No	NA	NA	NA	NA
3-7, 9, 10	30	1,1-Dichloroethene	µg/L	Annual	0.6	NONE	NONE	0.057	3.2	6	3.2	No	NA	NA	NA	NA
3-7, 9, 10	31	1,2-Dichloropropane	µg/L	Annual	0.6	NONE	NONE	0.52	39	5	5	No	NA	NA	NA	NA
3-7, 9, 10	32	cis-1,3-Dichloropropene	µg/L	Annual	0.6	NONE	NONE	10	1,700	0.5	0.5	No	NA	NA	NA	NA
3-7, 9, 10	32a	trans-1,3-Dichloropropene	µg/L	Annual	0.6	NONE	NONE	10	1,700	0.5	0.5	No	NA	NA	NA	NA
3-7, 9, 10	33	Ethylbenzene	µg/L	Annual	0.6	NONE	NONE	3,100	29,000	700	700	No	NA	NA	NA	NA
3-7, 9, 10	34	Bromomethane	µg/L	Annual	0.6	NONE	NONE	48	4,000	NONE	4,000	No	NA	NA	NA	NA
3-7, 9, 10	35	Chloromethane (Methyl Chloride)	µg/L	Annual	0.6	NONE	NONE	Narrative	Narrative	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	36	Methylene chloride	µg/L	Annual	0.6	NONE	NONE	4.7	1,600	NONE	1,600	No	NA	NA	NA	NA
3-7, 9, 10	37	1,1,2,2-Tetrachloroethane	µg/L	Annual	0.6	NONE	NONE	0.17	11	1	1	No	NA	NA	NA	NA
3-7, 9, 10	38	Tetrachloroethene	µg/L	Annual	0.6	NONE	NONE	0.8	8.85	5	5	No	NA	NA	NA	NA
3-7, 9, 10	39	Toluene	µg/L	Annual	0.6	NONE	NONE	6,800	200,000	150	150	No	NA	NA	NA	NA
3-7, 9, 10	40	trans-1,2-Dichloroethene	µg/L	Annual	0.6	NONE	NONE	700	140,000	10	10	No	NA	NA	NA	NA
3-7, 9, 10	41	1,1,1-Trichloroethane	µg/L	Annual	0.6	NONE	NONE	Narrative	Narrative	200	200	No	NA	NA	NA	NA
3-7, 9, 10	42	1,1,2-Trichloroethane	µg/L	Annual	0.6	NONE	NONE	0.6	42	5	5	No	NA	NA	NA	NA
3-7, 9, 10	43	Trichloroethene	µg/L	Annual	0.6	NONE	NONE	2.7	81	5	5	No	NA	NA	NA	NA
3-7, 9, 10	44	Vinyl chloride	µg/L	Annual	0.6	NONE	NONE	2	525	0.5	0.5	No	NA	NA	NA	NA
3-7, 9, 10	45	2-Chlorophenol	µg/L	Annual	0.6	NONE	NONE	120	400	NONE	400	No	NA	NA	NA	NA
3-7, 9, 10	46	2,4-Dichlorophenol	µg/L	Annual	0.6	NONE	NONE	93	790	NONE	790	No	NA	NA	NA	NA
3-7, 9, 10	47	2,4-Dimethylphenol	µg/L	Annual	0.6	NONE	NONE	540	2,300	NONE	2,300	No	NA	NA	NA	NA
3-7, 9, 10	48	2-Methyl-4,6-dinitrophenol	µg/L	Annual	0.6	NONE	NONE	13.4	765	NONE	765	No	NA	NA	NA	NA
3-7, 9, 10	49	2,4-Dinitrophenol	µg/L	Annual	0.6	NONE	NONE	70	14,000	NONE	14,000	No	NA	NA	NA	NA
3-7, 9, 10	50	2-Nitrophenol	µg/L	Annual	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	51	4-Nitrophenol	µg/L	Annual	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	52	4-Chloro-3-methylphenol	µg/L	Annual	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	53	Pentachlorophenol	µg/L	Annual	0.6	pH dependent	pH dependent	0.28	8.2	1	1	No	NA	NA	NA	NA
3-7, 9, 10	54	Phenol	µg/L	Annual	0.6	NONE	NONE	21,000	4,600,000	NONE	4,600,000	No	NA	NA	NA	NA

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

TABLE F-2
REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 003-007, 009, AND 010)

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

						Step 1: Water Quality Criteria, Determine C						Step 2	Step 3			Step 4
						CTR CRITERIA				Basin Plan	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
						Freshwater		Human Health								
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
3-7, 9, 10	55	2,4,6-Trichlorophenol	µg/L	Annual	0.6	NONE	NONE	2.1	6.5	NONE	6.5	No	NA	NA	NA	NA
3-7, 9, 10	56	Acenaphthene	µg/L	Annual	0.6	NONE	NONE	1,200	2,700	NONE	2,700	No	NA	NA	NA	NA
3-7, 9, 10	57	Acenaphthylene	µg/L	Annual	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	58	Anthracene	µg/L	Annual	0.6	NONE	NONE	9,600	110,000	NONE	110,000	No	NA	NA	NA	NA
3-7, 9, 10	59	Benzidine	µg/L	Annual	0.6	NONE	NONE	0.00012	0.00054	NONE	0.00054	No	NA	NA	NA	NA
3-7, 9, 10	60	Benzo(a)Anthracene	µg/L	Annual	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
3-7, 9, 10	61	Benzo(a)Pyrene	µg/L	Annual	0.6	NONE	NONE	0.0044	0.049	0.2	0.049	No	NA	NA	NA	NA
3-7, 9, 10	62	Benzo(b)Fluoranthene	µg/L	Annual	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
3-7, 9, 10	63	Benzo(g,h,i)Perylene	µg/L	Annual	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	64	Benzo(k)Fluoranthene	µg/L	Annual	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
3-7, 9, 10	65	Bis (2-Chloroethoxy) methane	µg/L	Annual	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	66	Bis (2-Chloroethyl) ether	µg/L	Annual	0.6	NONE	NONE	0.031	1.4	NONE	1.4	No	NA	NA	NA	NA
3-7, 9, 10	67	Bis (2-Chloroisopropyl) Ether	µg/L	Annual	0.6	NONE	NONE	1,400	170,000	NONE	170,000	No	NA	NA	NA	NA
3-7, 9, 10	68	Bis (2-ethylhexyl) Phthalate	µg/L	Annual	0.6	NONE	NONE	1.8	5.9	4	4	No	NA	NA	NA	NA
3-7, 9, 10	69	4-Bromophenyl phenyl ether	µg/L	Annual	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	70	Butyl benzylphthalate	µg/L	Annual	0.6	NONE	NONE	3,000	5,200	NONE	5,200	No	NA	NA	NA	NA
3-7, 9, 10	71	2-Chloronaphthalene	µg/L	Annual	0.6	NONE	NONE	1,700	4,300	NONE	4,300	No	NA	NA	NA	NA
3-7, 9, 10	72	4-Chlorophenyl phenyl ether	µg/L	Annual	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	73	Chrysene	µg/L	Annual	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
3-7, 9, 10	74	Dibenz(a,h)anthracene	µg/L	Annual	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
3-7, 9, 10	75	1,2-Dichlorobenzene	µg/L	Annual	0.6	NONE	NONE	2,700	17,000	600	600	No	NA	NA	NA	NA
3-7, 9, 10	76	1,3-Dichlorobenzene	µg/L	Annual	0.6	NONE	NONE	400	2,600	NONE	2,600	No	NA	NA	NA	NA
3-7, 9, 10	77	1,4-Dichlorobenzene	µg/L	Annual	0.6	NONE	NONE	400	2,600	5	5	No	NA	NA	NA	NA
3-7, 9, 10	78	3,3'-Dichlorobenzidine	µg/L	Annual	0.6	NONE	NONE	0.04	0.077	NONE	0.077	No	NA	NA	NA	NA
3-7, 9, 10	79	Diethyl phthalate	µg/L	Annual	0.6	NONE	NONE	23,000	120,000	NONE	120,000	No	NA	NA	NA	NA
3-7, 9, 10	80	Dimethyl phthalate	µg/L	Annual	0.6	NONE	NONE	313,000	2,900,000	NONE	2,900,000	No	NA	NA	NA	NA
3-7, 9, 10	81	Di-n-butyl phthalate	µg/L	Annual	0.6	NONE	NONE	2,700	12,000	NONE	12,000	No	NA	NA	NA	NA
3-7, 9, 10	82	2,4-Dinitrotoluene	µg/L	Annual	0.6	NONE	NONE	0.11	9.1	NONE	9.1	No	NA	NA	NA	NA
3-7, 9, 10	83	2,6-Dinitrotoluene	µg/L	Annual	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	84	Di-n-octyl phthalate	µg/L	Annual	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	85	1,2-Diphenylhydrazine/Azobenzene	µg/L	Annual	0.6	NONE	NONE	0.04	0.54	NONE	0.54	No	NA	NA	NA	NA
3-7, 9, 10	86	Fluoranthene	µg/L	Annual	0.6	NONE	NONE	300	370	NONE	370	No	NA	NA	NA	NA
3-7, 9, 10	87	Fluorene	µg/L	Annual	0.6	NONE	NONE	1,300	14,000	NONE	14,000	No	NA	NA	NA	NA
3-7, 9, 10	88	Hexachlorobenzene	µg/L	Annual	0.6	NONE	NONE	0.00075	0.00077	1	0.00077	No	NA	NA	NA	NA
3-7, 9, 10	89	Hexachlorobutadiene	µg/L	Annual	0.6	NONE	NONE	0.44	50	NONE	50	No	NA	NA	NA	NA
3-7, 9, 10	90	Hexachlorocyclopentadiene	µg/L	Annual	0.6	NONE	NONE	240	17,000	50	50	No	NA	NA	NA	NA
3-7, 9, 10	91	Hexachloroethane	µg/L	Annual	0.6	NONE	NONE	1.9	8.9	NONE	8.9	No	NA	NA	NA	NA
3-7, 9, 10	92	Indeno(1,2,3-cd)Pyrene	µg/L	Annual	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
3-7, 9, 10	93	Isophorone	µg/L	Annual	0.6	NONE	NONE	8.4	600	NONE	600	No	NA	NA	NA	NA
3-7, 9, 10	94	Naphthalene	µg/L	Annual	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	95	Nitrobenzene	µg/L	Annual	0.6	NONE	NONE	17	1,900	NONE	1,900	No	NA	NA	NA	NA
3-7, 9, 10	96	N-Nitrosodimethylamine	µg/L	Annual	0.6	NONE	NONE	0.00069	8.1	NONE	8.1	No	NA	NA	NA	NA
3-7, 9, 10	97	n-Nitroso-di-n-propylamine	µg/L	Annual	0.6	NONE	NONE	0.005	1.4	NONE	1.4	No	NA	NA	NA	NA
3-7, 9, 10	98	N-Nitrosodiphenylamine	µg/L	Annual	0.6	NONE	NONE	5	16	NONE	16	No	NA	NA	NA	NA
3-7, 9, 10	99	Phenanthrene	µg/L	Annual	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	100	Pyrene	µg/L	Annual	0.6	NONE	NONE	960	11,000	NONE	11,000	No	NA	NA	NA	NA
3-7, 9, 10	101	1,2,4-Trichlorobenzene	µg/L	Annual	0.6	NONE	NONE	NONE	NONE	70	70	No	NA	NA	NA	NA
3-7, 9, 10	102	Aldrin	µg/L	Annual	0.6	3	NONE	0.00013	0.00014	NONE	0.00014	No	NA	NA	NA	NA
3-7, 9, 10	103	alpha-BHC	µg/L	Annual	0.6	NONE	NONE	0.0039	0.013	NONE	0.013	No	NA	NA	NA	NA

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

TABLE F-2
REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 003-007, 009, AND 010)

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

						Step 1: Water Quality Criteria, Determine C						Step 2	Step 3			Step 4
						CTR CRITERIA				Basin Plan	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
						Freshwater		Human Health								
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
3-7, 9, 10	104	beta-BHC	µg/L	Annual	0.6	NONE	NONE	0.014	0.046	NONE	0.046	No	NA	NA	NA	NA
3-7, 9, 10	105	gamma-BHC (Lindane)	µg/L	Annual	0.6	0.95	NONE	0.019	0.063	0.2	0.063	No	NA	NA	NA	NA
3-7, 9, 10	106	delta-BHC	µg/L	Annual	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	107	Chlordane	µg/L	Annual	0.6	2.4	0.0043	0.00057	0.00059	0.1	0.00059	No	NA	NA	NA	NA
3-7, 9, 10	108	4,4'-DDT	µg/L	Annual	0.6	1.1	0.001	0.00059	0.00059	NONE	0.00059	No	NA	NA	NA	NA
3-7, 9, 10	109	4,4'-DDE	µg/L	Annual	0.6	NONE	NONE	0.00059	0.00059	NONE	0.00059	No	NA	NA	NA	NA
3-7, 9, 10	110	4,4'-DDD	µg/L	Annual	0.6	NONE	NONE	0.00083	0.00084	NONE	0.00084	No	NA	NA	NA	NA
3-7, 9, 10	111	Dieldrin	µg/L	Annual	0.6	0.24	0.056	0.00014	0.00014	NONE	0.00014	No	NA	NA	NA	NA
3-7, 9, 10	112	alpha-Endosulfan	µg/L	Annual	0.6	0.22	0.056	110	240	NONE	0.056	No	NA	NA	NA	NA
3-7, 9, 10	113	beta-Endosulfan	µg/L	Annual	0.6	0.22	0.056	110	240	NONE	0.056	No	NA	NA	NA	NA
3-7, 9, 10	114	Endosulfan Sulfate	µg/L	Annual	0.6	NONE	NONE	110	240	NONE	240	No	NA	NA	NA	NA
3-7, 9, 10	115	Endrin	µg/L	Annual	0.6	0.086	0.036	0.76	0.81	2	0.036	No	NA	NA	NA	NA
3-7, 9, 10	116	Endrin Aldehyde	µg/L	Annual	0.6	NONE	NONE	0.76	0.81	NONE	0.81	No	NA	NA	NA	NA
3-7, 9, 10	117	Heptachlor	µg/L	Annual	0.6	0.52	0.0038	0.00021	0.00021	0.01	0.00021	No	NA	NA	NA	NA
3-7, 9, 10	118	Heptachlor Epoxide	µg/L	Annual	0.6	0.52	0.0038	0.0001	0.00011	0.01	0.00011	No	NA	NA	NA	NA
3-7, 9, 10	119	Aroclor 1016	µg/L	Annual	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	No	NA	NA	NA	NA
3-7, 9, 10	120	Aroclor 1221	µg/L	Annual	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	No	NA	NA	NA	NA
3-7, 9, 10	121	Aroclor 1232	µg/L	Annual	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	No	NA	NA	NA	NA
3-7, 9, 10	122	Aroclor 1242	µg/L	Annual	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	No	NA	NA	NA	NA
3-7, 9, 10	123	Aroclor 1248	µg/L	Annual	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	No	NA	NA	NA	NA
3-7, 9, 10	124	Aroclor 1254	µg/L	Annual	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	No	NA	NA	NA	NA
3-7, 9, 10	125	Aroclor 1260	µg/L	Annual	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	No	NA	NA	NA	NA
3-7, 9, 10	126	Toxaphene	µg/L	Annual	0.6	0.73	0.0002	0.00073	0.00075	3	0.0002	No	NA	NA	NA	NA
3-7, 9, 10	127	E. Coli	MPN/100ml	Annual	0.6	NA	NA	NA	NA	235	235	No	NA	NA	NA	NA

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

TABLE F-3
REASONABLE POTENTIAL ANALYSIS - NON-PRIORITY POLLUTANTS (OUTFALLS 003-007,009, AND 010)

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Outfall	Constituent	Monitoring	Units	Number of Samples	MEC	CV	Multiplier	Projected Maximum Effluent Concentration (99/99)	Dilution Ratio	Background Concentration	Projected Maximum Receiving Water Concentration	Step 1, Determine Water Quality Objectives	BU - Beneficial use protection NC - Human noncarcinogen AP - Aquatic life protection TMDL - Total Maximum Daily Load
3-7, 9, 10	Total Suspended Solids	Discharge	mg/L	1	Available Data <DL	0.6	13.20	NA	NA	NA	NA	45	BU

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

APPENDIX G

First Quarter 2022 Receiving Water Surveys

APPENDIX G

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TABLE G
RECEIVING WATER SURVEYS

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2022

Observation Requirements: Observations are only made during discharge on a monthly basis when Outfall 002 (Bell Creek), Outfall 008 (Dayton Creek), and Outfall 009 (Arroyo Simi) are flowing. Outfalls 002 and 009 discharged in January during the First Quarter 2022. No Outfalls flowed in February or March.

FIRST QUARTER 2022 ARROYO SIMI OBSERVATIONS AT ARROYO SIMI			
ARROYO SIMI OBSERVATIONS	**JANUARY**	**FEBRUARY**	**MARCH**
Date and time of inspection	N/A	N/A	N/A
Weather conditions	N/A	N/A	N/A
Color of water	N/A	N/A	N/A
Appearance of oil films or grease, or floatable materials	N/A	N/A	N/A
Extent of visible turbidity or color patches	N/A	N/A	N/A
Description of odor, if any	N/A	N/A	N/A
Presence or activity of California Least Tern or California Brown Pelican	N/A	N/A	N/A
Upstream Surface Water Temperature*	N/A	N/A	N/A
Upstream Surface Water pH*	N/A	N/A	N/A

Notes:

N/A = not applicable. Outfall 009 flowed continuously from December 15, 2021 through January 5, 2022. Arroyo Simi inspection was conducted during initial flow at Outfall 009 in December, but was not conducted during the residual flow occurring at Outfall 009 in early January. Since Outfall 009 did not flow during the months of February and March, no monthly inspection was required at Arroyo Simi.

* = These data are collected to assist in determining compliance with receiving water limitations during the quarterly sampling. When upstream flow is present, upstream data are compared to the pH and temperature measured at Arroyo Simi sample location RSW-002 (Appendix C) to determine if sample location readings are within 0.5 pH unit and 5°F of the upstream field readings. No flow was present at the upstream location on the day of Arroyo Simi sampling.

FIRST QUARTER 2022 BELL CREEK OBSERVATIONS AT OUTFALL 002			
BELL CREEK OBSERVATIONS	**JANUARY**	**FEBRUARY**	**MARCH**
Date and time of inspection	1/18/2022, 0800	N/A	N/A
Weather conditions	Cloudy, cold, no breeze, 53°F	N/A	N/A
Color of water	Clear	N/A	N/A
Appearance of oil films or grease, or floatable materials	None	N/A	N/A
Extent of visible turbidity or color patches	None, clear	N/A	N/A
Description of odor, if any	None	N/A	N/A
Presence or activity of California Least Tern or California Brown Pelican	N/A	N/A	N/A

Notes:

N/A = not applicable. Since Outfall 002 did not flow during the months of February and March, no monthly inspection was required at Outfall 002.

FIRST QUARTER 2022 DAYTON CANYON CREEK OBSERVATIONS AT OUTFALL 008			
DAYTON CANYON CREEK OBSERVATIONS	**JANUARY**	**FEBRUARY**	**MARCH**
Date and time of inspection	N/A	N/A	N/A
Weather conditions	N/A	N/A	N/A
Color of water	N/A	N/A	N/A
Appearance of oil films or grease, or floatable materials	N/A	N/A	N/A
Extent of visible turbidity or color patches	N/A	N/A	N/A
Description of odor, if any	N/A	N/A	N/A
Presence or activity of California Least Tern or California Brown Pelican	N/A	N/A	N/A

Notes:

N/A = not applicable. Since Outfall 008 did not flow during the months of January, February, and March, no monthly inspection was required at Outfall 008.

APPENDIX H

First Quarter 2022 Analytical Laboratory Methods, Method Detection Limits, Reporting Limits, QA/QC Procedures, and ELAP Certifications

APPENDIX H

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TABLE H
ANNUAL LIST OF ANALYTICAL METHODS BY ANALYTE WITH CORRESPONDING LABORATORY REPORTING LIMITS AND METHOD DETECTION LIMITS

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

							Permit Limits/Benchmarks					
Method	**Analyte**	**Units**	**TestAmerica Laboratory 2021 MDL**	**TestAmerica Laboratory 2021 RL**	**SWRCB ML**	**Laboratory vs ML[1]**	**Monthly Average Limits**	**Daily Maximum Limits**	**Daily Maximum Limits**	**Daily Maximum Limits**	**Receiving Water Limits**	**Receiving Water Sediment Limits**
							019, 020	**001, 002 011, 018**	**003-007, 009, 010**	**008**	**Arroyo Simi**	**Arroyo Simi**
EPA 624 - Low-level	1,1,1-Trichloroethane	µg/L	0.250	0.500	2	--[b]						
	1,1,2,2-Tetrachloroethane	µg/L	0.250	0.500	1	--[b]						
	1,1,2-Trichloroethane	µg/L	0.250	0.500	2	--[b]						
	1,1-Dichloroethane	µg/L	0.250	0.500	1	--[b]						
	1,1-Dichloroethene	µg/L	0.250	0.500	2	--[a]	3.2	6.0				
	1,2-Dichlorobenzene	µg/L	0.250	0.500	2	--[b]						
	1,2-Dichloroethane	µg/L	0.250	0.500	2	--[a]		0.5				
	1,2-Dichloropropane	µg/L	0.250	0.500	1	--[b]						
	1,3-Dichlorobenzene	µg/L	0.250	0.500	2	--[b]						
	1,3-Dichloropropene (reported as cis & trans)	µg/L	0.250	0.500	2	--[b]						
	1,4-Dichlorobenzene	µg/L	0.250	0.500	2	--[b]						
	Benzene	µg/L	0.250	0.500	2	--[b]						
	Bromoform	µg/L	0.248	1.00	2	--[b]						
	Bromomethane	µg/L	0.250	0.500	2	--[b]						
	Carbon tetrachloride	µg/L	0.250	0.500	2	--[b]						
	Chlorobenzene	µg/L	0.250	0.500	2	--[b]						
	Chlorodibromomethane	µg/L	0.250	0.500	2	--[b]						
	Chloroethane	µg/L	0.287	1.00	2	--[b]						
	Chloroform (Trichloromethane)	µg/L	0.250	0.500	2	--[b]						
	Chloromethane (Methyl Chloride)	µg/L	0.250	0.500	2	--[b]						
	Dibromochloromethane	µg/L	0.250	0.500	2	--[b]						
	Ethylbenzene	µg/L	0.250	0.500	2	--[b]						
	Methylene chloride	µg/L	0.567	2.00	2	--[b]						
	Tetrachloroethene	µg/L	0.250	0.500	2	--[b]						
	Toluene	µg/L	0.250	0.500	2	--[b]						
	trans-1,2-Dichloroethene	µg/L	0.250	0.500	1	--[b]						
	Trichloroethene	µg/L	0.250	0.500	2	--[a]		5.0				
	Vinyl chloride	µg/L	0.250	0.500	2	--[b]						
	m,p-Xylenes	µg/L	0.166	1.00	n/a	--[d]						
	Naphthalene	µg/L	0.325	1.00	n/a	--[d]						
	o-Xylene	µg/L	0.250	0.500	n/a	--[d]						
	Trichlorofluoromethane	µg/L	0.250	0.500	n/a	--[d]						
VOC - Add-ons (EPA 624)	1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	0.330	2.00	n/a	--[d]						
	1,2-Dichloro-1,1,2-trifluoroethane	µg/L	0.575	2.00	n/a	--[d]						
	Cyclohexane	µg/L	0.79	2.00	n/a	--[d]						
EPA 624/8260B A-A+2CVE LOW	Acrolein	µg/L	4.64	5.00	5	--[b]						
	Acrylonitrile	µg/L	1.43	2.00	2	--[b]						
	2-Chloroethyl vinyl ether	µg/L	1.09	2.00	1	--[h]						

TABLE H
ANNUAL LIST OF ANALYTICAL METHODS BY ANALYTE WITH CORRESPONDING LABORATORY REPORTING LIMITS AND METHOD DETECTION LIMITS

FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

							Permit Limits/Benchmarks					
Method	**Analyte**	**Units**	**TestAmerica Laboratory 2021 MDL**	**TestAmerica Laboratory 2021 RL**	**SWRCB ML**	**Laboratory vs ML[1]**	**Monthly Average Limits**	**Daily Maximum Limits**	**Daily Maximum Limits**	**Daily Maximum Limits**	**Receiving Water Limits**	**Receiving Water Sediment Limits**
							019, 020	**001, 002 011, 018**	**003-007, 009, 010**	**008**	**Arroyo Simi**	**Arroyo Simi**
EPA 625+NDMA+Hydrazine -Low-level	1,2,4-Trichlorobenzene	µg/L	0.128	0.20	5	--[b]						
	1,2-Dichlorobenzene	µg/L	0.200	0.500	2	--[b]						
	1,2-Diphenylhydrazine/Azobenzene	µg/L	0.200	1.00	1	--[b]						
	1,3-Dichlorobenzene	µg/L	0.200	0.500	1	--[b]						
	1,4-Dichlorobenzene	µg/L	0.200	0.500	1	--[b]						
	2,4-Dichlorophenol	µg/L	0.137	1.00	5	--[b]						
	2,4-Dimethylphenol	µg/L	0.128	0.20	2	--[b]						
	2,4-Dinitrophenol	µg/L	4.29	5.00	5	--[b]						
	2,4-Dinitrotoluene	µg/L	0.12	0.20	5	--[a]	9.1	18				
	2,4,6-Trichlorophenol	µg/L	0.139	1.00	10	--[a]	6.5	13				
	2,6-Dinitrotoluene	µg/L	0.18	0.20	5	--[b]						
	2-Chloronaphthalene	µg/L	0.144	0.200	10	--[b]						
	2-Chlorophenol	µg/L	0.096	0.20	5	--[b]						
	2-Methyl-4,6-Dinitrophenol	µg/L	4.53	5.00	5	--[b]						
	2-Nitrophenol	µg/L	3.49	5.00	10	--[b]						
	3,3'-Dichlorobenzidine	µg/L	3.00	5.00	5	--[b]						
	4-Bromophenyl phenyl ether	µg/L	0.0998	0.20	5	--[b]						
	4-Chloro-3-methylphenol	µg/L	0.132	1.00	1	--[b]						
	4-Chlorophenyl phenyl ether	µg/L	0.165	0.200	5	--[b]						
	4-Nitrophenol	µg/L	3.38	5.00	10	--[b]						
	Acenaphthene	µg/L	0.098	0.200	1	--[b]						
	Acenaphthylene	µg/L	0.130	0.200	10	--[b]						
	Anthracene	µg/L	0.084	0.500	10	--[b]						
	Benzidine	µg/L	2.71	5.0	5	--[b]						
	Benzo(a)anthracene	µg/L	0.123	0.200	5	--[b]						
	Benzo(a)pyrene	µg/L	0.153	0.20	10	--[b]						
	Benzo(b)fluoranthene	µg/L	0.113	0.200	10	--[b]						
	Benzo(g,h,i)perylene	µg/L	0.107	0.200	5	--[b]						
	Benzo(k)fluoranthene	µg/L	0.113	0.200	10	--[b]						
	Bis (2-chloroethoxy) methane	µg/L	0.106	0.200	5	--[b]						
	Bis (2-chloroethyl) ether	µg/L	0.104	0.200	1	--[b]						
	Bis (2-chloroisopropyl) ether	µg/L	0.131	0.200	2	--[b]						
	Bis (2-ethylhexyl) phthalate	µg/L	3.59	5.00	5	--[a]		4.0				
	Butyl benzylphthalate	µg/L	0.67	1.00	10	--[b]						
	Chrysene	µg/L	0.112	0.200	10	--[b]						
EPA 625+NDMA+Hydrazine -Low-level	Dibenz(a,h)anthracene	µg/L	0.157	0.500	10	--[b]						
	Diethyl phthalate	µg/L	0.181	2.00	2	--[b]						
	Dimethyl phthalate	µg/L	0.098	2.00	2	--[b]						
	Di-n-butyl phthalate	µg/L	1.84	2.00	10	--[b]						
	Di-n-octyl phthalate	µg/L	0.54	5.00	10	--[b]						
	Fluoranthene	µg/L	0.101	0.200	1	--[b]						
	Fluorene	µg/L	0.0946	0.200	10	--[b]						
	Hexachlorobenzene	µg/L	0.134	0.20	1	--[b]						
	Hexachlorobutadiene	µg/L	0.152	0.20	1	--[b]						
	Hexachlorocyclopentadiene	µg/L	0.153	0.200	5	--[b]						
	Hexachloroethane	µg/L	0.128	0.20	1	--[b]						
	Indeno(1,2,3-cd)pyrene	µg/L	0.128	0.20	10	--[b]						
	Isophorone	µg/L	0.099	0.20	1	--[b]						
	Naphthalene	µg/L	0.325	1.00	1	--[b]						
	Nitrobenzene	µg/L	0.144	0.20	1	--[b]						

TABLE H
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FIRST QUARTER 2022
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

							Permit Limits/Benchmarks					
Method	**Analyte**	**Units**	**TestAmerica Laboratory 2021 MDL**	**TestAmerica Laboratory 2021 RL**	**SWRCB ML**	**Laboratory vs ML[1]**	**Monthly Average Limits**	**Daily Maximum Limits**	**Daily Maximum Limits**	**Daily Maximum Limits**	**Receiving Water Limits**	**Receiving Water Sediment Limits**
							019, 020	**001, 002 011, 018**	**003-007, 009, 010**	**008**	**Arroyo Simi**	**Arroyo Simi**
	n-Nitrosodimethylamine	µg/L	0.186	0.20	5	--[a]	8.1	16				
	n-Nitroso-di-n-propylamine	µg/L	0.144	0.20	5	--[b]						
	n-Nitrosodiphenylamine	µg/L	0.107	0.20	1	--[b]						
	Pentachlorophenol	µg/L	0.85	1.00	5	--[a]	8.2	16.5				
	Phenanthrene	µg/L	0.165	0.20	5	--[b]						
	Phenol	µg/L	0.524	1.00	1	--[b]						
	Pyrene	µg/L	0.086	0.200	10	--[b]						
PCB, Low Level (EPA 608)	Aroclor 1016	µg/L	0.0435-0.0515	0.100	0.5	--[g]					0.0003	
	Aroclor 1221	µg/L	0.0435-0.0515	0.100	0.5	--[g]					0.0003	
	Aroclor 1232	µg/L	0.0435-0.0515	0.100	0.5	--[g]					0.0003	
	Aroclor 1242	µg/L	0.0435-0.0515	0.100	0.5	--[g]					0.0003	
	Aroclor 1248	µg/L	0.0435-0.0515	0.100	0.5	--[g]					0.0003	
	Aroclor 1254	µg/L	0.0435-0.0515	0.100	0.5	--[g]					0.0003	
	Aroclor 1260	µg/L	0.0435-0.0515	0.100	0.5	--[g]					0.0003	
	Aroclor 1016	µg/g	0.0013	0.010	n/a	--[c]						0.12
	Aroclor 1221	µg/g	0.0013	0.010	n/a	--[c]						0.12
	Aroclor 1232	µg/g	0.0013	0.010	n/a	--[c]						0.12
	Aroclor 1242	µg/g	0.0013	0.010	n/a	--[c]						0.12
	Aroclor 1248	µg/g	0.0013	0.010	n/a	--[c]						0.12
	Aroclor 1254	µg/g	0.00660	0.010	n/a	--[c]						0.12
	Aroclor 1260	µg/g	0.00660	0.010	n/a	--[c]						0.12
Pesticides, Low Level (EPA 608)	Aldrin	µg/L	0.00070	0.00130	0.005	--[b]						
	alpha-BHC	µg/L	0.00080	0.00130	0.01	--[a]	0.01	0.03				
	alpha-Endosulfan	µg/L	0.00128	0.00130	0.02	--[b]						
	beta-BHC	µg/L	0.00170	0.0020	0.005	--[b]						
	beta-Endosulfan	µg/L	0.00412	0.00670	0.01	--[b]						
	delta-BHC	µg/L	0.00110	0.00130	0.005	--[b]						
	gamma-BHC (Lindane)	µg/L	0.00090	0.0013	0.02	--[b]						
	Chlordane	µg/L	0.0065	0.010	0.1	--[g]					0.001	0.0033
	4,4'-DDD	µg/L	0.00080	0.00130	0.05	--[a]					0.0014	0.002
	4,4'-DDE	µg/L	0.00050	0.00130	0.05	--[a]					0.001	0.0014
	4,4'-DDT	µg/L	0.00160	0.0033	0.01	--[g]					0.001	0.003
	Dieldrin	µg/L	0.00050	0.00130	0.01	--[g]					0.0002	0.0002
	Endosulfan sulfate	µg/L	0.00138	0.0033	0.05	--[b]						
	Endrin	µg/L	0.00232	0.00330	0.01	--[b]						
	Endrin aldehyde	µg/L	0.00510	0.0100	0.01	--[b]						
	Heptachlor	µg/L	0.00070	0.00130	0.01	--[b]						
	Heptachlor epoxide	µg/L	0.00040	0.00130	0.01	--[b]						
	Toxaphene	µg/L	0.01300	0.100	0.5	--[g]					0.0003	0.0006
	Chlordane	µg/g	0.00061	0.00640	n/a	--[f]						0.0033
	4,4'-DDD	µg/g	0.00025	0.00130	n/a	--[c]					0.0014	0.002
	4,4'-DDE	µg/g	0.00069	0.00640	n/a	--[f]					0.001	0.0014
	4,4'-DDT	µg/g	0.00009	0.00130	n/a	--[f]					0.001	0.0003
	Dieldrin	µg/g	0.00007	0.00026	n/a	--[f]					0.0002	0.0002
	Toxaphene	µg/g	0.00510	0.00640	n/a	--[f]					0.0003	0.0006
EPA 525.2	Chlorpyrifos	µg/L	0.0069	0.0010	n/a	--[c]					0.02	
	Diazinon	µg/L	0.0052	0.0010	n/a	--[c]					0.16	

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							Permit Limits/Benchmarks					
Method	**Analyte**	**Units**	**TestAmerica Laboratory 2021 MDL**	**TestAmerica Laboratory 2021 RL**	**SWRCB ML**	**Laboratory vs ML[1]**	**Monthly Average Limits**	**Daily Maximum Limits**	**Daily Maximum Limits**	**Daily Maximum Limits**	**Receiving Water Limits**	**Receiving Water Sediment Limits**
							019, 020	**001, 002 011, 018**	**003-007, 009, 010**	**008**	**Arroyo Simi**	**Arroyo Simi**
ICP/MS 200.8	Antimony	µg/L	0.263	2.00	0.5	--[a]	6.0	6.0	6.0	6.0		
	Cadmium	µg/L	0.142	1.00	0.25	--[a]	2.0	4.0/3.1	4.0	4.0/3.1		
	Copper	µg/L	0.500	2.00	0.5	--[a]	5.8	14	13	14		
	Lead	µg/L	0.121	1.00	0.5	--[a]	2.6	5.2	5.2	5.2		
	Selenium	µg/L	0.481	2.00	2	--[a]	4.1	8.2/5		5		
	Silver	µg/L	0.170	1.00	0.25	--[a]	2.0	4.1				
	Thallium	µg/L	0.117	1.00	1	--[a]	2.0	2.0	2.0	2.0		
ICP 200.7	Aluminum	µg/L	50.0	100	n/a	--[d]						
	Arsenic	µg/L	8.90	10.0	10	--[a]	10.0	10.0				
	Barium	µg/L	2.20	10.0	n/a	--[c]	1	1				
	Beryllium	µg/L	0.44	2.00	2	--[a]	4.0	4.0				
	Boron	mg/L	0.0250	0.0500	n/a	--[c]			1.0	1.0		
	Chromium	µg/L	2.50	5.00	10	--[a]	see Cr VI	see Cr VI				
	Cobalt	µg/L	2.80	10.0	n/a	--[d]						
	Hardness (as CaCO3)	mg/L	0.170	0.910	n/a	--[d]						
	Iron	mg/L	0.0500	0.100	n/a	--[c]	0.3	0.3				
	Manganese	µg/L	6.8	20.0	n/a	--[c]		50				
	Nickel	µg/L	5.00	10.0	20	--[a]	35	94	86	86		
	Vanadium	µg/L	2.10	10.0	n/a	--[d]						
	Zinc	µg/L	12.0	20.0	20	--[a]	43	119	120	120		
Mercury (EPA 245.1)	Mercury	µg/L	0.124	0.248	0.2	--[g]	0.05	0.10	0.13	0.13		
Chromium VI (EPA 218.6)	Chromium VI (Hexavalent)	µg/L	0.250	1.00	n/a	--[c]	8.0	16				
Cyanide by EPA (SM4500)	Cyanide	µg/L	2.50	5.00	5	--[a]	4.3	8.5	9.5	9.5		
Asbestos by EPA 600	Asbestos	MFL	n/a [2]	n/a [2]	n/a	--[d]						
EPA 8260B-Mod	1,4-Dioxane	µg/L	0.546	1.00	n/a	--[d]						
EPA 8015-Mod	Diesel Range Organics (DRO C13-C28)	mg/L	0.036	0.500	n/a	--[d]						
	Gasoline Range Organics (GRO C4-C12)	mg/L	0.0250	0.0500	n/a	--[d]						
EPA 314.0	Perchlorate	µg/L	0.950	4.00	n/a	--[c]	6	6.0	6.0	6.0		
EPA 1613	TCDD TEQ	µg/L	n/a	n/a	n/a	--[e]	1.4E-08	2.8E-08	2.8E-08	2.8E-08		
General Chemistry, (Field Test)	Chlorine, Total Residual [3]	mg/L	n/a	0.1	n/a	--[c]	0.1	0.1				
	Dissolved Oxygen [3]	mg/L	n/a	1	n/a	--[d]						
General Chemistry, EPA 120.1	Conductivity	µmhos/cm	0.500	1.00	n/a	--[d]						
General Chemistry, EPA 1664	Oil & Grease	mg/L	0.51	1.00	n/a	--[c]	10	15	15	15		

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General Chemistry, EPA 180.1	Turbidity	NTU	0.0439	0.0500	n/a	--[d]						
General Chemistry, EPA 300	Chloride	mg/L	0.250	0.500	n/a	--[c]	150	150	150	150		
	Nitrate + Nitrite as Nitrogen (N)	mg/L	0.055	0.150	n/a	--[c]	8	8	10	8		
	Nitrate - N	mg/L	0.0550	0.110	n/a	--[c]	8	8		8		
	Nitrite - N	mg/L	0.0240	0.150	n/a	--[c]	1	1		1		
	Sulfate	mg/L	0.250	0.500	n/a	--[c]		300	250	300		
General Chemistry, SM2540C	Total Dissolved Solids	mg/L	0.87	1.0	n/a	--[c]	950	950	850	950		
General Chemistry, SM2540D	Total Suspended Solids	mg/L	0.829	1.00	n/a	--[c]	15	45				
General Chemistry, SM2540F	Settleable Solids	ml/L	n/a	0.100	n/a	--[c]	0.1	0.3				
General Chemistry, SM4500F-C	Fluoride	mg/L	0.200	0.500	n/a	--[c]	2	1.6	1.6	1.6		
General Chemistry, SM4500-NH3	Ammonia – N	mg/L	0.032	0.075	n/a	--[c]	1.96	10.1		10.1		
General Chemistry, SM5210B	Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	mg/L	2.00	2.00	n/a	--[c]	20	30				
General Chemistry, SM5310B	Total Organic Carbon	mg/L	0.026	0.50	n/a	--[d]						
General Chemistry, SM5540	Detergents (as MBAS)	mg/L	0.0536	0.300	n/a	--[c]	1	0.5				
Radiochemistry	Uranium	pCi/L	n/a	1.00 [4]	n/a	--[c]		20	20	20		
Radiochemistry, EPA 900	Gross Alpha	pCi/L	n/a	3.00 [4]	n/a	--[c]	15	15	15	15		
	Gross Beta	pCi/L	n/a	4.00 [4]	n/a	--[c]	50	50	50	50		
Radiochemistry, EPA 901.1	Cesium-137	pCi/L	n/a	20.0 [4]	n/a	--[c]		200	200	200		
	Potassium-40	pCi/L	n/a	n/a	n/a	--[d]						
Radiochemistry, EPA 903/904	Combined Radium-226 & Radium-228	pCi/L	n/a	n/a	n/a	--[e]	5.0	5.0	5.0	5.0		
Radiochemistry, EPA 905.0	Strontium-90	pCi/L	n/a	3.00 [4]	n/a	--[c]	8.0	8.0	8.0	8.0		
Radiochemistry, EPA 906.0	Tritium	pCi/L	n/a	500 [4]	n/a	--[c]	20000	20000	20000	20000		

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8315M (Truesdail Lab)	Monomethyl hydrazine	µg/L	2.0	2.0	n/a	--[d]						
Toxicity (Aquatic Lab), EPA 1002	Chronic Toxicity	Pass or Fail, % Effect	n/a	n/a	n/a	--[e]	Pass or Fail	Pass or % Effect <50	Pass or % Effect <50	Pass or % Effect <50		
Biological, SM9221F/SM9223B	E. Coli	MPN/100ml	1	1	n/a	--[c]					235	

Notes:
Benchmark limitations: Outfalls 001, 002
Compliance limitations: Outfalls 003-011, 018-020
The RLs and MDLs may vary slightly based on a number of factors such as instrument used, dilution factor, aliquot, blank contamination, etc.

Columns are used to compare laboratory's reporting limits (RLs) and method detection limits (MDLs) to the SWRCB Minimum Levels (MLs) and the permit limits (PLs).
(1) This column indicates the status of analytical capabilities if the ML is less than the laboratory RL and/or MDL. See explanation for "--" below.
The following designations summarize the comparison of RLs, MDLs, MLs, and permit limits:
-- = Laboratory reporting limit meets ML if applicable and permit limit requirements.
--[a] Laboratory reporting limit or method detection limit meets ML and permit limit requirements.
--[b] Laboratory reporting limit or method detection limit meets ML. This analyte has no permit limit requirements.
--[c] Laboratory reporting limit or method detection limit meets permit limit. This analyte has no ML.
--[d] This analyte has no ML or permit limit.
--[e] This analyte is a calculation or chronic toxicity and does not have a reporting limit. This calculation or chronic toxicity has no ML.
--[f] This analyte has no ML. Laboratory reporting limit or method detection limit does not meet permit limit.
--[g] Laboratory reporting limit or method detection limit meets ML, but does not meet permit limit requirements.
--[h] Laboratory reporting limit or method detection limit does not meet the ML as the laboratory recalculated the MDL during their annual MDL studies. This analyte has no permit limit requirements.
In the above context, "meet" means equal to or less than (i.e., if a Laboratory reporting limit or method detection limit meets a criteria, the laboratory reporting limit is less than or equal to that criteria.
The receiving water sediment limits do not have a ML and are included for reference only.

(2) The RL and MDL for asbestos varies based upon the sample.
(3) Total residual chlorine (TRC) and dissolved oxygen (DO) are measured in the field. The RL is the lowest limit of the instrument. The MDL is not relevant for field parameters.
(4) This value is the minimum detectable activity (MDA) which applies only to radiological constituents.

Acronyms:
MFL = million fibers per liter
mg/L = milligrams per liter
MPN/100ml = most probable number per 100 milliliters
pCi/L = picoCuries per liter
SWRCB = State Water Resources Control Board
µg/L = micrograms per liter
µg/g = micrograms per gram
n/a = not applicable

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

Interim

CALIFORNIA STATE

ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

CERTIFICATE OF ENVIRONMENTAL LABORATORY ACCREDITATION

Is hereby granted to

Eurofins TestAmerica Sacramento

880 Riverside Parkway

West Sacramento, CA 95605

Scope of the certificate is limited to the
"Fields of Accreditation"
which accompany this Certificate.

Continued accredited status depends on compliance with applicable laws and regulations, proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of
Section 100825, et seq. of the Health and Safety Code.

Certificate No.: **2897**

Effective Date: **2/1/2022**

Expiration Date: **1/31/2023**

Sacramento, California
subject to forfeiture or revocation

Christine Sotelo, Program Manager
Environmental Laboratory Accreditation Program

CALIFORNIA STATE
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Fields of Accreditation

Eurofins Sacramento

880 Riverside Parkway
West Sacramento, CA 95605
Phone: 9163735600

Certificate Number: 2897
Expiration Date: 1/31/2023
INTERIM

Field of Accreditation:102 - Inorganic Chemistry of Drinking Water				
102.045	001	Perchlorate	EPA 314.0	Interim
102.047	001	Perchlorate	EPA 331.0	Interim
Field of Accreditation:105 - Semi-volatile Organic Chemistry of Drinking Water				
105.106	001	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	EPA 537.1	Interim
105.106	002	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	EPA 537.1	Interim
105.106	003	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	EPA 537.1	Interim
105.106	004	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	EPA 537.1	Interim
105.106	005	N-Ethylperfluorooctane Sulfonamido Acetic Acid (NEtFOSAA)	EPA 537.1	Interim
105.106	006	N-Methylperfluorooctane Sulfonamido Acetic Acid (NMeFOSAA)	EPA 537.1	Interim
105.106	007	Perfluorobutane Sulfonic Acid (PFBS)	EPA 537.1	Interim
105.106	008	Perfluorodecanoic Acid (PFDA)	EPA 537.1	Interim
105.106	009	Perfluorododecanoic Acid (PFDoA)	EPA 537.1	Interim
105.106	010	Perfluoroheptanoic Acid (PFHpA)	EPA 537.1	Interim
105.106	011	Perfluorohexane Sulfonic Acid (PFHxS)	EPA 537.1	Interim
105.106	012	Perfluorohexanoic Acid (PFHxA)	EPA 537.1	Interim
105.106	013	Perfluorononanoic Acid (PFNA)	EPA 537.1	Interim
105.106	014	Perfluorooctanoic Acid (PFOA)	EPA 537.1	Interim
105.106	015	Perfluorooctane Sulfonic Acid (PFOS)	EPA 537.1	Interim
105.106	016	Perfluorotetradecanoic Acid (PFTDA)	EPA 537.1	Interim
105.106	017	Perfluorotridecanoic Acid (PFTrDA)	EPA 537.1	Interim
105.106	018	Perfluoroundecanoic Acid (PFUnDA)	EPA 537.1	Interim
105.230	001	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	EPA 1613 B	Interim
Field of Accreditation:108 - Inorganic Constituents in Non-Potable Water				
108.001	001	Specific Conductance	EPA 120.1 (1982 Rev.1.0)	
108.009	001	Turbidity	EPA 180.1 (1993 Rev. 2.0)	
108.015	001	Calcium	EPA 200.8 (1994 Rev. 5.4)	
108.015	002	Magnesium	EPA 200.8 (1994 Rev. 5.4)	
108.015	003	Potassium	EPA 200.8 (1994 Rev. 5.4)	
108.017	001	Bromide	EPA 300.0 (1993 Rev. 2.1)	
108.017	002	Chloride	EPA 300.0 (1993 Rev. 2.1)	
108.017	003	Fluoride	EPA 300.0 (1993 Rev. 2.1)	
108.017	004	Nitrate (as N)	EPA 300.0 (1993 Rev. 2.1)	
108.017	005	Nitrate-Nitrite (as N)	EPA 300.0 (1993 Rev. 2.1)	

108.017	006	Nitrite (as N)	EPA 300.0 (1993 Rev. 2.1)
108.017	007	Phosphate,Ortho (as P)	EPA 300.0 (1993 Rev. 2.1)
108.017	008	Sulfate (as SO4)	EPA 300.0 (1993 Rev. 2.1)
108.033	001	Nitrate-Nitrite (as N)	EPA 353.2 (1993 Rev. 2.0)
108.033	002	Nitrite (as N)	EPA 353.2 (1993 Rev. 2.0)
108.045	001	Chemical Oxygen Demand	EPA 410.4 (1993 Rev. 2.0)
108.059	001	Turbidity	SM 2130 B-2011
108.063	001	Alkalinity	SM 2320 B-2011
108.065	001	Hardness (Calculation)	SM 2340 B-2011
108.069	001	Specific Conductance	SM 2510 B-2011
108.071	001	Residue, Total	SM 2540 B-2011
108.073	001	Residue, Filterable TDS	SM 2540 C-2011
108.075	001	Residue, Non-filterable TSS	SM 2540 D-2011
108.137	001	Hydrogen Ion (pH)	SM 4500-H+ B-2011
108.173	001	Oxygen, Dissolved	SM 4500-O G-2011
108.213	001	Chemical Oxygen Demand	SM 5220 D-2011

Field of Accreditation:109 - Metals and Trace Elements in Non-Potable Water

109.625	001	Aluminum	EPA 200.8 (1994 Rev. 5.4)
109.625	002	Antimony	EPA 200.8 (1994 Rev. 5.4)
109.625	003	Arsenic	EPA 200.8 (1994 Rev. 5.4)
109.625	004	Barium	EPA 200.8 (1994 Rev. 5.4)
109.625	005	Beryllium	EPA 200.8 (1994 Rev. 5.4)
109.625	007	Cadmium	EPA 200.8 (1994 Rev. 5.4)
109.625	008	Chromium	EPA 200.8 (1994 Rev. 5.4)
109.625	009	Cobalt	EPA 200.8 (1994 Rev. 5.4)
109.625	010	Copper	EPA 200.8 (1994 Rev. 5.4)
109.625	012	Iron	EPA 200.8 (1994 Rev. 5.4)
109.625	013	Lead	EPA 200.8 (1994 Rev. 5.4)
109.625	014	Manganese	EPA 200.8 (1994 Rev. 5.4)
109.625	015	Molybdenum	EPA 200.8 (1994 Rev. 5.4)
109.625	016	Nickel	EPA 200.8 (1994 Rev. 5.4)
109.625	017	Selenium	EPA 200.8 (1994 Rev. 5.4)
109.625	018	Silver	EPA 200.8 (1994 Rev. 5.4)
109.625	019	Thallium	EPA 200.8 (1994 Rev. 5.4)
109.625	020	Tin	EPA 200.8 (1994 Rev. 5.4)
109.625	021	Titanium	EPA 200.8 (1994 Rev. 5.4)
109.625	022	Vanadium	EPA 200.8 (1994 Rev. 5.4)
109.625	023	Zinc	EPA 200.8 (1994 Rev. 5.4)

Field of Accreditation:111 - Semi-volatile Organic Constituents in Non-Potable Water

111.250	001	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	EPA 1613 B
111.250	002	Total Tetrachlorodibenzo-p-dioxin (TCDD)	EPA 1613 B
111.250	003	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	EPA 1613 B

111.250	004	Total Tetrachlorodibenzofuran (TCDF)	EPA 1613 B
111.250	005	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	EPA 1613 B
111.250	006	Total Pentachlorodibenzo-p-dioxin (PeCDD)	EPA 1613 B
111.250	007	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	EPA 1613 B
111.250	008	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	EPA 1613 B
111.250	009	Total Pentachlorodibenzofuran (PeCDF)	EPA 1613 B
111.250	010	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 1613 B
111.250	011	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 1613 B
111.250	012	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 1613 B
111.250	013	Total Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 1613 B
111.250	014	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 1613 B
111.250	015	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 1613 B
111.250	016	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	EPA 1613 B
111.250	017	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 1613 B
111.250	018	Total Hexachlorodibenzofuran (HxCDF)	EPA 1613 B
111.250	019	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	EPA 1613 B
111.250	020	Total Heptachlorodibenzo-p-dioxin (HpCDD)	EPA 1613 B
111.250	021	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	EPA 1613 B
111.250	022	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	EPA 1613 B
111.250	023	Total Heptachlorodibenzofuran (HpCDF)	EPA 1613 B
111.250	024	OCDD	EPA 1613 B
111.250	025	OCDF	EPA 1613 B
111.345	001	N-Ethylperfluorooctane Sulfonamido Acetic Acid (NEtFOSAA)	DoD QSM Version 5.1 (or newer)
111.345	002	4:2 Fluorotelomer Sulfonic Acid (4:2 FTS)	DoD QSM Version 5.1 (or newer)
111.345	003	6:2 Fluorotelomer Sulfonic Acid (6:2 FTS)	DoD QSM Version 5.1 (or newer)
111.345	004	8:2 Fluorotelomer Sulfonic Acid (8:2 FTS)	DoD QSM Version 5.1 (or newer)
111.345	005	N-Methylperfluorooctane Sulfonamido Acetic Acid (NMeFOSAA)	DoD QSM Version 5.1 (or newer)
111.345	006	Perfluorobutanoic Acid (PFBA)	DoD QSM Version 5.1 (or newer)
111.345	007	Perfluorobutane Sulfonic Acid (PFBS)	DoD QSM Version 5.1 (or newer)
111.345	008	Perfluorodecanoic Acid (PFDA)	DoD QSM Version 5.1 (or newer)
111.345	009	Perfluorododecanoic Acid (PFDoA)	DoD QSM Version 5.1 (or newer)
111.345	010	Perfluorodecane Sulfonic Acid (PFDS)	DoD QSM Version 5.1 (or newer)
111.345	011	Perfluoroheptanoic Acid (PFHpA)	DoD QSM Version 5.1 (or newer)
111.345	012	Perfluoroheptane Sulfonic Acid (PFHpS)	DoD QSM Version 5.1 (or newer)
111.345	013	Perfluorohexane Sulfonic Acid (PFHxS)	DoD QSM Version 5.1 (or newer)
111.345	014	Perfluorohexanoic Acid (PFHxA)	DoD QSM Version 5.1 (or newer)
111.345	015	Perfluorononanoic Acid (PFNA)	DoD QSM Version 5.1 (or newer)
111.345	016	Perfluorooctanoic Acid (PFOA)	DoD QSM Version 5.1 (or newer)
111.345	017	Perfluorooctane Sulfonic Acid (PFOS)	DoD QSM Version 5.1 (or newer)
111.345	018	Perfluorooctane Sulfonamide (PFOSAm)	DoD QSM Version 5.1 (or newer)
111.345	019	Perfluoropentanoic Acid (PFPeA)	DoD QSM Version 5.1 (or newer)
111.345	020	Perfluoropentane Sulfonic Acid (PFPeS)	DoD QSM Version 5.1 (or newer)

111.345	021	Perfluorotetradecanoic Acid (PFTDA)	DoD QSM Version 5.1 (or newer)
111.345	022	Perfluorotridecanoic Acid (PFTrDA)	DoD QSM Version 5.1 (or newer)
111.345	023	Perfluoroundecanoic Acid (PFUnDA)	DoD QSM Version 5.1 (or newer)
111.345	024	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	DoD QSM Version 5.1 (or newer)
111.345	025	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	DoD QSM Version 5.1 (or newer)
111.345	026	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	DoD QSM Version 5.1 (or newer)
111.345	027	N-Ethylperfluorooctane Sulfonamide (EtFOSAm)	DoD QSM Version 5.1 (or newer)
111.345	028	N-Ethylperfluorooctane Sulfonamido Ethanol (EtFOSE)	DoD QSM Version 5.1 (or newer)
111.345	029	10:2 Fluorotelomer Sulfonic Acid (10:2 FTS)	DoD QSM Version 5.1 (or newer)
111.345	030	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	DoD QSM Version 5.1 (or newer)
111.345	031	N-Methylperfluorooctane Sulfonamide (NMeFOSA)	DoD QSM Version 5.1 (or newer)
111.345	032	N-Methylperfluorooctane Sulfonamido Ethanol (NMeFOSE)	DoD QSM Version 5.1 (or newer)
111.345	033	Perfluorohexadecanoic Acid (PFHxDA)	DoD QSM Version 5.1 (or newer)
111.345	034	Perfluorononane Sulfonic Acid (PFNS)	DoD QSM Version 5.1 (or newer)
111.345	035	Perfluorooctadecanoic Acid (PFODA)	DoD QSM Version 5.1 (or newer)
111.345	036	2H,2H,3H,3H-Perfluorodecanoic Acid (7:3 FTCA)	DoD QSM Version 5.1 (or newer)
111.345	037	2H,2H,3H,3H-Perfluorohexaanoic Acid (3:3 FTCA)	DoD QSM Version 5.1 (or newer)
111.345	038	2H,2H,3H,3H-Perfluorooctanoic Acid (5:3 FTCA)	DoD QSM Version 5.1 (or newer)
111.345	039	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	DoD QSM Version 5.1 (or newer)
111.345	040	Perfluoro(2-ethoxyethane) sulfonic acid (PFEESA)	DoD QSM Version 5.1 (or newer)
111.345	041	Perfluoro-3-methoxypropanoic acid (PFMPA)	DoD QSM Version 5.1 (or newer)
111.345	042	Perfluoro-4-methoxybutanoic acid (PFMBA)	DoD QSM Version 5.1 (or newer)

Field of Accreditation:114 - Inorganic Constituents in Hazardous Waste

114.315	001	Aluminum	EPA 6010 B
114.315	002	Antimony	EPA 6010 B
114.315	003	Arsenic	EPA 6010 B
114.315	004	Barium	EPA 6010 B
114.315	005	Beryllium	EPA 6010 B
114.315	006	Boron	EPA 6010 B
114.315	007	Cadmium	EPA 6010 B
114.315	008	Calcium	EPA 6010 B
114.315	009	Chromium	EPA 6010 B
114.315	010	Cobalt	EPA 6010 B
114.315	011	Copper	EPA 6010 B
114.315	012	Iron	EPA 6010 B
114.315	013	Lead	EPA 6010 B
114.315	014	Magnesium	EPA 6010 B
114.315	015	Manganese	EPA 6010 B
114.315	016	Molybdenum	EPA 6010 B
114.315	017	Nickel	EPA 6010 B
114.315	018	Potassium	EPA 6010 B
114.315	019	Selenium	EPA 6010 B

114.315	020	Silver	EPA 6010 B
114.315	021	Sodium	EPA 6010 B
114.315	023	Thallium	EPA 6010 B
114.315	024	Tin	EPA 6010 B
114.315	025	Titanium	EPA 6010 B
114.315	026	Vanadium	EPA 6010 B
114.315	027	Zinc	EPA 6010 B
114.335	001	Aluminum	EPA 6020
114.335	002	Antimony	EPA 6020
114.335	003	Arsenic	EPA 6020
114.335	004	Barium	EPA 6020
114.335	005	Beryllium	EPA 6020
114.335	006	Cadmium	EPA 6020
114.335	007	Chromium	EPA 6020
114.335	008	Cobalt	EPA 6020
114.335	009	Copper	EPA 6020
114.335	010	Lead	EPA 6020
114.335	011	Manganese	EPA 6020
114.335	012	Nickel	EPA 6020
114.335	013	Silver	EPA 6020
114.335	014	Thallium	EPA 6020
114.335	015	Zinc	EPA 6020
114.335	016	Molybdenum	EPA 6020
114.335	017	Selenium	EPA 6020
114.335	018	Vanadium	EPA 6020
114.535	001	Mercury	EPA 7471 A
114.545	001	Mercury	EPA 7471 B
114.745	001	Fluoride	EPA 9056
114.755	001	Fluoride	EPA 9056 A

Field of Accreditation:115 - Leaching/Extraction Tests and Physical Characteristics of Hazardous Waste

115.055	001	Waste Extraction Test (WET)	CCR Chapter11, Article 5, Appen
115.085	001	Toxicity Characteristic Leaching Procedure (TCLP)	EPA 1311
115.095	001	Synthetic Precipitation Leaching Procedure (SPLP)	EPA 1312
115.135	001	Corrosivity - pH Determination	EPA 9045 C
115.145	001	Corrosivity - pH Determination	EPA 9045 D

Field of Accreditation:116 - Volatile Organic Compounds in Hazardous Waste

116.265	001	Benzene	EPA 8260 B
116.265	002	Bromobenzene	EPA 8260 B
116.265	003	Bromochloromethane	EPA 8260 B
116.265	004	Bromodichloromethane	EPA 8260 B
116.265	005	Bromoform	EPA 8260 B
116.265	006	Bromomethane (Methyl Bromide)	EPA 8260 B

116.265	007	n-Butylbenzene	EPA 8260 B
116.265	008	sec-Butylbenzene	EPA 8260 B
116.265	009	tert-Butylbenzene	EPA 8260 B
116.265	010	Carbon Disulfide	EPA 8260 B
116.265	011	Carbon Tetrachloride	EPA 8260 B
116.265	012	Chlorobenzene	EPA 8260 B
116.265	013	Chlorodibromomethane (Dibromochloromethane)	EPA 8260 B
116.265	014	Chloroethane	EPA 8260 B
116.265	015	Chloroform	EPA 8260 B
116.265	016	Chloromethane (Methyl Chloride)	EPA 8260 B
116.265	017	Dibromomethane	EPA 8260 B
116.265	018	Dichlorodifluoromethane (Freon 12)	EPA 8260 B
116.265	019	cis-1,2-Dichloroethylene (cis 1,2 Dichloroethene)	EPA 8260 B
116.265	020	trans-1,2-Dichloroethylene (trans- 1,2 Dichloroethene)	EPA 8260 B
116.265	021	cis-1,3-Dichloropropylene (cis 1,3 Dichloropropene)	EPA 8260 B
116.265	022	trans-1,3-Dichloropropylene (trans-1,3 Dichloropropene)	EPA 8260 B
116.265	023	Ethylbenzene	EPA 8260 B
116.265	024	Hexachlorobutadiene	EPA 8260 B
116.265	025	Methyl tert-butyl Ether (MTBE)	EPA 8260 B
116.265	026	Methylene Chloride (Dichloromethane)	EPA 8260 B
116.265	027	Naphthalene	EPA 8260 B
116.265	029	N-propylbenzene	EPA 8260 B
116.265	030	Styrene	EPA 8260 B
116.265	031	Tetrachloroethylene (Tetrachloroethene)	EPA 8260 B
116.265	032	Toluene	EPA 8260 B
116.265	033	Trichloroethylene (Trichloroethene)	EPA 8260 B
116.265	034	Trichlorofluoromethane	EPA 8260 B
116.265	035	Vinyl Chloride	EPA 8260 B
116.265	036	m+p-Xylene	EPA 8260 B
116.265	037	o-Xylene	EPA 8260 B
116.265	038	m-Xylene	EPA 8260 B
116.265	039	p-Xylene	EPA 8260 B
116.265	040	1,1-Dichloroethane	EPA 8260 B
116.265	041	1,1-Dichloroethylene (1,1-Dichloroethene)	EPA 8260 B
116.265	042	1,1,1-Trichloroethane	EPA 8260 B
116.265	043	1,1,1,2-Tetrachloroethane	EPA 8260 B
116.265	044	1,1,2,2-Tetrachloroethane	EPA 8260 B
116.265	045	1,1,2-Trichloroethane	EPA 8260 B
116.265	046	1,2-Dichlorobenzene	EPA 8260 B
116.265	047	1,2-Dichloroethane (Ethylene Dichloride)	EPA 8260 B
116.265	048	1,2-Dibromoethane (EDB)	EPA 8260 B
116.265	050	1,2-Dichloropropane	EPA 8260 B

116.265	051	1,2,3-Trichloropropane (TCP)	EPA 8260 B
116.265	052	1,2,4-Trichlorobenzene	EPA 8260 B
116.265	053	1,3-Dichlorobenzene	EPA 8260 B
116.265	054	1,4-Dichlorobenzene	EPA 8260 B
116.265	055	2-Chloroethyl vinyl Ether	EPA 8260 B
116.265	056	4-Chlorotoluene	EPA 8260 B
116.265	057	4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	EPA 8260 B
116.265	059	Diisopropyl ether (DIPE)	EPA 8260 B
116.265	062	tert-Amyl Methyl Ether (TAME)	EPA 8260 B
116.266	001	Gasoline Range Organics (GRO)	EPA 8260 B
116.266	002	Gasoline Range Organics (GRO) [LUFT Range]	EPA 8260 B

Field of Accreditation:117 - Semi-volatile Organic Chemistry of Hazardous Waste

117.235	002	Diesel Range Organics (DRO)	EPA 8015 B
117.235	003	Diesel Range Organics (DRO) [LUFT Range]	EPA 8015 B
117.235	004	Oil Range Organics (ORO) [LUFT Range]	EPA 8015 B
117.245	002	Diesel Range Organics (DRO)	EPA 8015 C
117.245	003	Diesel Range Organics (DRO) [LUFT Range]	EPA 8015 C
117.245	004	Oil Range Organics (ORO) [LUFT Range]	EPA 8015 C
117.315	001	Aldrin	EPA 8081 A
117.315	002	alpha-BHC	EPA 8081 A
117.315	003	beta-BHC	EPA 8081 A
117.315	004	delta-BHC	EPA 8081 A
117.315	005	gamma-BHC (Lindane)	EPA 8081 A
117.315	006	Chlordane (total)	EPA 8081 A
117.315	008	4,4'-DDD	EPA 8081 A
117.315	009	4,4'-DDE	EPA 8081 A
117.315	010	4,4'-DDT	EPA 8081 A
117.315	011	Dieldrin	EPA 8081 A
117.315	012	Endosulfan I	EPA 8081 A
117.315	013	Endosulfan II	EPA 8081 A
117.315	014	Endosulfan Sulfate	EPA 8081 A
117.315	015	Endrin	EPA 8081 A
117.315	016	Endrin Aldehyde	EPA 8081 A
117.315	017	Endrin Ketone	EPA 8081 A
117.315	018	Heptachlor	EPA 8081 A
117.315	019	Heptachlor Epoxide	EPA 8081 A
117.315	020	Methoxychlor	EPA 8081 A
117.315	021	Toxaphene	EPA 8081 A
117.325	001	Aldrin	EPA 8081 B
117.325	002	alpha-BHC	EPA 8081 B
117.325	003	beta-BHC	EPA 8081 B
117.325	004	delta-BHC	EPA 8081 B

117.325	005	gamma-BHC (Lindane)	EPA 8081 B
117.325	006	Chlordane (total)	EPA 8081 B
117.325	008	4,4'-DDD	EPA 8081 B
117.325	009	4,4'-DDE	EPA 8081 B
117.325	010	4,4'-DDT	EPA 8081 B
117.325	011	Dieldrin	EPA 8081 B
117.325	012	Endosulfan I	EPA 8081 B
117.325	013	Endosulfan II	EPA 8081 B
117.325	014	Endosulfan Sulfate	EPA 8081 B
117.325	015	Endrin	EPA 8081 B
117.325	016	Endrin Aldehyde	EPA 8081 B
117.325	017	Endrin Ketone	EPA 8081 B
117.325	018	Heptachlor	EPA 8081 B
117.325	019	Heptachlor Epoxide	EPA 8081 B
117.325	020	Methoxychlor	EPA 8081 B
117.325	021	Toxaphene	EPA 8081 B
117.335	001	Aroclor 1016	EPA 8082
117.335	002	Aroclor 1221	EPA 8082
117.335	003	Aroclor 1232	EPA 8082
117.335	004	Aroclor 1242	EPA 8082
117.335	005	Aroclor 1248	EPA 8082
117.335	006	Aroclor 1254	EPA 8082
117.335	007	Aroclor 1260	EPA 8082
117.345	001	Aroclor 1016	EPA 8082 A
117.345	002	Aroclor 1221	EPA 8082 A
117.345	003	Aroclor 1232	EPA 8082 A
117.345	004	Aroclor 1242	EPA 8082 A
117.345	005	Aroclor 1248	EPA 8082 A
117.345	006	Aroclor 1254	EPA 8082 A
117.345	007	Aroclor 1260	EPA 8082 A
117.435	001	Acenaphthene	EPA 8270 C
117.435	002	Acenaphthylene	EPA 8270 C
117.435	003	Aniline	EPA 8270 C
117.435	004	Anthracene	EPA 8270 C
117.435	006	Benzoic Acid	EPA 8270 C
117.435	007	Benzo(a)anthracene	EPA 8270 C
117.435	008	Benzo(b)fluoranthene	EPA 8270 C
117.435	009	Benzo(k)fluoranthene	EPA 8270 C
117.435	010	Benzo(g,h,i)perylene	EPA 8270 C
117.435	011	Benzo(a)pyrene	EPA 8270 C
117.435	012	Benzyl Alcohol	EPA 8270 C
117.435	013	Bis(2-chloroethoxy) Methane	EPA 8270 C

117.435	014	Bis(2-chloroethyl) Ether	EPA 8270 C
117.435	015	Bis(2-ethylhexyl)phthalate (Di(2-ethylhexyl) phthalate)	EPA 8270 C
117.435	016	Butyl Benzyl Phthalate	EPA 8270 C
117.435	017	Chrysene	EPA 8270 C
117.435	018	Dibenz(a,h)anthracene	EPA 8270 C
117.435	019	Dibenzofuran	EPA 8270 C
117.435	020	Di-n-butyl Phthalate	EPA 8270 C
117.435	021	Diethyl Phthalate	EPA 8270 C
117.435	022	Dimethyl Phthalate	EPA 8270 C
117.435	023	Di-n-octyl Phthalate	EPA 8270 C
117.435	024	Fluoranthene	EPA 8270 C
117.435	025	Fluorene	EPA 8270 C
117.435	026	Naphthalene	EPA 8270 C
117.435	027	Nitrobenzene	EPA 8270 C
117.435	028	Pentachlorobenzene	EPA 8270 C
117.435	029	Pentachlorophenol	EPA 8270 C
117.435	031	1,2-Dichlorobenzene	EPA 8270 C
117.435	032	1,3-Dichlorobenzene	EPA 8270 C
117.435	033	1,4-Dichlorobenzene	EPA 8270 C
117.435	034	2-Chloronaphthalene	EPA 8270 C
117.435	035	2-Chlorophenol	EPA 8270 C
117.435	036	2,4-Dichlorophenol	EPA 8270 C
117.435	037	2,4-Dimethylphenol	EPA 8270 C
117.435	038	2,4-Dinitrophenol	EPA 8270 C
117.435	039	2,4-Dinitrotoluene	EPA 8270 C
117.435	040	2,6-Dichlorophenol	EPA 8270 C
117.435	041	2,6-Dinitrotoluene	EPA 8270 C
117.435	042	2-Nitroaniline	EPA 8270 C
117.435	043	2-Nitrophenol	EPA 8270 C
117.435	044	3-Nitroaniline	EPA 8270 C
117.435	045	3,3'-Dichlorobenzidine	EPA 8270 C
117.435	046	4-Chloroaniline	EPA 8270 C
117.435	047	4-Chloro-3-methylphenol	EPA 8270 C
117.435	048	4-Bromophenyl Phenyl Ether	EPA 8270 C
117.435	049	4-Chlorophenyl Phenyl Ether	EPA 8270 C
117.435	050	4-Nitroaniline	EPA 8270 C
117.435	051	4-Nitrophenol	EPA 8270 C
117.435	088	N-nitrosodimethylamine	EPA 8270 C
117.435	089	N-nitrosodiphenylamine	EPA 8270 C
117.435	090	N-nitroso-di-n-propylamine	EPA 8270 C
117.435	091	Indeno(1,2,3-c,d)pyrene	EPA 8270 C
117.435	092	Isophorone	EPA 8270 C

117.435	093	2-Methylnaphthalene	EPA 8270 C
117.435	094	Phenanthrene	EPA 8270 C
117.455	001	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	EPA 8280 A
117.455	002	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	EPA 8280 A
117.455	003	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8280 A
117.455	004	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8280 A
117.455	005	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8280 A
117.455	006	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	EPA 8280 A
117.455	007	1,2,3,4,5,6,7,8-Octachlorodibenzo-p-dioxin (OCDD)	EPA 8280 A
117.455	008	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	EPA 8280 A
117.455	009	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	EPA 8280 A
117.455	010	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	EPA 8280 A
117.455	011	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 8280 A
117.455	012	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 8280 A
117.455	013	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	EPA 8280 A
117.455	014	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 8280 A
117.455	015	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	EPA 8280 A
117.455	016	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	EPA 8280 A
117.455	017	1,2,3,4,5,6,7,8-Octachlorodibenzofuran (OCDF)	EPA 8280 A
117.455	018	Total Tetrachlorodibenzo-p-dioxin (TCDD)	EPA 8280 A
117.455	019	Total Pentachlorodibenzo-p-dioxin (PeCDD)	EPA 8280 A
117.455	020	Total Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8280 A
117.455	021	Total Heptachlorodibenzo-p-dioxin (HpCDD)	EPA 8280 A
117.455	022	Total Tetrachlorodibenzofuran (TCDF)	EPA 8280 A
117.455	023	Total Pentachlorodibenzofuran (PeCDF)	EPA 8280 A
117.455	024	Total Hexachlorodibenzofuran (HxCDF)	EPA 8280 A
117.455	025	Total Heptachlorodibenzofuran (HpCDF)	EPA 8280 A
117.465	001	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	EPA 8280 B
117.465	002	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	EPA 8280 B
117.465	003	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8280 B
117.465	004	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8280 B
117.465	005	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8280 B
117.465	006	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	EPA 8280 B
117.465	007	1,2,3,4,5,6,7,8-Octachlorodibenzo-p-dioxin (OCDD)	EPA 8280 B
117.465	008	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	EPA 8280 B
117.465	009	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	EPA 8280 B
117.465	010	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	EPA 8280 B
117.465	011	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 8280 B
117.465	012	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 8280 B
117.465	013	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	EPA 8280 B
117.465	014	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 8280 B
117.465	015	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	EPA 8280 B

117.465	016	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	EPA 8280 B
117.465	017	1,2,3,4,5,6,7,8-Octachlorodibenzofuran (OCDF)	EPA 8280 B
117.465	018	Total Tetrachlorodibenzo-p-dioxin (TCDD)	EPA 8280 B
117.465	019	Total Pentachlorodibenzo-p-dioxin (PeCDD)	EPA 8280 B
117.465	020	Total Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8280 B
117.465	021	Total Heptachlorodibenzo-p-dioxin (HpCDD)	EPA 8280 B
117.465	022	Total Tetrachlorodibenzofuran (TCDF)	EPA 8280 B
117.465	023	Total Pentachlorodibenzofuran (PeCDF)	EPA 8280 B
117.465	024	Total Hexachlorodibenzofuran (HxCDF)	EPA 8280 B
117.465	025	Total Heptachlorodibenzofuran (HpCDF)	EPA 8280 B
117.470	001	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	EPA 8290
117.470	002	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	EPA 8290
117.470	003	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8290
117.470	004	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8290
117.470	005	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8290
117.470	006	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	EPA 8290
117.470	007	1,2,3,4,5,6,7,8-Octachlorodibenzo-p-dioxin (OCDD)	EPA 8290
117.470	008	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	EPA 8290
117.470	009	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	EPA 8290
117.470	010	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	EPA 8290
117.470	011	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 8290
117.470	012	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 8290
117.470	013	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	EPA 8290
117.470	014	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 8290
117.470	015	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	EPA 8290
117.470	016	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	EPA 8290
117.470	017	1,2,3,4,5,6,7,8-Octachlorodibenzofuran (OCDF)	EPA 8290
117.470	018	Total Tetrachlorodibenzo-p-dioxin (TCDD)	EPA 8290
117.470	019	Total Pentachlorodibenzo-p-dioxin (PeCDD)	EPA 8290
117.470	020	Total Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8290
117.470	021	Total Heptachlorodibenzo-p-dioxin (HpCDD)	EPA 8290
117.470	022	Total Tetrachlorodibenzofuran (TCDF)	EPA 8290
117.470	023	Total Pentachlorodibenzofuran (PeCDF)	EPA 8290
117.470	024	Total Hexachlorodibenzofuran (HxCDF)	EPA 8290
117.470	025	Total Heptachlorodibenzofuran (HpCDF)	EPA 8290
117.472	001	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	EPA 8290 A
117.472	002	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	EPA 8290 A
117.472	003	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8290 A
117.472	004	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8290 A
117.472	005	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8290 A
117.472	006	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	EPA 8290 A
117.472	007	1,2,3,4,5,6,7,8-Octachlorodibenzo-p-dioxin (OCDD)	EPA 8290 A

117.472	008	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	EPA 8290 A
117.472	009	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	EPA 8290 A
117.472	010	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	EPA 8290 A
117.472	011	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 8290 A
117.472	012	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 8290 A
117.472	013	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	EPA 8290 A
117.472	014	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 8290 A
117.472	015	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	EPA 8290 A
117.472	016	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	EPA 8290 A
117.472	017	1,2,3,4,5,6,7,8-Octachlorodibenzofuran (OCDF)	EPA 8290 A
117.472	018	Total Tetrachlorodibenzo-p-dioxin (TCDD)	EPA 8290 A
117.472	019	Total Pentachlorodibenzo-p-dioxin (PeCDD)	EPA 8290 A
117.472	020	Total Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8290 A
117.472	021	Total Heptachlorodibenzo-p-dioxin (HpCDD)	EPA 8290 A
117.472	022	Total Tetrachlorodibenzofuran (TCDF)	EPA 8290 A
117.472	023	Total Pentachlorodibenzofuran (PeCDF)	EPA 8290 A
117.472	024	Total Hexachlorodibenzofuran (HxCDF)	EPA 8290 A
117.472	025	Total Heptachlorodibenzofuran (HpCDF)	EPA 8290 A
117.575	001	N-Ethylperfluorooctane Sulfonamide (EtFOSAm)	DoD QSM Version 5.1 (or newer)
117.575	002	N-Ethylperfluorooctane Sulfonamido Acetic Acid (NEtFOSAA)	DoD QSM Version 5.1 (or newer)
117.575	003	N-Ethylperfluorooctane Sulfonamido Ethanol (EtFOSE)	DoD QSM Version 5.1 (or newer)
117.575	004	4:2 Fluorotelomer Sulfonic Acid (4:2 FTS)	DoD QSM Version 5.1 (or newer)
117.575	005	6:2 Fluorotelomer Sulfonic Acid (6:2 FTS)	DoD QSM Version 5.1 (or newer)
117.575	006	8:2 Fluorotelomer Sulfonic Acid (8:2 FTS)	DoD QSM Version 5.1 (or newer)
117.575	007	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	DoD QSM Version 5.1 (or newer)
117.575	008	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	DoD QSM Version 5.1 (or newer)
117.575	009	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	DoD QSM Version 5.1 (or newer)
117.575	010	N-Methylperfluorooctane Sulfonamide (NMeFOSA)	DoD QSM Version 5.1 (or newer)
117.575	011	N-Methylperfluorooctane Sulfonamido Acetic Acid (NMeFOSAA)	DoD QSM Version 5.1 (or newer)
117.575	012	N-Methylperfluorooctane Sulfonamido Ethanol (NMeFOSE)	DoD QSM Version 5.1 (or newer)
117.575	013	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	DoD QSM Version 5.1 (or newer)
117.575	014	Perfluorobutanoic Acid (PFBA)	DoD QSM Version 5.1 (or newer)
117.575	015	Perfluorobutane Sulfonic Acid (PFBS)	DoD QSM Version 5.1 (or newer)
117.575	016	Perfluorodecanoic Acid (PFDA)	DoD QSM Version 5.1 (or newer)
117.575	017	Perfluorododecanoic Acid (PFDoA)	DoD QSM Version 5.1 (or newer)
117.575	018	Perfluorodecane Sulfonic Acid (PFDS)	DoD QSM Version 5.1 (or newer)
117.575	019	Perfluoroheptanoic Acid (PFHpA)	DoD QSM Version 5.1 (or newer)
117.575	020	Perfluoroheptane Sulfonic Acid (PFHpS)	DoD QSM Version 5.1 (or newer)
117.575	021	Perfluorohexane Sulfonic Acid (PFHxS)	DoD QSM Version 5.1 (or newer)
117.575	022	Perfluorohexanoic Acid (PFHxA)	DoD QSM Version 5.1 (or newer)
117.575	023	Perfluorononanoic Acid (PFNA)	DoD QSM Version 5.1 (or newer)
117.575	024	Perfluorooctanoic Acid (PFOA)	DoD QSM Version 5.1 (or newer)

117.575	025	Perfluorooctane Sulfonic Acid (PFOS)	DoD QSM Version 5.1 (or newer)
117.575	026	Perfluorooctane Sulfonamide (PFOSAm)	DoD QSM Version 5.1 (or newer)
117.575	027	Perfluoropentanoic Acid (PFPeA)	DoD QSM Version 5.1 (or newer)
117.575	028	Perfluoropentane Sulfonic Acid (PFPeS)	DoD QSM Version 5.1 (or newer)
117.575	029	Perfluorotetradecanoic Acid (PFTDA)	DoD QSM Version 5.1 (or newer)
117.575	030	Perfluorotridecanoic Acid (PFTrDA)	DoD QSM Version 5.1 (or newer)
117.575	031	Perfluoroundecanoic Acid (PFUnDA)	DoD QSM Version 5.1 (or newer)
117.575	032	10:2 Fluorotelomer Sulfonic Acid (10:2 FTS)	DoD QSM Version 5.1 (or newer)
117.575	033	Perfluorohexadecanoic Acid (PFHxDA)	DoD QSM Version 5.1 (or newer)
117.575	034	Perfluorononane Sulfonic Acid (PFNS)	DoD QSM Version 5.1 (or newer)
117.575	035	Perfluorooctadecanoic Acid (PFODA)	DoD QSM Version 5.1 (or newer)
117.575	036	2H,2H,3H,3H-Perfluorodecanoic Acid (7:3 FTCA)	DoD QSM Version 5.1 (or newer)
117.575	037	2H,2H,3H,3H-Perfluorohexaanoic Acid (3:3 FTCA)	DoD QSM Version 5.1 (or newer)
117.575	038	2H,2H,3H,3H-Perfluorooctanoic Acid (5:3 FTCA)	DoD QSM Version 5.1 (or newer)
117.575	039	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	DoD QSM Version 5.1 (or newer)
117.575	040	Perfluoro(2-ethoxyethane) sulfonic acid (PFEESA)	DoD QSM Version 5.1 (or newer)
117.575	041	Perfluoro-3-methoxypropanoic acid (PFMPA)	DoD QSM Version 5.1 (or newer)
117.575	042	Perfluoro-4-methoxybutanoic acid (PFMBA)	DoD QSM Version 5.1 (or newer)

Field of Accreditation: 130 - Inorganic constituents in Hazardous waste (Matrix Aqueous)

130.010	001	Aluminum	EPA 6010 B
130.010	002	Antimony	EPA 6010 B
130.010	003	Arsenic	EPA 6010 B
130.010	004	Barium	EPA 6010 B
130.010	005	Beryllium	EPA 6010 B
130.010	006	Boron	EPA 6010 B
130.010	007	Cadmium	EPA 6010 B
130.010	008	Calcium	EPA 6010 B
130.010	009	Chromium	EPA 6010 B
130.010	010	Cobalt	EPA 6010 B
130.010	011	Copper	EPA 6010 B
130.010	012	Iron	EPA 6010 B
130.010	013	Lead	EPA 6010 B
130.010	014	Magnesium	EPA 6010 B
130.010	015	Manganese	EPA 6010 B
130.010	016	Molybdenum	EPA 6010 B
130.010	017	Nickel	EPA 6010 B
130.010	019	Selenium	EPA 6010 B
130.010	020	Silver	EPA 6010 B
130.010	021	Sodium	EPA 6010 B
130.010	023	Thallium	EPA 6010 B
130.010	024	Tin	EPA 6010 B
130.010	025	Titanium	EPA 6010 B

130.010	026	Vanadium	EPA 6010 B
130.010	027	Zinc	EPA 6010 B
130.030	001	Aluminum	EPA 6020
130.030	002	Antimony	EPA 6020
130.030	003	Arsenic	EPA 6020
130.030	004	Barium	EPA 6020
130.030	005	Beryllium	EPA 6020
130.030	006	Cadmium	EPA 6020
130.030	007	Chromium	EPA 6020
130.030	008	Cobalt	EPA 6020
130.030	009	Copper	EPA 6020
130.030	010	Lead	EPA 6020
130.030	011	Manganese	EPA 6020
130.030	012	Nickel	EPA 6020
130.030	013	Silver	EPA 6020
130.030	014	Thallium	EPA 6020
130.030	015	Zinc	EPA 6020
130.030	016	Molybdenum	EPA 6020
130.030	017	Selenium	EPA 6020
130.030	018	Vanadium	EPA 6020
130.140	001	Chromium VI (Hexavalent Chromium)	EPA 7196 A
130.170	001	Chromium VI (Hexavalent Chromium)	EPA 7199
130.250	001	Mercury	EPA 7470 A
130.470	001	Fluoride	EPA 9056
130.480	001	Fluoride	EPA 9056 A

Field of Accreditation:131 - Leaching/Extraction, Physical Chacterstics in Hazardous Waste (Matrix Aqueous)

131.010	001	Waste Extraction Test (WET)	CCR Chapter11, Article 5, Appen
131.040	001	Toxicity Characteristic Leaching Procedure (TCLP)	EPA 1311
131.050	001	Synthetic Precipitation Leaching Procedure (SPLP)	EPA 1312
131.110	001	Corrosivity - pH Determination	EPA 9040 B
131.120	001	Corrosivity - pH Determination	EPA 9040 C

Field of Accreditation:132 - Volatile Organic Compounds in Hazardous Waste (Matrix Aqueous)

132.060	001	Benzene	EPA 8260 B
132.060	002	Bromobenzene	EPA 8260 B
132.060	003	Bromochloromethane	EPA 8260 B
132.060	004	Bromodichloromethane	EPA 8260 B
132.060	005	Bromoform	EPA 8260 B
132.060	006	Bromomethane (Methyl Bromide)	EPA 8260 B
132.060	007	n-Butylbenzene	EPA 8260 B
132.060	008	sec-Butylbenzene	EPA 8260 B
132.060	009	tert-Butylbenzene	EPA 8260 B
132.060	010	Carbon Disulfide	EPA 8260 B

132.060	011	Carbon Tetrachloride	EPA 8260 B
132.060	012	Chlorobenzene	EPA 8260 B
132.060	013	Chlorodibromomethane (Dibromochloromethane)	EPA 8260 B
132.060	014	Chloroethane	EPA 8260 B
132.060	015	Chloroform	EPA 8260 B
132.060	016	Chloromethane (Methyl Chloride)	EPA 8260 B
132.060	017	Dibromomethane	EPA 8260 B
132.060	018	Dichlorodifluoromethane (Freon 12)	EPA 8260 B
132.060	019	cis-1,2-Dichloroethylene (cis 1,2 Dichloroethene)	EPA 8260 B
132.060	020	trans-1,2-Dichloroethylene (trans- 1,2 Dichloroethene)	EPA 8260 B
132.060	021	cis-1,3-Dichloropropylene (cis 1,3 Dichloropropene)	EPA 8260 B
132.060	022	trans-1,3-Dichloropropylene (trans-1,3 Dichloropropene)	EPA 8260 B
132.060	023	Ethylbenzene	EPA 8260 B
132.060	024	Hexachlorobutadiene	EPA 8260 B
132.060	025	Methyl tert-butyl Ether (MTBE)	EPA 8260 B
132.060	026	Methylene Chloride (Dichloromethane)	EPA 8260 B
132.060	027	Naphthalene	EPA 8260 B
132.060	029	N-propylbenzene	EPA 8260 B
132.060	030	Styrene	EPA 8260 B
132.060	031	Tetrachloroethylene (Tetrachloroethene)	EPA 8260 B
132.060	032	Toluene	EPA 8260 B
132.060	033	Trichloroethylene (Trichloroethene)	EPA 8260 B
132.060	034	Trichlorofluoromethane	EPA 8260 B
132.060	035	Vinyl Chloride	EPA 8260 B
132.060	036	m+p-Xylene	EPA 8260 B
132.060	037	o-Xylene	EPA 8260 B
132.060	038	m-Xylene	EPA 8260 B
132.060	039	p-Xylene	EPA 8260 B
132.060	040	1,1-Dichloroethane	EPA 8260 B
132.060	041	1,1-Dichloroethylene (1,1-Dichloroethene)	EPA 8260 B
132.060	042	1,1,1-Trichloroethane	EPA 8260 B
132.060	043	1,1,1,2-Tetrachloroethane	EPA 8260 B
132.060	044	1,1,2,2-Tetrachloroethane	EPA 8260 B
132.060	045	1,1,2-Trichloroethane	EPA 8260 B
132.060	046	1,2-Dichlorobenzene	EPA 8260 B
132.060	047	1,2-Dichloroethane (Ethylene Dichloride)	EPA 8260 B
132.060	048	1,2-Dibromoethane (EDB)	EPA 8260 B
132.060	049	1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260 B
132.060	050	1,2-Dichloropropane	EPA 8260 B
132.060	051	1,2,3-Trichloropropane (TCP)	EPA 8260 B
132.060	052	1,2,4-Trichlorobenzene	EPA 8260 B
132.060	053	1,3-Dichlorobenzene	EPA 8260 B

132.060	054	1,4-Dichlorobenzene	EPA 8260 B
132.060	055	2-Chloroethyl vinyl Ether	EPA 8260 B
132.060	056	4-Chlorotoluene	EPA 8260 B
132.060	057	4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	EPA 8260 B
132.061	001	Gasoline Range Organics (GRO)	EPA 8260 B
132.061	002	Gasoline Range Organics (GRO) [LUFT Range]	EPA 8260 B

Field of Accreditation: 133 - Semi-Volatile Organic Chemistry in Hazardous Waste (Matrix Aqueous)

133.010	002	Diesel Range Organics (DRO)	EPA 8015 B
133.010	003	Diesel Range Organics (DRO) [LUFT Range]	EPA 8015 B
133.020	002	Diesel Range Organics (DRO)	EPA 8015 C
133.020	003	Diesel Range Organics (DRO) [LUFT Range]	EPA 8015 C
133.090	001	Aldrin	EPA 8081 A
133.090	002	alpha-BHC	EPA 8081 A
133.090	003	beta-BHC	EPA 8081 A
133.090	004	delta-BHC	EPA 8081 A
133.090	005	gamma-BHC (Lindane)	EPA 8081 A
133.090	006	Chlordane	EPA 8081 A
133.090	008	4,4'-DDD	EPA 8081 A
133.090	009	4,4'-DDE	EPA 8081 A
133.090	010	4,4'-DDT	EPA 8081 A
133.090	011	Dieldrin	EPA 8081 A
133.090	012	Endosulfan I	EPA 8081 A
133.090	013	Endosulfan II	EPA 8081 A
133.090	014	Endosulfan Sulfate	EPA 8081 A
133.090	015	Endrin	EPA 8081 A
133.090	016	Endrin Aldehyde	EPA 8081 A
133.090	017	Endrin Ketone	EPA 8081 A
133.090	018	Heptachlor	EPA 8081 A
133.090	019	Heptachlor Epoxide	EPA 8081 A
133.090	020	Methoxychlor	EPA 8081 A
133.090	021	Toxaphene	EPA 8081 A
133.110	001	Aldrin	EPA 8081 B
133.110	002	alpha-BHC	EPA 8081 B
133.110	003	beta-BHC	EPA 8081 B
133.110	004	delta-BHC	EPA 8081 B
133.110	005	gamma-BHC (Lindane)	EPA 8081 B
133.110	006	Chlordane	EPA 8081 B
133.110	008	4,4'-DDD	EPA 8081 B
133.110	009	4,4'-DDE	EPA 8081 B
133.110	010	4,4'-DDT	EPA 8081 B
133.110	011	Dieldrin	EPA 8081 B
133.110	012	Endosulfan I	EPA 8081 B

133.110	013	Endosulfan II	EPA 8081 B
133.110	014	Endosulfan Sulfate	EPA 8081 B
133.110	015	Endrin	EPA 8081 B
133.110	016	Endrin Aldehyde	EPA 8081 B
133.110	017	Endrin Ketone	EPA 8081 B
133.110	018	Heptachlor	EPA 8081 B
133.110	019	Heptachlor Epoxide	EPA 8081 B
133.110	020	Methoxychlor	EPA 8081 B
133.110	021	Toxaphene	EPA 8081 B
133.120	001	Aroclor 1016	EPA 8082
133.120	002	Aroclor 1221	EPA 8082
133.120	003	Aroclor 1232	EPA 8082
133.120	004	Aroclor 1242	EPA 8082
133.120	005	Aroclor 1248	EPA 8082
133.120	006	Aroclor 1254	EPA 8082
133.120	007	Aroclor 1260	EPA 8082
133.130	001	Aroclor 1016	EPA 8082 A
133.130	002	Aroclor 1221	EPA 8082 A
133.130	003	Aroclor 1232	EPA 8082 A
133.130	004	Aroclor 1242	EPA 8082 A
133.130	005	Aroclor 1248	EPA 8082 A
133.130	006	Aroclor 1254	EPA 8082 A
133.130	007	Aroclor 1260	EPA 8082 A
133.230	001	Acenaphthene	EPA 8270 C
133.230	002	Acenaphthylene	EPA 8270 C
133.230	003	Aniline	EPA 8270 C
133.230	004	Anthracene	EPA 8270 C
133.230	006	Benzoic Acid	EPA 8270 C
133.230	007	Benzo(a)anthracene	EPA 8270 C
133.230	008	Benzo(b)fluoranthene	EPA 8270 C
133.230	009	Benzo(k)fluoranthene	EPA 8270 C
133.230	010	Benzo(g,h,i)perylene	EPA 8270 C
133.230	011	Benzo(a)pyrene	EPA 8270 C
133.230	012	Benzyl Alcohol	EPA 8270 C
133.230	013	Bis(2-chloroethoxy) Methane	EPA 8270 C
133.230	014	Bis(2-chloroethyl) Ether	EPA 8270 C
133.230	015	Bis(2-ethylhexyl)phthalate (Di(2-ethylhexyl) phthalate)	EPA 8270 C
133.230	016	Butyl Benzyl Phthalate	EPA 8270 C
133.230	017	Chrysene	EPA 8270 C
133.230	018	Dibenz(a,h)anthracene	EPA 8270 C
133.230	019	Dibenzofuran	EPA 8270 C
133.230	020	Di-n-butyl Phthalate	EPA 8270 C

133.230	021	Diethyl Phthalate	EPA 8270 C
133.230	022	Dimethyl Phthalate	EPA 8270 C
133.230	023	Di-n-octyl Phthalate	EPA 8270 C
133.230	024	Fluoranthene	EPA 8270 C
133.230	025	Fluorene	EPA 8270 C
133.230	026	Naphthalene	EPA 8270 C
133.230	027	Nitrobenzene	EPA 8270 C
133.230	028	Pentachlorobenzene	EPA 8270 C
133.230	029	Pentachlorophenol	EPA 8270 C
133.230	031	1,2-Dichlorobenzene	EPA 8270 C
133.230	032	1,3-Dichlorobenzene	EPA 8270 C
133.230	033	1,4-Dichlorobenzene	EPA 8270 C
133.230	034	2-Chloronaphthalene	EPA 8270 C
133.230	035	2-Chlorophenol	EPA 8270 C
133.230	036	2,4-Dichlorophenol	EPA 8270 C
133.230	037	2,4-Dimethylphenol	EPA 8270 C
133.230	038	2,4-Dinitrophenol	EPA 8270 C
133.230	039	2,4-Dinitrotoluene	EPA 8270 C
133.230	040	2,6-Dichlorophenol	EPA 8270 C
133.230	041	2,6-Dinitrotoluene	EPA 8270 C
133.230	042	2-Nitroaniline	EPA 8270 C
133.230	043	2-Nitrophenol	EPA 8270 C
133.230	044	3-Nitroaniline	EPA 8270 C
133.230	045	3,3'-Dichlorobenzidine	EPA 8270 C
133.230	046	4-Chloroaniline	EPA 8270 C
133.230	047	4-Chloro-3-methylphenol	EPA 8270 C
133.230	048	4-Bromophenyl Phenyl Ether	EPA 8270 C
133.230	049	4-Chlorophenyl Phenyl Ether	EPA 8270 C
133.230	050	4-Nitroaniline	EPA 8270 C
133.230	051	4-Nitrophenol	EPA 8270 C
133.230	088	N-nitrosodimethylamine	EPA 8270 C
133.230	089	N-nitrosodiphenylamine	EPA 8270 C
133.230	090	N-nitroso-di-n-propylamine	EPA 8270 C
133.230	091	Indeno(1,2,3-c,d)pyrene	EPA 8270 C
133.230	092	Isophorone	EPA 8270 C
133.230	093	2-Methylnaphthalene	EPA 8270 C
133.230	094	Phenanthrene	EPA 8270 C
133.265	001	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	EPA 8290
133.265	002	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	EPA 8290
133.265	003	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8290
133.265	004	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8290
133.265	005	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8290

133.265	006	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	EPA 8290
133.265	007	1,2,3,4,5,6,7,8-Octachlorodibenzo-p-dioxin (OCDD)	EPA 8290
133.265	008	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	EPA 8290
133.265	009	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	EPA 8290
133.265	010	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	EPA 8290
133.265	011	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 8290
133.265	012	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 8290
133.265	013	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	EPA 8290
133.265	014	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 8290
133.265	015	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	EPA 8290
133.265	016	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	EPA 8290
133.265	017	1,2,3,4,5,6,7,8-Octachlorodibenzofuran (OCDF)	EPA 8290
133.265	018	Total Tetrachlorodibenzo-p-dioxin (TCDD)	EPA 8290
133.265	019	Total Pentachlorodibenzo-p-dioxin (PeCDD)	EPA 8290
133.265	020	Total Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8290
133.265	021	Total Heptachlorodibenzo-p-dioxin (HpCDD)	EPA 8290
133.265	022	Total Tetrachlorodibenzofuran (TCDF)	EPA 8290
133.265	023	Total Pentachlorodibenzofuran (PeCDF)	EPA 8290
133.265	024	Total Hexachlorodibenzofuran (HxCDF)	EPA 8290
133.265	025	Total Heptachlorodibenzofuran (HpCDF)	EPA 8290
133.267	001	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	EPA 8290 A
133.267	002	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	EPA 8290 A
133.267	003	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8290 A
133.267	004	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8290 A
133.267	005	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8290 A
133.267	006	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	EPA 8290 A
133.267	007	1,2,3,4,5,6,7,8-Octachlorodibenzo-p-dioxin (OCDD)	EPA 8290 A
133.267	008	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	EPA 8290 A
133.267	009	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	EPA 8290 A
133.267	010	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	EPA 8290 A
133.267	011	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 8290 A
133.267	012	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 8290 A
133.267	013	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	EPA 8290 A
133.267	014	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 8290 A
133.267	015	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	EPA 8290 A
133.267	016	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	EPA 8290 A
133.267	017	1,2,3,4,5,6,7,8-Octachlorodibenzofuran (OCDF)	EPA 8290 A
133.267	018	Total Tetrachlorodibenzo-p-dioxin (TCDD)	EPA 8290 A
133.267	019	Total Pentachlorodibenzo-p-dioxin (PeCDD)	EPA 8290 A
133.267	020	Total Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 8290 A
133.267	021	Total Heptachlorodibenzo-p-dioxin (HpCDD)	EPA 8290 A
133.267	022	Total Tetrachlorodibenzofuran (TCDF)	EPA 8290 A

133.267	023	Total Pentachlorodibenzofuran (PeCDF)	EPA 8290 A
133.267	024	Total Hexachlorodibenzofuran (HxCDF)	EPA 8290 A
133.267	025	Total Heptachlorodibenzofuran (HpCDF)	EPA 8290 A
133.380	001	N-Ethylperfluorooctane Sulfonamide (EtFOSAm)	DoD QSM Version 5.1 (or newer)
133.380	002	N-Ethylperfluorooctane Sulfonamido Acetic Acid (NEtFOSAA)	DoD QSM Version 5.1 (or newer)
133.380	003	N-Ethylperfluorooctane Sulfonamido Ethanol (EtFOSE)	DoD QSM Version 5.1 (or newer)
133.380	004	4:2 Fluorotelomer Sulfonic Acid (4:2 FTS)	DoD QSM Version 5.1 (or newer)
133.380	005	6:2 Fluorotelomer Sulfonic Acid (6:2 FTS)	DoD QSM Version 5.1 (or newer)
133.380	006	8:2 Fluorotelomer Sulfonic Acid (8:2 FTS)	DoD QSM Version 5.1 (or newer)
133.380	007	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	DoD QSM Version 5.1 (or newer)
133.380	008	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	DoD QSM Version 5.1 (or newer)
133.380	009	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	DoD QSM Version 5.1 (or newer)
133.380	010	N-Methylperfluorooctane Sulfonamide (NMeFOSA)	DoD QSM Version 5.1 (or newer)
133.380	011	N-Methylperfluorooctane Sulfonamido Acetic Acid (NMeFOSAA)	DoD QSM Version 5.1 (or newer)
133.380	012	N-Methylperfluorooctane Sulfonamido Ethanol (NMeFOSE)	DoD QSM Version 5.1 (or newer)
133.380	013	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	DoD QSM Version 5.1 (or newer)
133.380	014	Perfluorobutanoic Acid (PFBA)	DoD QSM Version 5.1 (or newer)
133.380	015	Perfluorobutane Sulfonic Acid (PFBS)	DoD QSM Version 5.1 (or newer)
133.380	016	Perfluorodecanoic Acid (PFDA)	DoD QSM Version 5.1 (or newer)
133.380	017	Perfluorododecanoic Acid (PFDoA)	DoD QSM Version 5.1 (or newer)
133.380	018	Perfluorodecane Sulfonic Acid (PFDS)	DoD QSM Version 5.1 (or newer)
133.380	019	Perfluoroheptanoic Acid (PFHpA)	DoD QSM Version 5.1 (or newer)
133.380	020	Perfluoroheptane Sulfonic Acid (PFHpS)	DoD QSM Version 5.1 (or newer)
133.380	021	Perfluorohexane Sulfonic Acid (PFHxS)	DoD QSM Version 5.1 (or newer)
133.380	022	Perfluorohexanoic Acid (PFHxA)	DoD QSM Version 5.1 (or newer)
133.380	023	Perfluorononanoic Acid (PFNA)	DoD QSM Version 5.1 (or newer)
133.380	024	Perfluorooctanoic Acid (PFOA)	DoD QSM Version 5.1 (or newer)
133.380	025	Perfluorooctane Sulfonic Acid (PFOS)	DoD QSM Version 5.1 (or newer)
133.380	026	Perfluorooctane Sulfonamide (PFOSAm)	DoD QSM Version 5.1 (or newer)
133.380	027	Perfluoropentanoic Acid (PFPeA)	DoD QSM Version 5.1 (or newer)
133.380	028	Perfluoropentane Sulfonic Acid (PFPeS)	DoD QSM Version 5.1 (or newer)
133.380	029	Perfluorotetradecanoic Acid (PFTDA)	DoD QSM Version 5.1 (or newer)
133.380	030	Perfluoroundecanoic Acid (PFUnDA)	DoD QSM Version 5.1 (or newer)
133.380	031	Perfluoroundecanoic Acid (PFUnDA)	DoD QSM Version 5.1 (or newer)
133.380	032	10:2 Fluorotelomer Sulfonic Acid (10:2 FTS)	DoD QSM Version 5.1 (or newer)
133.380	033	Perfluorohexadecanoic Acid (PFHxDA)	DoD QSM Version 5.1 (or newer)
133.380	034	Perfluorononane Sulfonic Acid (PFNS)	DoD QSM Version 5.1 (or newer)
133.380	035	Perfluorooctadecanoic Acid (PFODA)	DoD QSM Version 5.1 (or newer)
133.380	036	2H,2H,3H,3H-Perfluorodecanoic Acid (7:3 FTCA)	DoD QSM Version 5.1 (or newer)
133.380	037	2H,2H,3H,3H-Perfluorohexaanoic Acid (3:3 FTCA)	DoD QSM Version 5.1 (or newer)
133.380	038	2H,2H,3H,3H-Perfluorooctanoic Acid (5:3 FTCA)	DoD QSM Version 5.1 (or newer)
133.380	039	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	DoD QSM Version 5.1 (or newer)

133.380	040	Perfluoro(2-ethoxyethane) sulfonic acid (PFEESA)	DoD QSM Version 5.1 (or newer)
133.380	041	Perfluoro-3-methoxypropanoic acid (PFMPA)	DoD QSM Version 5.1 (or newer)
133.380	042	Perfluoro-4-methoxybutanoic acid (PFMBA)	DoD QSM Version 5.1 (or newer)

CALIFORNIA STATE
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Fields of Accreditation

Eurofins TestAmerica St. Louis

13715 Rider Trail North
Earth City, MO 63045
Phone: 3142988566

Certificate Number: 2886
Expiration Date: 6/30/2022

				Primary Accreditation Body
Field of Accreditation: 106 - Radionuclides in Drinking Water				
106.010	001	Gross Alpha	EPA 900.0	FL
106.010	002	Gross Beta	EPA 900.0	FL
106.030	001	Radioactive Cesium	EPA 901.1	ANAB
106.051	001	Radium-226	EPA 903.1	FL
106.060	001	Radium-228	EPA 904.0	FL
106.070	003	Strontium-90	EPA 905.0	FL
106.080	001	Tritium	EPA 906.0	FL
106.092	001	Uranium	EPA 200.8	FL
106.230	001	Uranium	DOE U-02	FL
106.270	001	Gross Alpha	SM 7110 C	FL
Field of Accreditation: 108 - Inorganic Constituents in Non-Potable Water				
108.013	001	Calcium	EPA 200.7	LA
108.013	002	Magnesium	EPA 200.7	LA
108.013	004	Potassium	EPA 200.7	LA
108.013	005	Silica, Dissolved	EPA 200.7	LA
108.013	006	Sodium	EPA 200.7	LA
108.015	001	Calcium	EPA 200.8	LA
108.015	002	Magnesium	EPA 200.8	LA
108.015	003	Potassium	EPA 200.8	LA
108.015	005	Sodium	EPA 200.8	LA
Field of Accreditation: 109 - Metals and Trace Elements in Non-Potable Water				
109.623	001	Aluminum	EPA 200.7 (1994 Rev. 4.4)	FL / LA
109.623	002	Antimony	EPA 200.7 (1994 Rev. 4.4)	FL / LA
109.623	003	Arsenic	EPA 200.7 (1994 Rev. 4.4)	FL / LA
109.623	004	Barium	EPA 200.7 (1994 Rev. 4.4)	FL / LA
109.623	005	Beryllium	EPA 200.7 (1994 Rev. 4.4)	FL / LA
109.623	006	Boron	EPA 200.7 (1994 Rev. 4.4)	FL / LA
109.623	007	Cadmium	EPA 200.7 (1994 Rev. 4.4)	FL / LA
109.623	008	Chromium	EPA 200.7 (1994 Rev. 4.4)	FL / LA
109.623	009	Cobalt	EPA 200.7 (1994 Rev. 4.4)	FL / LA
109.623	010	Copper	EPA 200.7 (1994 Rev. 4.4)	FL / LA
109.623	011	Iron	EPA 200.7 (1994 Rev. 4.4)	FL / LA
109.623	012	Lead	EPA 200.7 (1994 Rev. 4.4)	FL / LA

109.623	013	Manganese	EPA 200.7 (1994 Rev. 4.4)	FL / LA
109.623	014	Molybdenum	EPA 200.7 (1994 Rev. 4.4)	FL / LA
109.623	015	Nickel	EPA 200.7 (1994 Rev. 4.4)	FL / LA
109.623	016	Selenium	EPA 200.7 (1994 Rev. 4.4)	FL / LA
109.623	017	Silver	EPA 200.7 (1994 Rev. 4.4)	FL / LA
109.623	018	Thallium	EPA 200.7 (1994 Rev. 4.4)	FL / LA
109.623	019	Tin	EPA 200.7 (1994 Rev. 4.4)	FL / LA
109.623	020	Titanium	EPA 200.7 (1994 Rev. 4.4)	FL / LA
109.623	021	Vanadium	EPA 200.7 (1994 Rev. 4.4)	FL / LA
109.623	022	Zinc	EPA 200.7 (1994 Rev. 4.4)	FL / LA
109.625	001	Aluminum	EPA 200.8 (1994 Rev. 5.4)	FL / LA
109.625	002	Antimony	EPA 200.8 (1994 Rev. 5.4)	FL / LA
109.625	003	Arsenic	EPA 200.8 (1994 Rev. 5.4)	FL / LA
109.625	004	Barium	EPA 200.8 (1994 Rev. 5.4)	FL / LA
109.625	005	Beryllium	EPA 200.8 (1994 Rev. 5.4)	FL / LA
109.625	007	Cadmium	EPA 200.8 (1994 Rev. 5.4)	FL / LA
109.625	008	Chromium	EPA 200.8 (1994 Rev. 5.4)	FL / LA
109.625	009	Cobalt	EPA 200.8 (1994 Rev. 5.4)	FL / LA
109.625	010	Copper	EPA 200.8 (1994 Rev. 5.4)	FL / LA
109.625	012	Iron	EPA 200.8 (1994 Rev. 5.4)	FL / LA
109.625	013	Lead	EPA 200.8 (1994 Rev. 5.4)	FL / LA
109.625	014	Manganese	EPA 200.8 (1994 Rev. 5.4)	FL / LA
109.625	015	Molybdenum	EPA 200.8 (1994 Rev. 5.4)	FL / LA
109.625	016	Nickel	EPA 200.8 (1994 Rev. 5.4)	FL / LA
109.625	017	Selenium	EPA 200.8 (1994 Rev. 5.4)	FL / LA
109.625	018	Silver	EPA 200.8 (1994 Rev. 5.4)	FL / LA
109.625	019	Thallium	EPA 200.8 (1994 Rev. 5.4)	FL / LA
109.625	020	Tin	EPA 200.8 (1994 Rev. 5.4)	FL / LA
109.625	021	Titanium	EPA 200.8 (1994 Rev. 5.4)	FL / LA
109.625	022	Vanadium	EPA 200.8 (1994 Rev. 5.4)	FL / LA
109.625	023	Zinc	EPA 200.8 (1994 Rev. 5.4)	FL / LA
109.635	001	Mercury	EPA 245.1 (1994 Rev. 3.0)	FL / LA

Field of Accreditation:112 - Radionuclides in Non-Potable Water

112.001	001	Gross Alpha	EPA 900.0	LA
112.001	002	Gross Beta	EPA 900.0	LA
112.003	001	Total Alpha Radium	EPA 903.0	LA

Field of Accreditation:114 - Inorganic Constituents in Hazardous Waste

114.315	001	Aluminum	EPA 6010 B	ANAB
114.315	002	Antimony	EPA 6010 B	ANAB
114.315	003	Arsenic	EPA 6010 B	ANAB
114.315	004	Barium	EPA 6010 B	ANAB
114.315	005	Beryllium	EPA 6010 B	ANAB

114.315	006	Boron	EPA 6010 B	AIHA-LA
114.315	007	Cadmium	EPA 6010 B	ANAB
114.315	008	Calcium	EPA 6010 B	ANAB
114.315	009	Chromium	EPA 6010 B	ANAB
114.315	010	Cobalt	EPA 6010 B	ANAB
114.315	011	Copper	EPA 6010 B	ANAB
114.315	012	Iron	EPA 6010 B	ANAB
114.315	013	Lead	EPA 6010 B	ANAB
114.315	014	Magnesium	EPA 6010 B	ANAB
114.315	015	Manganese	EPA 6010 B	ANAB
114.315	016	Molybdenum	EPA 6010 B	ANAB
114.315	017	Nickel	EPA 6010 B	ANAB
114.315	018	Potassium	EPA 6010 B	ANAB
114.315	019	Selenium	EPA 6010 B	ANAB
114.315	020	Silver	EPA 6010 B	ANAB
114.315	021	Sodium	EPA 6010 B	ANAB
114.315	022	Strontium	EPA 6010 B	ANAB
114.315	023	Thallium	EPA 6010 B	ANAB
114.315	024	Tin	EPA 6010 B	ANAB
114.315	025	Titanium	EPA 6010 B	ANAB
114.315	026	Vanadium	EPA 6010 B	ANAB
114.315	027	Zinc	EPA 6010 B	ANAB
114.325	001	Aluminum	EPA 6010 D	ANAB
114.325	002	Antimony	EPA 6010 D	ANAB
114.325	003	Arsenic	EPA 6010 D	ANAB
114.325	004	Barium	EPA 6010 D	ANAB
114.325	005	Beryllium	EPA 6010 D	ANAB
114.325	006	Boron	EPA 6010 D	ANAB
114.325	007	Cadmium	EPA 6010 D	ANAB
114.325	008	Calcium	EPA 6010 D	ANAB
114.325	009	Chromium	EPA 6010 D	ANAB
114.325	010	Cobalt	EPA 6010 D	ANAB
114.325	011	Copper	EPA 6010 D	ANAB
114.325	012	Iron	EPA 6010 D	ANAB
114.325	013	Lead	EPA 6010 D	ANAB
114.325	014	Magnesium	EPA 6010 D	ANAB
114.325	015	Manganese	EPA 6010 D	ANAB
114.325	016	Molybdenum	EPA 6010 D	ANAB
114.325	017	Nickel	EPA 6010 D	ANAB
114.325	018	Potassium	EPA 6010 D	ANAB
114.325	019	Selenium	EPA 6010 D	ANAB
114.325	020	Silver	EPA 6010 D	ANAB

114.325	021	Sodium	EPA 6010 D	ANAB
114.325	022	Strontium	EPA 6010 D	ANAB
114.325	023	Thallium	EPA 6010 D	ANAB
114.325	024	Tin	EPA 6010 D	ANAB
114.325	025	Titanium	EPA 6010 D	ANAB
114.325	026	Vanadium	EPA 6010 D	ANAB
114.325	027	Zinc	EPA 6010 D	ANAB
114.335	001	Aluminum	EPA 6020	ANAB
114.335	002	Antimony	EPA 6020	ANAB
114.335	003	Arsenic	EPA 6020	ANAB
114.335	004	Barium	EPA 6020	ANAB
114.335	005	Beryllium	EPA 6020	ANAB
114.335	006	Cadmium	EPA 6020	ANAB
114.335	007	Chromium	EPA 6020	ANAB
114.335	008	Cobalt	EPA 6020	ANAB
114.335	009	Copper	EPA 6020	ANAB
114.335	010	Lead	EPA 6020	ANAB
114.335	011	Manganese	EPA 6020	ANAB
114.335	012	Nickel	EPA 6020	ANAB
114.335	013	Silver	EPA 6020	ANAB
114.335	014	Thallium	EPA 6020	ANAB
114.335	015	Zinc	EPA 6020	ANAB
114.345	001	Aluminum	EPA 6020 B	ANAB
114.345	002	Antimony	EPA 6020 B	ANAB
114.345	003	Arsenic	EPA 6020 B	ANAB
114.345	004	Barium	EPA 6020 B	ANAB
114.345	005	Beryllium	EPA 6020 B	ANAB
114.345	006	Cadmium	EPA 6020 B	ANAB
114.345	007	Calcium	EPA 6020 B	ANAB
114.345	008	Chromium	EPA 6020 B	ANAB
114.345	009	Cobalt	EPA 6020 B	ANAB
114.345	010	Copper	EPA 6020 B	ANAB
114.345	011	Iron	EPA 6020 B	ANAB
114.345	012	Lead	EPA 6020 B	ANAB
114.345	013	Magnesium	EPA 6020 B	ANAB
114.345	014	Manganese	EPA 6020 B	ANAB
114.345	015	Mercury	EPA 6020 B	ANAB
114.345	016	Nickel	EPA 6020 B	ANAB
114.345	017	Potassium	EPA 6020 B	ANAB
114.345	018	Selenium	EPA 6020 B	ANAB
114.345	019	Silver	EPA 6020 B	ANAB
114.345	020	Sodium	EPA 6020 B	ANAB

114.345	021	Thallium	EPA 6020 B	ANAB
114.345	022	Vanadium	EPA 6020 B	ANAB
114.345	023	Zinc	EPA 6020 B	ANAB
114.545	001	Mercury	EPA 7471 B	FL / LA
Field of Accreditation: 115 - Leaching/Extraction Tests and Physical Characteristics of Hazardous Waste				
115.085	001	Toxicity Characteristic Leaching Procedure (TCLP)	EPA 1311	LA
115.095	001	Synthetic Precipitation Leaching Procedure (SPLP)	EPA 1312	LA
Field of Accreditation: 118 - Radionuclides in Hazardous Waste				
118.315	001	Gross Alpha	EPA 9310	LA
118.315	002	Gross Beta	EPA 9310	LA
118.325	001	Total Alpha Radium	EPA 9315	LA
118.335	001	Radium-228	EPA 9320	LA
Field of Accreditation: 130 - Inorganic constituents in Hazardous waste (Matrix Aqueous)				
130.010	001	Aluminum	EPA 6010 B	ANAB
130.010	002	Antimony	EPA 6010 B	ANAB
130.010	003	Arsenic	EPA 6010 B	ANAB
130.010	004	Barium	EPA 6010 B	ANAB
130.010	005	Beryllium	EPA 6010 B	ANAB
130.010	007	Cadmium	EPA 6010 B	ANAB
130.010	008	Calcium	EPA 6010 B	ANAB
130.010	009	Chromium	EPA 6010 B	ANAB
130.010	010	Cobalt	EPA 6010 B	ANAB
130.010	011	Copper	EPA 6010 B	ANAB
130.010	012	Iron	EPA 6010 B	ANAB
130.010	013	Lead	EPA 6010 B	ANAB
130.010	014	Magnesium	EPA 6010 B	ANAB
130.010	015	Manganese	EPA 6010 B	ANAB
130.010	016	Molybdenum	EPA 6010 B	ANAB
130.010	017	Nickel	EPA 6010 B	ANAB
130.010	018	Potassium	EPA 6010 B	ANAB
130.010	021	Sodium	EPA 6010 B	ANAB
130.010	022	Strontium	EPA 6010 B	ANAB
130.010	024	Tin	EPA 6010 B	ANAB
130.010	025	Titanium	EPA 6010 B	ANAB
130.010	026	Vanadium	EPA 6010 B	ANAB
130.010	027	Zinc	EPA 6010 B	ANAB
130.020	001	Aluminum	EPA 6010 D	ANAB
130.020	002	Antimony	EPA 6010 D	ANAB
130.020	003	Arsenic	EPA 6010 D	ANAB
130.020	004	Barium	EPA 6010 D	ANAB
130.020	005	Beryllium	EPA 6010 D	ANAB
130.020	006	Boron	EPA 6010 D	ANAB

130.020	007	Cadmium	EPA 6010 D	ANAB
130.020	008	Calcium	EPA 6010 D	ANAB
130.020	009	Chromium	EPA 6010 D	ANAB
130.020	010	Cobalt	EPA 6010 D	ANAB
130.020	011	Copper	EPA 6010 D	ANAB
130.020	012	Iron	EPA 6010 D	ANAB
130.020	013	Lead	EPA 6010 D	ANAB
130.020	014	Magnesium	EPA 6010 D	ANAB
130.020	015	Manganese	EPA 6010 D	ANAB
130.020	016	Molybdenum	EPA 6010 D	ANAB
130.020	017	Nickel	EPA 6010 D	ANAB
130.020	018	Potassium	EPA 6010 D	ANAB
130.020	019	Selenium	EPA 6010 D	ANAB
130.020	020	Silver	EPA 6010 D	ANAB
130.020	021	Sodium	EPA 6010 D	ANAB
130.020	022	Strontium	EPA 6010 D	ANAB
130.020	023	Thallium	EPA 6010 D	ANAB
130.020	024	Tin	EPA 6010 D	ANAB
130.020	025	Titanium	EPA 6010 D	ANAB
130.020	026	Vanadium	EPA 6010 D	ANAB
130.020	027	Zinc	EPA 6010 D	ANAB
130.030	001	Aluminum	EPA 6020	ANAB
130.030	002	Antimony	EPA 6020	ANAB
130.030	003	Arsenic	EPA 6020	ANAB
130.030	004	Barium	EPA 6020	ANAB
130.030	005	Beryllium	EPA 6020	ANAB
130.030	006	Cadmium	EPA 6020	ANAB
130.030	007	Chromium	EPA 6020	ANAB
130.030	008	Cobalt	EPA 6020	ANAB
130.030	009	Copper	EPA 6020	ANAB
130.030	010	Lead	EPA 6020	ANAB
130.030	011	Manganese	EPA 6020	ANAB
130.030	012	Nickel	EPA 6020	ANAB
130.030	013	Silver	EPA 6020	ANAB
130.030	014	Thallium	EPA 6020	ANAB
130.030	015	Zinc	EPA 6020	ANAB
130.040	001	Aluminum	EPA 6020 B	ANAB
130.040	002	Antimony	EPA 6020 B	ANAB
130.040	003	Arsenic	EPA 6020 B	ANAB
130.040	004	Barium	EPA 6020 B	ANAB
130.040	005	Beryllium	EPA 6020 B	ANAB
130.040	006	Cadmium	EPA 6020 B	ANAB

130.040	007	Calcium	EPA 6020 B	ANAB
130.040	008	Chromium	EPA 6020 B	ANAB
130.040	009	Cobalt	EPA 6020 B	ANAB
130.040	010	Copper	EPA 6020 B	ANAB
130.040	011	Iron	EPA 6020 B	ANAB
130.040	012	Lead	EPA 6020 B	ANAB
130.040	013	Magnesium	EPA 6020 B	ANAB
130.040	014	Manganese	EPA 6020 B	ANAB
130.040	015	Mercury	EPA 6020 B	ANAB
130.040	016	Nickel	EPA 6020 B	ANAB
130.040	017	Potassium	EPA 6020 B	ANAB
130.040	018	Selenium	EPA 6020 B	ANAB
130.040	019	Silver	EPA 6020 B	ANAB
130.040	020	Sodium	EPA 6020 B	ANAB
130.040	021	Thallium	EPA 6020 B	ANAB
130.040	022	Vanadium	EPA 6020 B	ANAB
130.040	023	Zinc	EPA 6020 B	ANAB
130.250	001	Mercury	EPA 7470 A	ANAB

Field of Accreditation:131 - Leaching/Extraction, Physical Chacterstics in Hazardous Waste (Matrix Aqueous)

131.040	001	Toxicity Characteristic Leaching Procedure (TCLP)	EPA 1311	ANAB
131.050	001	Synthetic Precipitation Leaching Procedure (SPLP)	EPA 1312	ANAB

Field of Accreditation:134 - Radionucleotides in Hazardous Waste (Matrix Aqueous)

134.010	001	Gross Alpha	EPA 9310	ANAB
134.010	002	Gross Beta	EPA 9310	ANAB
134.020	001	Total Alpha Radium	EPA 9315	ANAB
134.030	001	Radium-228	EPA 9320	ANAB

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

CALIFORNIA STATE

ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

CERTIFICATE OF ENVIRONMENTAL LABORATORY ACCREDITATION

Is hereby granted to

Enthalpy Analytical, LLC

Orange

931 West Barkley Avenue

Orange, CA 92868

Scope of the certificate is limited to the
"Fields of Accreditation"
which accompany this Certificate.

Continued accredited status depends on compliance with applicable laws and regulations, proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of
Section 100825, et seq. of the Health and Safety Code.

Certificate No.: **1338**

Effective Date: **11/1/2020**

Expiration Date: **10/31/2022**

Sacramento, California
subject to forfeiture or revocation

Christine Sotelo, Chief
Environmental Laboratory Accreditation Program

CALIFORNIA STATE
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Fields of Accreditation

Enthalpy Analytical, LLC
Orange
931 West Barkley Avenue
Orange, CA 92868
Phone: 7147716900

Certificate Number: 1338
Expiration Date: 10/31/2022

Field of Accreditation: 101 - Microbiology of Drinking Water

101.010	001	Heterotrophic Bacteria	SM 9215 B
101.010	002	Heterotrophic Bacteria	SimPlate
101.020	004	Total Coliform (Enumeration)	SM 9221 B,C
101.020	005	Fecal Coliform (Enumeration)	SM 9221 B,E
101.020	006	E. coli (Enumeration)	SM 9221 B,F
101.050	001	Total Coliform P/A	SM 9223 B Colilert
101.050	002	E. coli P/A	SM 9223 B Colilert
101.050	003	Total Coliform (Enumeration)	SM 9223 B Colilert
101.050	004	E. coli (Enumeration)	SM 9223 B Colilert
101.050	005	Total Coliform P/A	SM 9223 B Colilert 18
101.050	006	E. coli P/A	SM 9223 B Colilert 18
101.050	007	Total Coliform (Enumeration)	SM 9223 B Colilert 18
101.050	008	E. coli (Enumeration)	SM 9223 B Colilert 18
101.050	009	Total Coliform P/A	SM 9223 B Colisure
101.050	010	E. coli P/A	SM 9223 B Colisure
101.050	011	Total Coliform (Enumeration)	SM 9223 B Colisure
101.050	012	E. coli (Enumeration)	SM 9223 B Colisure

Field of Accreditation: 102 - Inorganic Chemistry of Drinking Water

102.015	001	Hydrogen Ion (pH)	EPA 150.1
102.020	001	Turbidity	EPA 180.1
102.026	001	Calcium	EPA 200.7
102.026	002	Magnesium	EPA 200.7
102.026	003	Potassium	EPA 200.7
102.026	004	Silica	EPA 200.7
102.026	005	Sodium	EPA 200.7
102.026	006	Hardness (Calculation)	EPA 200.7
102.030	003	Chloride	EPA 300.0
102.030	005	Fluoride	EPA 300.0
102.030	006	Nitrate (as N)	EPA 300.0
102.030	007	Nitrite (as N)	EPA 300.0
102.030	009	Sulfate (as SO4)	EPA 300.0
102.045	001	Perchlorate	EPA 314.0
102.050	001	Cyanide, Total	EPA 335.4

102.095	001	Turbidity	SM 2130 B-2001
102.100	001	Alkalinity	SM 2320 B-1997
102.120	001	Hardness (Calculation)	SM 2340 B-1997
102.130	001	Specific Conductance	SM 2510 B-1997
102.140	001	Residue, Filterable TDS	SM 2540 C-1997
102.175	001	Chlorine, Free	SM 4500-Cl G-2000
102.175	002	Chlorine, Total Residual	SM 4500-Cl G-2000
102.190	001	Cyanide, Total	SM 4500-CN E-1999
102.192	001	Cyanide, Amenable	SM 4500-CN G-1999
102.200	001	Fluoride	SM 4500-F C-1997
102.203	001	Hydrogen Ion (pH)	SM 4500-H+ B-2000
102.234	002	Nitrate (as N)	SM 4500-NO3 F-2000
102.240	001	Phosphate,Ortho (as P)	SM 4500-P E-1999
102.242	001	Silica	SM 4500-SiO2 C-1997
102.243	001	Silica	SM 4500-SiO2 D-1997
102.260	001	Organic Carbon-Total (TOC)	SM 5310 B-2000
102.261	001	Dissolved Organic Carbon (DOC)	SM 5310 B-2000
102.270	001	Surfactants	SM 5540 C-2000

Field of Accreditation:103 - Toxic Chemical Elements of Drinking Water

103.130	003	Barium	EPA 200.7
103.130	004	Beryllium	EPA 200.7
103.130	005	Cadmium	EPA 200.7
103.130	007	Chromium	EPA 200.7
103.130	008	Copper	EPA 200.7
103.130	009	Iron	EPA 200.7
103.130	011	Manganese	EPA 200.7
103.130	012	Nickel	EPA 200.7
103.130	015	Silver	EPA 200.7
103.130	017	Zinc	EPA 200.7
103.130	018	Boron	EPA 200.7
103.140	001	Aluminum	EPA 200.8
103.140	002	Antimony	EPA 200.8
103.140	003	Arsenic	EPA 200.8
103.140	004	Barium	EPA 200.8
103.140	005	Beryllium	EPA 200.8
103.140	006	Cadmium	EPA 200.8
103.140	007	Chromium	EPA 200.8
103.140	008	Copper	EPA 200.8
103.140	009	Lead	EPA 200.8
103.140	010	Manganese	EPA 200.8
103.140	012	Nickel	EPA 200.8
103.140	013	Selenium	EPA 200.8

103.140	014	Silver	EPA 200.8
103.140	015	Thallium	EPA 200.8
103.140	016	Zinc	EPA 200.8
103.140	017	Boron	EPA 200.8
103.140	018	Vanadium	EPA 200.8
103.160	001	Mercury	EPA 245.1
103.310	001	Chromium VI (Hexavalent Chromium)	EPA 218.6
103.311	001	Chromium VI (Hexavalent Chromium)	EPA 218.7

Field of Accreditation: 104 - Volatile Organic Chemistry of Drinking Water

104.035	001	1,2,3-Trichloropropane (TCP)	SRL 524M-TCP
104.040	001	Benzene	EPA 524.2
104.040	007	n-Butylbenzene	EPA 524.2
104.040	008	sec-Butylbenzene	EPA 524.2
104.040	009	tert-Butylbenzene	EPA 524.2
104.040	010	Carbon Tetrachloride	EPA 524.2
104.040	011	Chlorobenzene	EPA 524.2
104.040	015	2-Chlorotoluene	EPA 524.2
104.040	016	4-Chlorotoluene	EPA 524.2
104.040	019	1,3-Dichlorobenzene	EPA 524.2
104.040	020	1,2-Dichlorobenzene	EPA 524.2
104.040	021	1,4-Dichlorobenzene	EPA 524.2
104.040	022	Dichlorodifluoromethane	EPA 524.2
104.040	023	1,1-Dichloroethane	EPA 524.2
104.040	024	1,2-Dichloroethane (Ethylene Dichloride)	EPA 524.2
104.040	025	1,1-Dichloroethylene (1,1-Dichloroethene)	EPA 524.2
104.040	026	cis-1,2-Dichloroethylene (cis 1,2 Dichloroethene)	EPA 524.2
104.040	027	trans-1,2-Dichloroethylene (trans- 1,2 Dichloroethene)	EPA 524.2
104.040	028	Dichloromethane (Methylene Chloride)	EPA 524.2
104.040	029	1,2-Dichloropropane	EPA 524.2
104.040	033	cis-1,3-Dichloropropylene (cis 1,3 Dichloropropene)	EPA 524.2
104.040	034	trans-1,3-Dichloropropylene (trans-1,3 Dichloropropene)	EPA 524.2
104.040	035	Ethylbenzene	EPA 524.2
104.040	037	Isopropylbenzene	EPA 524.2
104.040	039	Naphthalene	EPA 524.2
104.040	041	N-propylbenzene	EPA 524.2
104.040	042	Styrene	EPA 524.2
104.040	043	1,1,1,2-Tetrachloroethane	EPA 524.2
104.040	044	1,1,2,2-Tetrachloroethane	EPA 524.2
104.040	045	Tetrachloroethylene (Tetrachloroethene)	EPA 524.2
104.040	046	Toluene	EPA 524.2
104.040	047	1,2,3-Trichlorobenzene	EPA 524.2
104.040	048	1,2,4-Trichlorobenzene	EPA 524.2

104.040	049	1,1,1-Trichloroethane	EPA 524.2
104.040	050	1,1,2-Trichloroethane	EPA 524.2
104.040	051	Trichloroethylene (Trichloroethene)	EPA 524.2
104.040	054	1,2,4-Trimethylbenzene	EPA 524.2
104.040	055	1,3,5-Trimethylbenzene	EPA 524.2
104.040	056	Vinyl Chloride	EPA 524.2
104.040	059	o-Xylene	EPA 524.2
104.040	061	Carbon Disulfide	EPA 524.2
104.040	062	Methyl isobutyl ketone (MIBK, 4-Methyl-2-pentanone)	EPA 524.2
104.040	063	m+p-Xylene	EPA 524.2
104.045	001	Bromodichloromethane	EPA 524.2
104.045	002	Bromoform	EPA 524.2
104.045	003	Chloroform	EPA 524.2
104.045	004	Dibromochloromethane (Chlorodibromomethane)	EPA 524.2
104.050	002	Methyl tert-butyl Ether (MTBE)	EPA 524.2
104.050	003	tert-Amyl Methyl Ether (TAME)	EPA 524.2
104.050	004	Ethyl tert-butyl Ether (ETBE)	EPA 524.2
104.050	005	Trichlorotrifluoroethane (Freon 113)	EPA 524.2
104.050	006	t-Butyl alcohol (2-Methyl-2-propanol)	EPA 524.2

Field of Accreditation:107 - Microbiological Methods for Non-Potable Water and Sewage Sludge

107.001	001	Total Coliform (Enumeration)	SM 9221 B,C-2006
107.001	002	Fecal Coliform (Enumeration)	SM 9221 C,E-2006
107.001	003	E. coli (Enumeration)	SM 9221 C,F-2006
107.005	001	E. coli (Enumeration)	SM 9223 B-2004
107.007	001	Enterococci	SM 9230 B-2007
107.007	002	Fecal Streptococci	SM 9230 B-2007
107.011	001	Enterococci	SM 9230 D-2007
107.013	001	E. coli (Enumeration)	Colilert
107.015	001	E. coli (Enumeration)	Colilert 18
107.015	002	Fecal Coliform (Enumeration)	Colilert 18

Field of Accreditation:108 - Inorganic Constituents in Non-Potable Water

108.001	001	Specific Conductance	EPA 120.1 (1982 Rev.1.0)
108.007	001	Residue, Volatile	EPA 160.4 (1971)
108.009	001	Turbidity	EPA 180.1 (1993 Rev. 2.0)
108.013	001	Calcium	EPA 200.7 (1994 Rev. 4.4)
108.013	002	Magnesium	EPA 200.7 (1994 Rev. 4.4)
108.013	004	Potassium	EPA 200.7 (1994 Rev. 4.4)
108.013	005	Silica, Dissolved	EPA 200.7 (1994 Rev. 4.4)
108.013	006	Sodium	EPA 200.7 (1994 Rev. 4.4)
108.015	001	Calcium	EPA 200.8 (1994 Rev. 5.4)
108.015	002	Magnesium	EPA 200.8 (1994 Rev. 5.4)
108.015	003	Potassium	EPA 200.8 (1994 Rev. 5.4)

108.015	005	Sodium	EPA 200.8 (1994 Rev. 5.4)
108.017	001	Bromide	EPA 300.0 (1993 Rev. 2.1)
108.017	002	Chloride	EPA 300.0 (1993 Rev. 2.1)
108.017	003	Fluoride	EPA 300.0 (1993 Rev. 2.1)
108.017	004	Nitrate (as N)	EPA 300.0 (1993 Rev. 2.1)
108.017	005	Nitrate-Nitrite (as N)	EPA 300.0 (1993 Rev. 2.1)
108.017	006	Nitrite (as N)	EPA 300.0 (1993 Rev. 2.1)
108.017	008	Sulfate (as SO4)	EPA 300.0 (1993 Rev. 2.1)
108.023	001	Cyanide, Total	EPA 335.4 (1993 Rev. 1.0)
108.025	001	Ammonia (as N)	EPA 350.1 (1993 Rev. 2.0)
108.029	001	Kjeldahl Nitrogen,Total (as N)	EPA 351.2 (1993 Rev. 2.0)
108.033	001	Nitrate-Nitrite (as N)	EPA 353.2 (1993 Rev. 2.0)
108.033	002	Nitrite (as N)	EPA 353.2 (1993 Rev. 2.0)
108.045	001	Chemical Oxygen Demand	EPA 410.4 (1993 Rev. 2.0)
108.047	001	Phenols, Total	EPA 420.1 (1978 Rev. 1.0)
108.053	001	Oil & Grease, Total Recoverable	EPA 1664 A
108.055	001	Color	SM 2120 B-2011
108.059	001	Turbidity	SM 2130 B-2011
108.061	001	Acidity	SM 2310 B-2011
108.063	001	Alkalinity	SM 2320 B-2011
108.065	001	Hardness (Calculation)	SM 2340 B-2011
108.069	001	Specific Conductance	SM 2510 B-2011
108.071	001	Residue, Total	SM 2540 B-2011
108.073	001	Residue, Filterable TDS	SM 2540 C-2011
108.077	001	Residue, Volatile	SM 2540 E-2011
108.079	001	Residue, Settleable	SM 2540 F-2011
108.114	001	Chlorine, Total Residual	SM 4500-Cl G-2011
108.114	002	Chlorine, Free	SM 4500-Cl G-2011
108.125	001	Cyanide, Total	SM 4500-CN E-2011
108.129	001	Cyanide, Available	SM 4500-CN G-2011
108.131	001	Fluoride	SM 4500-F C-2011
108.137	001	Hydrogen Ion (pH)	SM 4500-H+ B-2011
108.139	001	Ammonia (as N)	SM 4500-NH3 C-2011
108.139	002	Kjeldahl Nitrogen,Total (as N)	SM 4500-NH3 C-2011
108.147	001	Ammonia (as N)	SM 4500-NH3 G-2011
108.147	002	Kjeldahl Nitrogen,Total (as N)	SM 4500-NH3 G-2011
108.159	001	Nitrate-Nitrite (as N)	SM 4500-NO3 F-2011
108.159	002	Nitrite (as N)	SM 4500-NO3 F-2011
108.173	001	Oxygen, Dissolved	SM 4500-O G-2011
108.175	001	Phosphate,Ortho (as P)	SM 4500-P E-2011
108.175	002	Phosphorus,Total	SM 4500-P E-2011
108.184	001	Silica, Dissolved	SM 4500-SiO2 C-2011

108.189	001	Sulfite (as SO3)	SM 4500-SO3 B-2011
108.201	001	Sulfide (as S)	SM 4500-S D-2011
108.207	001	Biochemical Oxygen Demand	SM 5210 B-2011
108.207	002	Carbonaceous BOD	SM 5210 B-2011
108.213	001	Chemical Oxygen Demand	SM 5220 D-2011
108.215	001	Organic Carbon-Total (TOC)	SM 5310 B-2011
108.225	001	Surfactants	SM 5540 C-2011

Field of Accreditation:109 - Metals and Trace Elements in Non-Potable Water

109.623	001	Aluminum	EPA 200.7 (1994 Rev. 4.4)
109.623	002	Antimony	EPA 200.7 (1994 Rev. 4.4)
109.623	003	Arsenic	EPA 200.7 (1994 Rev. 4.4)
109.623	004	Barium	EPA 200.7 (1994 Rev. 4.4)
109.623	005	Beryllium	EPA 200.7 (1994 Rev. 4.4)
109.623	006	Boron	EPA 200.7 (1994 Rev. 4.4)
109.623	007	Cadmium	EPA 200.7 (1994 Rev. 4.4)
109.623	008	Chromium	EPA 200.7 (1994 Rev. 4.4)
109.623	009	Cobalt	EPA 200.7 (1994 Rev. 4.4)
109.623	010	Copper	EPA 200.7 (1994 Rev. 4.4)
109.623	011	Iron	EPA 200.7 (1994 Rev. 4.4)
109.623	012	Lead	EPA 200.7 (1994 Rev. 4.4)
109.623	013	Manganese	EPA 200.7 (1994 Rev. 4.4)
109.623	014	Molybdenum	EPA 200.7 (1994 Rev. 4.4)
109.623	015	Nickel	EPA 200.7 (1994 Rev. 4.4)
109.623	016	Selenium	EPA 200.7 (1994 Rev. 4.4)
109.623	017	Silver	EPA 200.7 (1994 Rev. 4.4)
109.623	018	Thallium	EPA 200.7 (1994 Rev. 4.4)
109.623	019	Tin	EPA 200.7 (1994 Rev. 4.4)
109.623	020	Titanium	EPA 200.7 (1994 Rev. 4.4)
109.623	021	Vanadium	EPA 200.7 (1994 Rev. 4.4)
109.623	022	Zinc	EPA 200.7 (1994 Rev. 4.4)
109.625	001	Aluminum	EPA 200.8 (1994 Rev. 5.4)
109.625	002	Antimony	EPA 200.8 (1994 Rev. 5.4)
109.625	003	Arsenic	EPA 200.8 (1994 Rev. 5.4)
109.625	004	Barium	EPA 200.8 (1994 Rev. 5.4)
109.625	005	Beryllium	EPA 200.8 (1994 Rev. 5.4)
109.625	006	Boron	EPA 200.8 (1994 Rev. 5.4)
109.625	007	Cadmium	EPA 200.8 (1994 Rev. 5.4)
109.625	008	Chromium	EPA 200.8 (1994 Rev. 5.4)
109.625	009	Cobalt	EPA 200.8 (1994 Rev. 5.4)
109.625	010	Copper	EPA 200.8 (1994 Rev. 5.4)
109.625	012	Iron	EPA 200.8 (1994 Rev. 5.4)
109.625	013	Lead	EPA 200.8 (1994 Rev. 5.4)

109.625	014	Manganese	EPA 200.8 (1994 Rev. 5.4)
109.625	015	Molybdenum	EPA 200.8 (1994 Rev. 5.4)
109.625	016	Nickel	EPA 200.8 (1994 Rev. 5.4)
109.625	017	Selenium	EPA 200.8 (1994 Rev. 5.4)
109.625	018	Silver	EPA 200.8 (1994 Rev. 5.4)
109.625	019	Thallium	EPA 200.8 (1994 Rev. 5.4)
109.625	021	Titanium	EPA 200.8 (1994 Rev. 5.4)
109.625	022	Vanadium	EPA 200.8 (1994 Rev. 5.4)
109.625	023	Zinc	EPA 200.8 (1994 Rev. 5.4)
109.629	001	Chromium VI (Hexavalent Chromium)	EPA 218.6 (1994 Rev. 3.3)
109.635	001	Mercury	EPA 245.1 (1994 Rev. 3.0)

Field of Accreditation: 110 - Volatile Organic Constituents in Non-Potable Water

110.040	001	Acetone	EPA 624.1
110.040	003	Acrolein	EPA 624.1
110.040	004	Acrylonitrile	EPA 624.1
110.040	005	Benzene	EPA 624.1
110.040	006	Bromodichloromethane	EPA 624.1
110.040	007	Bromoform	EPA 624.1
110.040	008	Bromomethane (Methyl Bromide)	EPA 624.1
110.040	009	t-Butyl alcohol (2-Methyl-2-propanol)	EPA 624.1
110.040	010	Carbon Tetrachloride	EPA 624.1
110.040	011	Chlorobenzene	EPA 624.1
110.040	012	Chloroethane	EPA 624.1
110.040	013	2-Chloroethyl vinyl Ether	EPA 624.1
110.040	014	Chloroform	EPA 624.1
110.040	015	Chloromethane (Methyl Chloride)	EPA 624.1
110.040	016	Dibromochloromethane (Chlorodibromomethane)	EPA 624.1
110.040	017	1,2-Dichlorobenzene	EPA 624.1
110.040	018	1,3-Dichlorobenzene	EPA 624.1
110.040	019	1,4-Dichlorobenzene	EPA 624.1
110.040	020	1,1-Dichloroethane	EPA 624.1
110.040	021	1,2-Dichloroethane (Ethylene Dichloride)	EPA 624.1
110.040	022	1,1-Dichloroethylene (1,1-Dichloroethene)	EPA 624.1
110.040	023	trans-1,2-Dichloroethylene (trans- 1,2 Dichloroethene)	EPA 624.1
110.040	024	1,2-Dichloropropane	EPA 624.1
110.040	025	cis-1,3-Dichloropropylene (cis 1,3 Dichloropropene)	EPA 624.1
110.040	026	trans-1,3-Dichloropropylene (trans-1,3 Dichloropropene)	EPA 624.1
110.040	029	Ethylbenzene	EPA 624.1
110.040	031	Methylene Chloride (Dichloromethane)	EPA 624.1
110.040	032	4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	EPA 624.1
110.040	034	1,1,2,2-Tetrachloroethane	EPA 624.1
110.040	035	Tetrachloroethylene (Tetrachloroethene)	EPA 624.1

110.040	037	Toluene	EPA 624.1
110.040	038	1,1,1-Trichloroethane	EPA 624.1
110.040	039	1,1,2-Trichloroethane	EPA 624.1
110.040	040	Trichloroethylene (Trichloroethene)	EPA 624.1
110.040	041	Vinyl Chloride	EPA 624.1
110.040	043	o-Xylene	EPA 624.1
110.040	045	Trichlorofluoromethane	EPA 624.1
110.040	046	m+p-Xylene	EPA 624.1
110.040	047	2-Butanone (MEK)	EPA 624.1

Field of Accreditation: 111 - Semi-volatile Organic Constituents in Non-Potable Water

111.055	001	Aldrin	EPA 608.3
111.055	002	alpha-BHC	EPA 608.3
111.055	003	beta-BHC	EPA 608.3
111.055	004	delta-BHC	EPA 608.3
111.055	005	gamma-BHC (Lindane)	EPA 608.3
111.055	006	Chlordane	EPA 608.3
111.055	007	4,4'-DDD	EPA 608.3
111.055	008	4,4'-DDE	EPA 608.3
111.055	009	4,4'-DDT	EPA 608.3
111.055	010	Dieldrin	EPA 608.3
111.055	011	Endosulfan I	EPA 608.3
111.055	012	Endosulfan II	EPA 608.3
111.055	013	Endosulfan Sulfate	EPA 608.3
111.055	014	Endrin	EPA 608.3
111.055	015	Endrin Aldehyde	EPA 608.3
111.055	016	Heptachlor	EPA 608.3
111.055	017	Heptachlor Epoxide	EPA 608.3
111.055	019	PCB-1016 (Aroclor-1016)	EPA 608.3
111.055	020	PCB-1221 (Aroclor-1221)	EPA 608.3
111.055	021	PCB-1232 (Aroclor-1232)	EPA 608.3
111.055	022	PCB-1242 (Aroclor-1242)	EPA 608.3
111.055	023	PCB-1248 (Aroclor-1248)	EPA 608.3
111.055	024	PCB-1254 (Aroclor-1254)	EPA 608.3
111.055	025	PCB-1260 (Aroclor-1260)	EPA 608.3
111.160	001	Acenaphthene	EPA 625.1
111.160	002	Acenaphthylene	EPA 625.1
111.160	003	Anthracene	EPA 625.1
111.160	004	Benzidine	EPA 625.1
111.160	005	Benzo(a)anthracene	EPA 625.1
111.160	006	Benzo(a)pyrene	EPA 625.1
111.160	007	Benzo(b)fluoranthene	EPA 625.1
111.160	008	Benzo(g,h,i)perylene	EPA 625.1

111.160	009	Benzo(k)fluoranthene	EPA 625.1
111.160	010	Bis(2-chloroethoxy) Methane	EPA 625.1
111.160	011	Bis(2-chloroethyl) Ether	EPA 625.1
111.160	012	bis(2-Chloroisopropyl) ether (2,2'-Oxybis[1-chloropropane])	EPA 625.1
111.160	013	Bis(2-ethylhexyl)phthalate (Di(2-ethylhexyl) phthalate)	EPA 625.1
111.160	014	4-Bromophenyl Phenyl Ether	EPA 625.1
111.160	015	Butyl Benzyl Phthalate	EPA 625.1
111.160	016	2-Chloronaphthalene	EPA 625.1
111.160	017	4-Chlorophenyl Phenyl Ether	EPA 625.1
111.160	018	Chrysene	EPA 625.1
111.160	019	Dibenz(a,h)anthracene	EPA 625.1
111.160	020	3,3'-Dichlorobenzidine	EPA 625.1
111.160	021	Diethyl Phthalate	EPA 625.1
111.160	022	Dimethyl Phthalate	EPA 625.1
111.160	023	Di-n-butyl Phthalate	EPA 625.1
111.160	024	2,4-Dinitrotoluene	EPA 625.1
111.160	025	2,6-Dinitrotoluene	EPA 625.1
111.160	026	Di-n-octyl Phthalate	EPA 625.1
111.160	027	Fluoranthene	EPA 625.1
111.160	028	Fluorene	EPA 625.1
111.160	029	Hexachlorobenzene	EPA 625.1
111.160	030	Hexachlorobutadiene	EPA 625.1
111.160	031	Hexachloroethane	EPA 625.1
111.160	032	Indeno(1,2,3-c,d)pyrene	EPA 625.1
111.160	033	Isophorone	EPA 625.1
111.160	034	Naphthalene	EPA 625.1
111.160	035	Nitrobenzene	EPA 625.1
111.160	036	N-nitroso-di-n-propylamine	EPA 625.1
111.160	037	Phenanthrene	EPA 625.1
111.160	038	Pyrene	EPA 625.1
111.160	039	1,2,4-Trichlorobenzene	EPA 625.1
111.160	040	4-Chloro-3-methylphenol	EPA 625.1
111.160	041	2-Chlorophenol	EPA 625.1
111.160	042	2,4-Dichlorophenol	EPA 625.1
111.160	043	2,4-Dimethylphenol	EPA 625.1
111.160	044	2,4-Dinitrophenol	EPA 625.1
111.160	045	2-Methyl-4,6-dinitrophenol	EPA 625.1
111.160	046	2-Nitrophenol	EPA 625.1
111.160	047	4-Nitrophenol	EPA 625.1
111.160	048	Pentachlorophenol	EPA 625.1
111.160	049	Phenol	EPA 625.1
111.160	050	2,4,6-Trichlorophenol	EPA 625.1

111.160	108	N-nitrosodimethylamine	EPA 625.1
111.160	110	N-nitrosodiphenylamine	EPA 625.1
111.160	143	1,2-Diphenylhydrazine	EPA 625.1
111.160	145	Pyridine	EPA 625.1
111.160	151	2,4,5-Trichlorophenol	EPA 625.1

Field of Accreditation: 114 - Inorganic Constituents in Hazardous Waste

114.010	001	Antimony	EPA 6010 B
114.010	002	Arsenic	EPA 6010 B
114.010	003	Barium	EPA 6010 B
114.010	004	Beryllium	EPA 6010 B
114.010	005	Cadmium	EPA 6010 B
114.010	006	Chromium	EPA 6010 B
114.010	007	Cobalt	EPA 6010 B
114.010	008	Copper	EPA 6010 B
114.010	009	Lead	EPA 6010 B
114.010	010	Molybdenum	EPA 6010 B
114.010	011	Nickel	EPA 6010 B
114.010	012	Selenium	EPA 6010 B
114.010	013	Silver	EPA 6010 B
114.010	014	Thallium	EPA 6010 B
114.010	015	Vanadium	EPA 6010 B
114.010	016	Zinc	EPA 6010 B
114.020	001	Antimony	EPA 6020
114.020	002	Arsenic	EPA 6020
114.020	003	Barium	EPA 6020
114.020	004	Beryllium	EPA 6020
114.020	005	Cadmium	EPA 6020
114.020	006	Chromium	EPA 6020
114.020	007	Cobalt	EPA 6020
114.020	008	Copper	EPA 6020
114.020	009	Lead	EPA 6020
114.020	010	Molybdenum	EPA 6020
114.020	011	Nickel	EPA 6020
114.020	012	Selenium	EPA 6020
114.020	013	Silver	EPA 6020
114.020	014	Thallium	EPA 6020
114.020	015	Vanadium	EPA 6020
114.020	016	Zinc	EPA 6020
114.103	001	Chromium VI (Hexavalent Chromium)	EPA 7196 A
114.106	001	Chromium VI (Hexavalent Chromium)	EPA 7199
114.140	001	Mercury	EPA 7470 A
114.221	001	Cyanide, Total	EPA 9012 A

114.222	001	Cyanide, Total	EPA 9014
114.240	001	Corrosivity	EPA 9040 B
114.241	001	Corrosivity	EPA 9045 C
114.250	001	Fluoride	EPA 9056
114.270	001	Fluoride	EPA 9214

Field of Accreditation:115 - Leaching/Extraction Tests and Physical Characteristics of Hazardous Waste

115.020	001	Toxicity Characteristic Leaching Procedure (TCLP)	EPA 1311
115.021	001	TCLP Inorganics	EPA 1311
115.022	001	TCLP Extractables	EPA 1311
115.023	001	TCLP Volatiles	EPA 1311
115.030	001	Waste Extraction Test (WET)	CCR Chapter11, Article 5, Appe
115.040	001	Synthetic Precipitation Leaching Procedure (SPLP)	EPA 1312

Field of Accreditation:116 - Volatile Organic Compounds in Hazardous Waste

116.030	001	Gasoline Range Organics (GRO)	EPA 8015 B
116.080	000	Volatile Organic Compounds	EPA 8260 B
116.080	120	Oxygenates	EPA 8260 B
116.100	001	Total Petroleum Hydrocarbons - Gasoline (GRO)	LUFT GC/MS
116.110	001	Total Petroleum Hydrocarbons - Gasoline (GRO)	LUFT

Field of Accreditation:117 - Semi-volatile Organic Chemistry of Hazardous Waste

117.010	001	Diesel Range Organics (DRO)	EPA 8015 B
117.016	001	Diesel Range Organics (DRO)	LUFT
117.110	000	Extractable Organics	EPA 8270 C
117.210	000	Organochlorine Pesticides	EPA 8081 A
117.220	000	PCBs	EPA 8082

Field of Accreditation:120 - Physical Properties of Hazardous Waste

120.010	001	Ignitability	EPA 1010
120.010	001	Ignitability	EPA 1010
120.022	001	Ignitability	EPA 1030
120.022	001	Ignitability	EPA 1030

Field of Accreditation:126 - Microbiological Methods for Ambient Water

126.003	001	Total Coliform (Enumeration)	SM 9221 B,C-2006
126.003	002	Fecal Coliform (Enumeration)	SM 9221 C,E-2006
126.003	003	E. coli (Enumeration)	SM 9221 C,F-2006
126.007	001	E. coli (Enumeration)	SM 9223 B-2004
126.009	001	Fecal Streptococci	SM 9230 B-2007
126.013	001	Enterococci	SM 9230 D-2007
126.015	001	E. coli (Enumeration)	Colilert
126.017	001	E. coli (Enumeration)	Colilert 18
126.019	001	Enterococci	Enterolert

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

CALIFORNIA STATE

ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

CERTIFICATE OF ENVIRONMENTAL LABORATORY ACCREDITATION

Is hereby granted to

Aquatic Bioassay & Consulting Laboratories, Inc.

29 North Olive Street

Ventura, CA 93001

Scope of the certificate is limited to the
"Fields of Accreditation"
which accompany this Certificate.

Continued accredited status depends on compliance with applicable laws and regulations, proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of Section 100825, et seq. of the Health and Safety Code.

Certificate No.: **1907**

Effective Date: **8/1/2021**

Expiration Date: **7/31/2023**

Sacramento, California
subject to forfeiture or revocation

Christine Sotelo, Program Manager
Environmental Laboratory Accreditation Program

CALIFORNIA STATE
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Fields of Accreditation

Aquatic Bioassay & Consulting Laboratories, Inc.

29 North Olive Street
Ventura, CA 93001
Phone: 8056435621

Certificate Number: **1907**
Expiration Date: **7/31/2023**

Field of Accreditation: 113 - Environmental Toxicity Methods

113.010	001	Fathead Minnow (P. promelas)	Polisini & Miller (CDFG 1988)
113.010	003	Rainbow trout (O. mykiss)	Polisini & Miller (CDFG 1988)
113.011	001A	Fathead Minnow (P. promelas)	EPA 2000.0, Static
113.011	001B	Fathead Minnow (P. promelas)	EPA 2000.0, Static Renewal
113.012	011A	Daphnid (C. dubia)	EPA 2002.0, Static
113.012	011B	Daphnid (C. dubia)	EPA 2002.0, Static Renewal
113.013	003A	Rainbow trout (O. mykiss)	EPA 2019.0, Static
113.013	003B	Rainbow trout (O. mykiss)	EPA 2019.0, Static Renewal
113.014	012A	Daphnids (Daphnia spp.)	EPA 2021.0, Static
113.014	012B	Daphnids (Daphnia spp.)	EPA 2021.0, Static Renewal
113.015	017A	Amphipod (Hyalella spp.)	EPA-821-R-02-012, Static
113.015	017B	Amphipod (Hyalella spp.)	EPA-821-R-02-012, Static Renewal
113.021	006A	Silverside (Menidia spp.)	EPA 2006.0, Static
113.021	006B	Silverside (Menidia spp.)	EPA 2006.0, Static Renewal
113.022	009A	Mysid (M. bahia)	EPA 2007.0, Static
113.022	009B	Mysid (M. bahia)	EPA 2007.0, Static Renewal
113.023	007A	Topsmelt (A. affinis)	EPA-821-R-02-012, Static
113.023	007B	Topsmelt (A. affinis)	EPA-821-R-02-012, Static Renewal
113.031	001	Fathead Minnow (P. promelas)	EPA 1000.0
113.032	011	Daphnid (C. dubia)	EPA 1002.0
113.033	025	Green algae (S. capricornutum)	EPA 1003.0
113.042	006	Silverside (Menidia spp.)	EPA 1006.0
113.043	009	Mysid (M. bahia)	EPA 1007.0
113.045	007	Topsmelt (A. affinis)	EPA 600/R-95/136
113.045	018	Pacific oyster (C. gigas)	EPA 600/R-95/136
113.045	019A	Sand dollar (D. excentricus)	EPA 600/R-95/136, Fertilization Test
113.045	019B	Sand dollar (D. excentricus)	EPA 600/R-95/136, Development Test
113.045	021A	Purple sea urchin (S. purpuratus)	EPA 600/R-95/136, Fertilization Test
113.045	021B	Purple sea urchin (S. purpuratus)	EPA 600/R-95/136, Development Test
113.045	022	Red abalone (H. rufescens)	EPA 600/R-95/136
113.045	023	Mussels (Mytilus spp.)	EPA 600/R-95/136
113.045	024	Giant Kelp (M. pyrifera)	EPA 600/R-95/136
113.050	013	Amphipod (H. azteca)	EPA 600/R-99/064, EPA 100.1

As of 10/25/2021 , this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

113.053	013	Amphipod (H. azteca)	EPA 600/R-99/064, EPA 100.4
113.060	014	Amphipod (E. estuarius)	EPA 600/R-94/025, EPA 100.4

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

CALIFORNIA STATE

ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

CERTIFICATE OF ENVIRONMENTAL LABORATORY ACCREDITATION

Is hereby granted to

Eurofins Calscience, LLC

7440 Lincoln Way

Garden Grove, CA 92841-1427

Scope of the certificate is limited to the
"Fields of Accreditation"
which accompany this Certificate.

Continued accredited status depends on compliance with applicable laws and regulations, proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of
Section 100825, et seq. of the Health and Safety Code.

Certificate No.: **2944**

Effective Date: **10/1/2020**

Expiration Date: **9/30/2022**

Sacramento, California
subject to forfeiture or revocation

Christine Sotelo, Chief
Environmental Laboratory Accreditation Program

CALIFORNIA STATE
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Fields of Accreditation

Eurofins Calscience, LLC

7440 Lincoln Way
Garden Grove, CA 92841-1427
Phone: 7148955494

Certificate Number: 2944
Expiration Date: 9/30/2022

Field of Accreditation:102 - Inorganic Chemistry of Drinking Water			
102.040	003	Chlorate	EPA 300.1
102.045	001	Perchlorate	EPA 314.0
102.047	001	Perchlorate	EPA 331.0
102.264	001	Organic Carbon-Total (TOC)	SM 5310 D-2000
102.265	001	Dissolved Organic Carbon (DOC)	SM 5310 D-2000
Field of Accreditation:103 - Toxic Chemical Elements of Drinking Water			
103.140	019	Strontium	EPA 200.8
Field of Accreditation:104 - Volatile Organic Chemistry of Drinking Water			
104.030	001	1,2-Dibromoethane (EDB)	EPA 504.1
104.030	002	1,2-Dibromo-3-chloropropane (DBCP)	EPA 504.1
104.035	001	1,2,3-Trichloropropane (TCP)	SRL 524M-TCP
104.040	001	Benzene	EPA 524.2
104.040	007	n-Butylbenzene	EPA 524.2
104.040	008	sec-Butylbenzene	EPA 524.2
104.040	009	tert-Butylbenzene	EPA 524.2
104.040	010	Carbon Tetrachloride	EPA 524.2
104.040	011	Chlorobenzene	EPA 524.2
104.040	015	2-Chlorotoluene	EPA 524.2
104.040	016	4-Chlorotoluene	EPA 524.2
104.040	019	1,3-Dichlorobenzene	EPA 524.2
104.040	020	1,2-Dichlorobenzene	EPA 524.2
104.040	021	1,4-Dichlorobenzene	EPA 524.2
104.040	022	Dichlorodifluoromethane	EPA 524.2
104.040	023	1,1-Dichloroethane	EPA 524.2
104.040	024	1,2-Dichloroethane (Ethylene Dichloride)	EPA 524.2
104.040	025	1,1-Dichloroethylene (1,1-Dichloroethene)	EPA 524.2
104.040	026	cis-1,2-Dichloroethylene (cis 1,2 Dichloroethene)	EPA 524.2
104.040	027	trans-1,2-Dichloroethylene (trans- 1,2 Dichloroethene)	EPA 524.2
104.040	028	Dichloromethane (Methylene Chloride)	EPA 524.2
104.040	029	1,2-Dichloropropane	EPA 524.2
104.040	033	cis-1,3-Dichloropropylene (cis 1,3 Dichloropropene)	EPA 524.2
104.040	034	trans-1,3-Dichloropropylene (trans-1,3 Dichloropropene)	EPA 524.2
104.040	035	Ethylbenzene	EPA 524.2

104.040	037	Isopropylbenzene	EPA 524.2
104.040	039	Naphthalene	EPA 524.2
104.040	041	N-propylbenzene	EPA 524.2
104.040	042	Styrene	EPA 524.2
104.040	043	1,1,1,2-Tetrachloroethane	EPA 524.2
104.040	044	1,1,2,2-Tetrachloroethane	EPA 524.2
104.040	045	Tetrachloroethylene (Tetrachloroethene)	EPA 524.2
104.040	046	Toluene	EPA 524.2
104.040	047	1,2,3-Trichlorobenzene	EPA 524.2
104.040	048	1,2,4-Trichlorobenzene	EPA 524.2
104.040	049	1,1,1-Trichloroethane	EPA 524.2
104.040	050	1,1,2-Trichloroethane	EPA 524.2
104.040	051	Trichloroethylene (Trichloroethene)	EPA 524.2
104.040	052	Trichlorofluoromethane	EPA 524.2
104.040	054	1,2,4-Trimethylbenzene	EPA 524.2
104.040	055	1,3,5-Trimethylbenzene	EPA 524.2
104.040	056	Vinyl Chloride	EPA 524.2
104.040	059	o-Xylene	EPA 524.2
104.040	063	m+p-Xylene	EPA 524.2
104.045	001	Bromodichloromethane	EPA 524.2
104.045	002	Bromoform	EPA 524.2
104.045	003	Chloroform	EPA 524.2
104.045	004	Dibromochloromethane (Chlorodibromomethane)	EPA 524.2
104.050	002	Methyl tert-butyl Ether (MTBE)	EPA 524.2
104.050	003	tert-Amyl Methyl Ether (TAME)	EPA 524.2
104.050	004	Ethyl tert-butyl Ether (ETBE)	EPA 524.2
104.050	005	Trichlorotrifluoroethane (Freon 113)	EPA 524.2
104.050	006	t-Butyl alcohol (2-Methyl-2-propanol)	EPA 524.2

Field of Accreditation:105 - Semi-volatile Organic Chemistry of Drinking Water

105.085	001	1,4-Dioxane	EPA 522

Field of Accreditation:108 - Inorganic Constituents in Non-Potable Water

108.001	001	Specific Conductance	EPA 120.1 (1982 Rev.1.0)
108.013	001	Calcium	EPA 200.7 (1994 Rev. 4.4)
108.013	002	Magnesium	EPA 200.7 (1994 Rev. 4.4)
108.013	003	Phosphorus,Total	EPA 200.7 (1994 Rev. 4.4)
108.013	004	Potassium	EPA 200.7 (1994 Rev. 4.4)
108.013	005	Silica, Dissolved	EPA 200.7 (1994 Rev. 4.4)
108.013	006	Sodium	EPA 200.7 (1994 Rev. 4.4)
108.015	001	Calcium	EPA 200.8 (1994 Rev. 5.4)
108.015	002	Magnesium	EPA 200.8 (1994 Rev. 5.4)
108.015	003	Potassium	EPA 200.8 (1994 Rev. 5.4)
108.015	005	Sodium	EPA 200.8 (1994 Rev. 5.4)

108.017	001	Bromide	EPA 300.0 (1993 Rev. 2.1)
108.017	002	Chloride	EPA 300.0 (1993 Rev. 2.1)
108.017	003	Fluoride	EPA 300.0 (1993 Rev. 2.1)
108.017	004	Nitrate (as N)	EPA 300.0 (1993 Rev. 2.1)
108.017	005	Nitrate-Nitrite (as N)	EPA 300.0 (1993 Rev. 2.1)
108.017	006	Nitrite (as N)	EPA 300.0 (1993 Rev. 2.1)
108.017	007	Phosphate,Ortho (as P)	EPA 300.0 (1993 Rev. 2.1)
108.017	008	Sulfate (as SO4)	EPA 300.0 (1993 Rev. 2.1)
108.025	001	Ammonia (as N)	EPA 350.1 (1993 Rev. 2.0)
108.029	001	Kjeldahl Nitrogen,Total (as N)	EPA 351.2 (1993 Rev. 2.0)
108.035	001	Phosphate,Ortho (as P)	EPA 365.1 (1993 Rev. 2.0)
108.035	002	Phosphorus,Total	EPA 365.1 (1993 Rev. 2.0)
108.045	001	Chemical Oxygen Demand	EPA 410.4 (1993 Rev. 2.0)
108.047	001	Phenols, Total	EPA 420.1 (1978 Rev. 1.0)
108.053	001	Oil & Grease Total	EPA 1664 A
108.055	001	Color	SM 2120 B-2011
108.059	001	Turbidity	SM 2130 B-2011
108.063	001	Alkalinity	SM 2320 B-2011
108.065	001	Hardness (Calculation)	SM 2340 B-2011
108.067	001	Hardness	SM 2340 C-2011
108.069	001	Specific Conductance	SM 2510 B-2011
108.071	001	Residue, Total	SM 2540 B-2011
108.073	001	Residue, Filterable TDS	SM 2540 C-2011
108.075	001	Residue, Non-filterable TSS	SM 2540 D-2011
108.077	001	Residue, Volatile	SM 2540 E-2011
108.079	001	Residue, Settleable	SM 2540 F-2011
108.109	001	Chlorine, Total Residual	SM 4500-Cl F-2011
108.117	001	Chloride	SM 4500-Chloride C-2011
108.125	001	Cyanide, Total	SM 4500-CN E-2011
108.131	001	Fluoride	SM 4500-F C-2011
108.137	001	Hydrogen Ion (pH)	SM 4500-H+ B-2011
108.139	001	Ammonia (as N)	SM 4500-NH3 C-2011
108.139	002	Kjeldahl Nitrogen,Total (as N)	SM 4500-NH3 C-2011
108.140	001	Ammonia (as N)	SM 4500-NH3 D-2011
108.153	001	Nitrite (as N)	SM 4500-NO2 B-2011
108.157	001	Nitrate-Nitrite (as N)	SM 4500-NO3 E-2011
108.173	001	Oxygen, Dissolved	SM 4500-O G-2011
108.175	001	Phosphate,Ortho (as P)	SM 4500-P E-2011
108.175	002	Phosphorus,Total	SM 4500-P E-2011
108.201	001	Sulfide (as S)	SM 4500-S D-2011
108.207	001	Biochemical Oxygen Demand	SM 5210 B-2011
108.207	002	Carbonaceous BOD	SM 5210 B-2011

108.219	001	Organic Carbon-Total (TOC)	SM 5310 D-2011
108.225	001	Surfactants	SM 5540 C-2011

Field of Accreditation:109 - Metals and Trace Elements in Non-Potable Water

109.623	001	Aluminum	EPA 200.7 (1994 Rev. 4.4)
109.623	002	Antimony	EPA 200.7 (1994 Rev. 4.4)
109.623	003	Arsenic	EPA 200.7 (1994 Rev. 4.4)
109.623	004	Barium	EPA 200.7 (1994 Rev. 4.4)
109.623	005	Beryllium	EPA 200.7 (1994 Rev. 4.4)
109.623	006	Boron	EPA 200.7 (1994 Rev. 4.4)
109.623	007	Cadmium	EPA 200.7 (1994 Rev. 4.4)
109.623	008	Chromium	EPA 200.7 (1994 Rev. 4.4)
109.623	009	Cobalt	EPA 200.7 (1994 Rev. 4.4)
109.623	010	Copper	EPA 200.7 (1994 Rev. 4.4)
109.623	011	Iron	EPA 200.7 (1994 Rev. 4.4)
109.623	012	Lead	EPA 200.7 (1994 Rev. 4.4)
109.623	013	Manganese	EPA 200.7 (1994 Rev. 4.4)
109.623	014	Molybdenum	EPA 200.7 (1994 Rev. 4.4)
109.623	015	Nickel	EPA 200.7 (1994 Rev. 4.4)
109.623	016	Selenium	EPA 200.7 (1994 Rev. 4.4)
109.623	017	Silver	EPA 200.7 (1994 Rev. 4.4)
109.623	018	Thallium	EPA 200.7 (1994 Rev. 4.4)
109.623	019	Tin	EPA 200.7 (1994 Rev. 4.4)
109.623	020	Titanium	EPA 200.7 (1994 Rev. 4.4)
109.623	021	Vanadium	EPA 200.7 (1994 Rev. 4.4)
109.623	022	Zinc	EPA 200.7 (1994 Rev. 4.4)
109.625	001	Aluminum	EPA 200.8 (1994 Rev. 5.4)
109.625	002	Antimony	EPA 200.8 (1994 Rev. 5.4)
109.625	003	Arsenic	EPA 200.8 (1994 Rev. 5.4)
109.625	004	Barium	EPA 200.8 (1994 Rev. 5.4)
109.625	005	Beryllium	EPA 200.8 (1994 Rev. 5.4)
109.625	006	Boron	EPA 200.8 (1994 Rev. 5.4)
109.625	007	Cadmium	EPA 200.8 (1994 Rev. 5.4)
109.625	008	Chromium	EPA 200.8 (1994 Rev. 5.4)
109.625	009	Cobalt	EPA 200.8 (1994 Rev. 5.4)
109.625	010	Copper	EPA 200.8 (1994 Rev. 5.4)
109.625	012	Iron	EPA 200.8 (1994 Rev. 5.4)
109.625	013	Lead	EPA 200.8 (1994 Rev. 5.4)
109.625	014	Manganese	EPA 200.8 (1994 Rev. 5.4)
109.625	015	Molybdenum	EPA 200.8 (1994 Rev. 5.4)
109.625	016	Nickel	EPA 200.8 (1994 Rev. 5.4)
109.625	017	Selenium	EPA 200.8 (1994 Rev. 5.4)
109.625	018	Silver	EPA 200.8 (1994 Rev. 5.4)

109.625	019	Thallium	EPA 200.8 (1994 Rev. 5.4)
109.625	020	Tin	EPA 200.8 (1994 Rev. 5.4)
109.625	021	Titanium	EPA 200.8 (1994 Rev. 5.4)
109.625	022	Vanadium	EPA 200.8 (1994 Rev. 5.4)
109.625	023	Zinc	EPA 200.8 (1994 Rev. 5.4)
109.629	001	Chromium VI (Hexavalent Chromium)	EPA 218.6 (1994 Rev. 3.3)
109.635	001	Mercury	EPA 245.1 (1994 Rev. 3.0)
109.693	001	Iron	SM 3500-Fe B-2011

Field of Accreditation: 110 - Volatile Organic Constituents in Non-Potable Water

110.020	001	Benzene	EPA 602
110.020	006	Ethylbenzene	EPA 602
110.020	007	Toluene	EPA 602
110.040	001	Acetone	EPA 624.1
110.040	003	Acrolein	EPA 624.1
110.040	004	Acrylonitrile	EPA 624.1
110.040	005	Benzene	EPA 624.1
110.040	006	Bromodichloromethane	EPA 624.1
110.040	007	Bromoform	EPA 624.1
110.040	008	Bromomethane (Methyl Bromide)	EPA 624.1
110.040	009	t-Butyl alcohol (2-Methyl-2-propanol)	EPA 624.1
110.040	010	Carbon Tetrachloride	EPA 624.1
110.040	011	Chlorobenzene	EPA 624.1
110.040	012	Chloroethane	EPA 624.1
110.040	013	2-Chloroethyl vinyl Ether	EPA 624.1
110.040	014	Chloroform	EPA 624.1
110.040	015	Chloromethane (Methyl Chloride)	EPA 624.1
110.040	016	Dibromochloromethane (Chlorodibromomethane)	EPA 624.1
110.040	017	1,2-Dichlorobenzene	EPA 624.1
110.040	018	1,3-Dichlorobenzene	EPA 624.1
110.040	019	1,4-Dichlorobenzene	EPA 624.1
110.040	020	1,1-Dichloroethane	EPA 624.1
110.040	021	1,2-Dichloroethane (Ethylene Dichloride)	EPA 624.1
110.040	022	1,1-Dichloroethylene (1,1-Dichloroethene)	EPA 624.1
110.040	023	trans-1,2-Dichloroethylene (trans- 1,2 Dichloroethene)	EPA 624.1
110.040	024	1,2-Dichloropropane	EPA 624.1
110.040	025	cis-1,3-Dichloropropylene (cis 1,3 Dichloropropene)	EPA 624.1
110.040	026	trans-1,3-Dichloropropylene (trans-1,3 Dichloropropene)	EPA 624.1
110.040	029	Ethylbenzene	EPA 624.1
110.040	031	Methylene Chloride (Dichloromethane)	EPA 624.1
110.040	032	4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	EPA 624.1
110.040	034	1,1,2,2-Tetrachloroethane	EPA 624.1
110.040	035	Tetrachloroethylene (Tetrachloroethene)	EPA 624.1

110.040	037	Toluene	EPA 624.1
110.040	038	1,1,1-Trichloroethane	EPA 624.1
110.040	039	1,1,2-Trichloroethane	EPA 624.1
110.040	040	Trichloroethylene (Trichloroethene)	EPA 624.1
110.040	041	Vinyl Chloride	EPA 624.1
110.040	043	o-Xylene	EPA 624.1
110.040	045	Trichlorofluoromethane	EPA 624.1
110.040	046	m+p-Xylene	EPA 624.1
110.040	047	2-Butanone (MEK)	EPA 624.1

Field of Accreditation: 111 - Semi-volatile Organic Constituents in Non-Potable Water

111.055	001	Aldrin	EPA 608.3
111.055	002	alpha-BHC	EPA 608.3
111.055	003	beta-BHC	EPA 608.3
111.055	004	delta-BHC	EPA 608.3
111.055	005	gamma-BHC (Lindane)	EPA 608.3
111.055	006	Chlordane	EPA 608.3
111.055	007	4,4'-DDD	EPA 608.3
111.055	008	4,4'-DDE	EPA 608.3
111.055	009	4,4'-DDT	EPA 608.3
111.055	010	Dieldrin	EPA 608.3
111.055	011	Endosulfan I	EPA 608.3
111.055	012	Endosulfan II	EPA 608.3
111.055	013	Endosulfan Sulfate	EPA 608.3
111.055	014	Endrin	EPA 608.3
111.055	015	Endrin Aldehyde	EPA 608.3
111.055	016	Heptachlor	EPA 608.3
111.055	017	Heptachlor Epoxide	EPA 608.3
111.055	019	PCB-1016 (Aroclor-1016)	EPA 608.3
111.055	020	PCB-1221 (Aroclor-1221)	EPA 608.3
111.055	021	PCB-1232 (Aroclor-1232)	EPA 608.3
111.055	022	PCB-1242 (Aroclor-1242)	EPA 608.3
111.055	023	PCB-1248 (Aroclor-1248)	EPA 608.3
111.055	024	PCB-1254 (Aroclor-1254)	EPA 608.3
111.055	025	PCB-1260 (Aroclor-1260)	EPA 608.3
111.055	046	Methoxychlor	EPA 608.3
111.055	060	Toxaphene	EPA 608.3
111.070	001	Acenaphthene	EPA 610
111.070	002	Acenaphthylene	EPA 610
111.070	003	Anthracene	EPA 610
111.070	004	Benzo(a)anthracene	EPA 610
111.070	005	Benzo(a)pyrene	EPA 610
111.070	006	Benzo(b)fluoranthene	EPA 610

111.070	007	Benzo(g,h,i)perylene	EPA 610
111.070	008	Benzo(k)fluoranthene	EPA 610
111.070	009	Chrysene	EPA 610
111.070	010	Dibenz(a,h)anthracene	EPA 610
111.070	011	Fluoranthene	EPA 610
111.070	012	Fluorene	EPA 610
111.070	013	Indeno(1,2,3-c,d)pyrene	EPA 610
111.070	014	Naphthalene	EPA 610
111.070	015	Phenanthrene	EPA 610
111.070	016	Pyrene	EPA 610
111.160	001	Acenaphthene	EPA 625.1
111.160	002	Acenaphthylene	EPA 625.1
111.160	003	Anthracene	EPA 625.1
111.160	004	Benzidine	EPA 625.1
111.160	005	Benzo(a)anthracene	EPA 625.1
111.160	006	Benzo(a)pyrene	EPA 625.1
111.160	007	Benzo(b)fluoranthene	EPA 625.1
111.160	008	Benzo(g,h,i)perylene	EPA 625.1
111.160	009	Benzo(k)fluoranthene	EPA 625.1
111.160	010	Bis(2-chloroethoxy) Methane	EPA 625.1
111.160	011	Bis(2-chloroethyl) Ether	EPA 625.1
111.160	012	bis(2-Chloroisopropyl) ether (2,2'-Oxybis[1-chloropropane])	EPA 625.1
111.160	013	Bis(2-ethylhexyl)phthalate (Di(2-ethylhexyl) phthalate)	EPA 625.1
111.160	014	4-Bromophenyl Phenyl Ether	EPA 625.1
111.160	015	Butyl Benzyl Phthalate	EPA 625.1
111.160	016	2-Chloronaphthalene	EPA 625.1
111.160	017	4-Chlorophenyl Phenyl Ether	EPA 625.1
111.160	018	Chrysene	EPA 625.1
111.160	019	Dibenz(a,h)anthracene	EPA 625.1
111.160	020	3,3'-Dichlorobenzidine	EPA 625.1
111.160	021	Diethyl Phthalate	EPA 625.1
111.160	022	Dimethyl Phthalate	EPA 625.1
111.160	023	Di-n-butyl Phthalate	EPA 625.1
111.160	024	2,4-Dinitrotoluene	EPA 625.1
111.160	025	2,6-Dinitrotoluene	EPA 625.1
111.160	026	Di-n-octyl Phthalate	EPA 625.1
111.160	027	Fluoranthene	EPA 625.1
111.160	028	Fluorene	EPA 625.1
111.160	029	Hexachlorobenzene	EPA 625.1
111.160	030	Hexachlorobutadiene	EPA 625.1
111.160	031	Hexachloroethane	EPA 625.1
111.160	032	Indeno(1,2,3-c,d)pyrene	EPA 625.1

111.160	033	Isophorone	EPA 625.1
111.160	034	Naphthalene	EPA 625.1
111.160	035	Nitrobenzene	EPA 625.1
111.160	036	N-nitroso-di-n-propylamine	EPA 625.1
111.160	037	Phenanthrene	EPA 625.1
111.160	038	Pyrene	EPA 625.1
111.160	039	1,2,4-Trichlorobenzene	EPA 625.1
111.160	040	4-Chloro-3-methylphenol	EPA 625.1
111.160	041	2-Chlorophenol	EPA 625.1
111.160	042	2,4-Dichlorophenol	EPA 625.1
111.160	043	2,4-Dimethylphenol	EPA 625.1
111.160	044	2,4-Dinitrophenol	EPA 625.1
111.160	045	2-Methyl-4,6-dinitrophenol	EPA 625.1
111.160	046	2-Nitrophenol	EPA 625.1
111.160	047	4-Nitrophenol	EPA 625.1
111.160	048	Pentachlorophenol	EPA 625.1
111.160	049	Phenol	EPA 625.1
111.160	050	2,4,6-Trichlorophenol	EPA 625.1
111.160	098	Hexachlorocyclopentadiene	EPA 625.1
111.160	108	N-nitrosodimethylamine	EPA 625.1
111.160	110	N-nitrosodiphenylamine	EPA 625.1
111.160	140	Carbazole	EPA 625.1
111.160	141	o-Cresol	EPA 625.1
111.160	143	1,2-Diphenylhydrazine	EPA 625.1
111.160	145	Pyridine	EPA 625.1
111.260	041	N-nitrosodimethylamine	EPA 1625 B

Field of Accreditation:114 - Inorganic Constituents in Hazardous Waste

114.010	001	Antimony	EPA 6010 B
114.010	002	Arsenic	EPA 6010 B
114.010	003	Barium	EPA 6010 B
114.010	004	Beryllium	EPA 6010 B
114.010	005	Cadmium	EPA 6010 B
114.010	006	Chromium	EPA 6010 B
114.010	007	Cobalt	EPA 6010 B
114.010	008	Copper	EPA 6010 B
114.010	009	Lead	EPA 6010 B
114.010	010	Molybdenum	EPA 6010 B
114.010	011	Nickel	EPA 6010 B
114.010	012	Selenium	EPA 6010 B
114.010	013	Silver	EPA 6010 B
114.010	014	Thallium	EPA 6010 B
114.010	015	Vanadium	EPA 6010 B

114.010	016	Zinc	EPA 6010 B	
114.020	001	Antimony	EPA 6020	
114.020	002	Arsenic	EPA 6020	
114.020	003	Barium	EPA 6020	
114.020	004	Beryllium	EPA 6020	
114.020	005	Cadmium	EPA 6020	
114.020	006	Chromium	EPA 6020	
114.020	007	Cobalt	EPA 6020	
114.020	008	Copper	EPA 6020	
114.020	009	Lead	EPA 6020	
114.020	010	Molybdenum	EPA 6020	
114.020	011	Nickel	EPA 6020	
114.020	012	Selenium	EPA 6020	
114.020	013	Silver	EPA 6020	
114.020	014	Thallium	EPA 6020	
114.020	015	Vanadium	EPA 6020	
114.020	016	Zinc	EPA 6020	
114.103	001	Chromium VI (Hexavalent Chromium)	EPA 7196 A	
114.106	001	Chromium VI (Hexavalent Chromium)	EPA 7199	
114.140	001	Mercury	EPA 7470 A	Aqueous Only
114.141	001	Mercury	EPA 7471 A	
114.222	001	Cyanide, Total	EPA 9014	
114.241	001	Corrosivity - pH Determination	EPA 9045 C	
114.250	001	Fluoride	EPA 9056	
114.280	001	Organic Lead	HML 939-M	

Field of Accreditation:115 - Leaching/Extraction Tests and Physical Characteristics of Hazardous Waste

115.020	001	Toxicity Characteristic Leaching Procedure (TCLP)	EPA 1311	
115.021	001	TCLP Inorganics	EPA 1311	
115.022	001	TCLP Extractables	EPA 1311	
115.023	001	TCLP Volatiles	EPA 1311	
115.030	001	Waste Extraction Test (WET)	CCR Chapter11, Article 5, Appe	
115.040	001	Synthetic Precipitation Leaching Procedure (SPLP)	EPA 1312	

Field of Accreditation:116 - Volatile Organic Compounds in Hazardous Waste

116.020	030	Nonhalogenated Volatiles	EPA 8015 B	
116.030	001	Gasoline Range Organics (GRO)	EPA 8015 B	
116.040	041	Methyl tert-butyl Ether (MTBE)	EPA 8021 B	
116.040	061	Aromatic Volatiles	EPA 8021 B	
116.040	062	BTEX	EPA 8021 B	
116.080	000	Volatile Organic Compounds	EPA 8260 B	
116.080	120	Oxygenates	EPA 8260 B	
116.100	001	Total Petroleum Hydrocarbons - Gasoline (GRO)	LUFT GC/MS	
116.100	010	BTEX and MTBE	LUFT GC/MS	

116.110	001	Total Petroleum Hydrocarbons - Gasoline (GRO)	LUFT

Field of Accreditation:117 - Semi-volatile Organic Chemistry of Hazardous Waste

117.010	001	Diesel Range Organics (DRO)	EPA 8015 B
117.016	001	Diesel Range Organics (DRO)	LUFT
117.110	000	Extractable Organics	EPA 8270 C
117.140	000	Polynuclear Aromatic Hydrocarbons	EPA 8310
117.170	000	Nitroaromatics and Nitramines	EPA 8330
117.171	000	Nitroaromatics and Nitramines	EPA 8330 A
117.210	000	Organochlorine Pesticides	EPA 8081 A
117.220	000	PCBs	EPA 8082
117.240	000	Organophosphorus Pesticides	EPA 8141 A
117.250	000	Chlorinated Herbicides	EPA 8151 A

Field of Accreditation:120 - Physical Properties of Hazardous Waste

120.010	001	Ignitability	EPA 1010
120.040	001	Reactive Cyanide	Section 7.3 SW-846
120.050	001	Reactive Sulfide	Section 7.3 SW-846
120.080	001	Corrosivity - pH Determination	EPA 9045 C

Quality Assurance Manual for Environmental Analytical Services

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The NELAC Institute (TNI)
Management and Technical Requirements for Laboratories Performing Environmental Analysis
TNI Standard (EL-V1-2016-Rev 2.1) Effective December 6, 2016

1) Introduction

A. This Quality Assurance Manual is based upon the overall business and management philosophies, mission, and goals of Eurofins Calscience, ("Calscience", "the laboratory"). This manual is written to present the policies employed by the laboratory and the support departments that serve the laboratory and to comply with the requirements of the National Environmental Laboratory Accreditation Program (NELAP). These policies define the "what" we do with emphasis on management's responsibilities and commitment to quality. Governing SOPs are in place within the organization, to ensure the proper execution of this policy document and are referenced throughout the document.

B. This manual is required reading for laboratory personnel. The appendices are available resources to all personnel but are not required reading for all employees. The most recent and up-to-date Quality Assurance Manual and all referenced documents are available to all laboratory personnel who work in or support the laboratory.

2) Normative References

A. Environmental Laboratory Sector, Volume 1: Management and Technical Requirements for Laboratories Performing Environmental Analysis, Modules 1, 2 and 4, The NELAC Institute, 2016-Rev. 2.1 ("TNI 2016 V1")

B. Environmental Laboratory Sector, Volume 1: Management and technical Requirements for Laboratories Performing Environmental Analysis, Modules 1, 2, and 4, The NELAC Institute, 2009.

C. ISO/IEC 17025:2017.

3) Definitions

A. Definitions generally applicable to the laboratory are contained in Appendix 1.

B. Some specific definitions may appear in SOPs where they are used.

4) Quality Management System

4.1) Organization

A. Eurofins Calscience, LLC is a duly licensed business with its main offices at 2841 Dow Avenue, Suite 100, Tustin, CA 92780.

B. It is the intention of Calscience to conform to all requirements of its customers, the National Environmental Laboratory Accreditation Program (NELAP) and the current TNI Standard, the State of California SWRCB ELAP; and other State and Client Programs as accredited, certified, licensed or requested.

C. The laboratory performs its analytical and support work at its facility in Tustin, California. In addition, the laboratory maintains a Service Center in Concord, CA. All of these facilities and services operate under the management system described in this manual. The service center contact information is as follows: Phone: 925-689-9022, Fax: 925-689-9023 5063, Commercial Circle, Suite H, Concord, CA 94520-8577

D. Calscience is a stand-alone business entity that operates under Eurofins Environment Testing America Holdings, Inc., which is a wholly owned subsidiary of Eurofins Scientific SE, a publicly traded company. Eurofins is an organization of testing laboratories and does not engage in other types of environmental activities in the USA. There are no potential conflicts of interest due to this structure.

E. The organization, structure and work assignments ensure the following:

1. The laboratory's managerial and technical personnel have the authority and resources needed to carry out their duties.
2. Personnel will not be subjected to undue internal, external, commercial, financial or other pressure that could adversely affect the quality of their work. "Undue pressure" is addressed in the annual Ethics and Data Integrity Training given to all employees of the laboratory. Instructions for managing undue pressure are included in that training. See also the Data Integrity SOP, current revision. Employees may report to the following, as they feel comfortable:
   a. Their Chain of Command

b. Laboratory QA Staff
c. The corporate Quality Director
d. The corporate ethics hotline through Lighthouse Services (posters are placed throughout the lab)

3. The laboratory protects confidential information and proprietary rights of its customers at all times through rules on data distribution, management of confidentiality during site visits and data security.
4. Management and staff are expected to conduct themselves in an ethical manner at all times. Laboratory employees do not engage in activities that would compromise their ability to generate legally defensible, high quality data. This is also addressed in the Ethics and Data Integrity training given in the laboratory.
5. The laboratory is overseen by the Business Unit Manager (BUMa)/President. The Lab Director reports directly to the BUMa. Technical operations, Support services, Customer Services report to the Lab Director. Quality Assurance and Business Development report to the BUMa. Additionally, QA has a "dotted line" relationship with the Quality Assurance Director of Eurofins Environment Testing America Full organizational charts detailing the management structure of Eurofins Calscience, Inc. can be found in Appendix 3. The QA Department keeps the most up to date organizational chart.
6. This organizational chart shows the responsibility, authority and interrelationships of all personnel who manage, perform, or verify work. Through this organization, management provides adequate supervision of all employees and provides technical management with overall responsibility for the data produced in the laboratory.
7. The laboratory has a designated Quality Assurance (QA) Manager who, along with assigned staff, has responsibility and authority for ensuring that the management system related to quality is implemented and followed at all times. The QA Manager has direct access to the highest level of management in the local company. In addition, the QA Manager has support from the Eurofins Environment Testing America Corporate Quality Directors.
8. The laboratory appoints deputies for key personnel. These are included in a memo detailing Key Position Alternates that is updated regularly by the Laboratory Director and posted, among other places, outside the quality offices. Deputies are assigned for the following:
   a. Business Unit Manager
   b. Laboratory Director
   c. Quality Assurance Manager and other quality personnel
   d. Operations Manager
   e. Health and Safety Manager
   f. IT Manager
   g. All Project Management Personnel
   h. All Technical Group Leaders
9. The laboratory ensures that personnel are aware of the importance of their activities and how they contribute to the achievement of the objectives of the management system. This is mostly accomplished through initial and ongoing training, though additional communications may be used from time to time.

F. Top management ensures that appropriate communication processes are established with the laboratory and communication takes place regarding the effectiveness of the management system.
1. The laboratory uses a number of formal and informal mechanisms to provide this type of communication.
2. Meetings are held on a regular basis with Lab Director, operations management, quality assurance and project management personnel. These meetings are used to provide updates on management system issues, projects, technical issues, as well as training on a wide range of topics, including the management system. Group leaders are charged to carry information from these meetings to personnel in their groups.
3. Training sessions are held as necessary to meet requirements for annual ethics, data integrity and computer security awareness as well as other important topics.
4. Laboratory management relays information updates on laboratory status, goals, and issues important to personnel, including the management system, via in-person and virtual intergroup meetings and email communications.

G. The Quality Assurance Manager and quality staff are empowered and responsible for the following:
1. Serve as the focal point for QA/QC and be responsible for the oversight and/or review of quality control data;

2. Have functions independent from laboratory operations for which they have quality assurance oversight;
3. Be able to evaluate data objectively and perform assessments without outside (e.g., managerial) influence;
4. Have documented training and/or experience in QA/QC procedures and the laboratory's quality system;
5. Have a general knowledge of the analytical methods for which data review is performed;
6. Maintain the currency of the quality assurance manual and review it at least annually
7. Arrange for or conduct internal audits as per Section 4.14 annually;
8. Notify laboratory management of deficiencies in the quality system;
9. Monitor corrective actions;
10. Implement, maintain and improve the management system using audit results, control charts, proficiency testing results, data analysis, corrective and preventive actions, customer feedback, and management reviews to observe for possible trends; and
11. Stop work if the system is deemed to be out of control.

H. The laboratory's Technical Manager (Lab Director), Operations Manager, technical Group Leaders and their designees:
1. Are members of the staff who exercise actual day-to-day supervision of laboratory operations for the appropriate fields of accreditation and reporting of results;
2. Are experienced in the fields of accreditation for which the laboratory is accredited;
3. Have duties that include monitoring standards of performance in quality control and quality assurance, and monitoring the validity of the analyses performed and data generated in the laboratory to assure reliable data.
4. If absent for a period of time exceeding fifteen (15) consecutive calendar days, must designate another full-time staff member meeting the qualifications of the technical manager(s) to temporarily perform this function. If this absence exceeds thirty-five (35) consecutive calendar days, the primary accreditation body must be notified in writing;
5. Meet the qualification requirements of the standard.
   a. Have a bachelor's degree in the chemical, environmental, biological sciences, physical sciences, or engineering, with at least 24 college semester hours of chemistry.
   b. Have at least two years of experience in the environmental analysis of representative inorganic and organic analytes for which the laboratory is accredited.
   c. Other options are available and are fully described in the standard (TNI 2009/2016 V1M2, Section 5.2.6.1)

I. All personnel in these positions are full-time personnel who do not work in other accredited laboratories.

4.2) Management

A. Beginning with this quality assurance manual, the laboratory has established a management system appropriate to its activities. The system is described in this quality assurance manual, which includes the laboratory policies and includes or references descriptions of its systems and programs and its procedures and instructions.
1. The management system is designed to assure the quality of the laboratory's tests are known and documented. Further, the system describes how these documents are made available to laboratory personnel and requires that personnel understand and implement the requirements contained in them. All copies of management system documentation are provided in English to accreditation bodies.
2. The system is designed to support the Calscience Mission Statement: Calscience strives to be the leading full-service environmental testing laboratory in the Western United States by having unsurpassed capacity, exceptional customer service, continual quality improvement and consistently superior TAT.

B. Management's Quality Policy Statement
1. Calscience is committed to providing its customers with environmental data that is reliable, defensible, and of known and documented quality. We continually strive to meet our customer's requirements and exceed their expectations.
2. This Quality Assurance Manual and related documentation describes the policies and procedures used to meet that commitment. The Manual is designed to meet the Standards used in the NELAP, the State of California SWRCB ELAP, and other government and customer requirements. Laboratory management is committed to the quality improvement processes described in these

standards and to providing the resources to ensure laboratory personnel can honor that commitment.

3. Laboratory personnel whose responsibilities include any aspect of testing activities are required to familiarize themselves with all of the quality documentation associated with their job function and to implement the policies and procedures described in that documentation into all of their work in the laboratory. Laboratory personnel acknowledge this responsibility on annual review of the Employee Handbook by acknowledging they have read, understood and agree to act accordingly.
4. Management reviews this Quality Policy and the objectives listed below during the annual Management Review. The signatures of management personnel on this Quality Assurance Manual indicate their concurrence and support of this Policy.

C. Quality Objectives
   1. Laboratory Management Personnel
      a. Commit to a quality improvement approach to management that focuses on problem solving through system improvement.
      b. Provide the resources necessary to allow laboratory personnel to successfully meet customer requirements while maintaining all quality standards.
      c. Provide a work environment that ensures accessibility to all levels of management and encourages personnel to raise questions, voice concerns, and participate in system development.
   2. Laboratory Analytical Personnel
      a. Perform all analyses and related tasks according to documented procedures.
      b. Record all required and relevant observations completely, accurately, honestly and in "real time".
      c. Respond immediately to indications of questionable data, equipment malfunctions, and quality control failures by taking appropriate actions as governed by laboratory procedures and communicating the issues to supervisory personnel.
      d. Work diligently to meet client needs, including turn-around times, while always keeping quality requirements as the most important objective.

D. Top management is committed to development and implementation of the management system and to continually improving its effectiveness through consistent internal audits, management reviews, corrective and preventive action and on-going training of personnel.

E. Top management communicates to the organization the importance of meeting customer as well as statutory and regulatory requirements through the quality system as well as on-going meetings and other communications. See 4.1.F.

F. This quality assurance manual includes or references all procedures and outlines the documentation structure of the management system. The Standards under which the laboratory operates include specific requirements for the quality assurance manual and for technical SOPs, as well as for laboratory operations. The documentation system of the laboratory is designed to capture the requirements contained in these normative documents and provide them to laboratory personnel as applicable.
   1. The quality assurance manual is the over-arching, primary document in the system.
   2. Standard Operating Procedures are referenced by the quality assurance manual and describe how to perform required procedures.
   3. Data is captured using forms that are referenced by the SOPs.

G. The roles and responsibilities of technical management and the Quality Assurance Manager, including compliance with the Standard, are defined in this manual (See Section 4.1), in job descriptions, and where specific responsibilities are required for particular processes, in the SOPs governing those processes.

H. Top management ensures the integrity of the management system when changes are planned and implemented.
   1. Changes to computer systems are monitored and documented in OTRS. OTRS (Open-Source Ticket Request System) is an internal website that allows users and agents to document and resolve IT related problems. Changes to the Laboratory Information Management System (LIMS) are relayed to pertinent users via email posts.
   2. Method changes require demonstration of capability and governing document updates prior to implementation.
   3. Preventive action processes are used to develop and implement changes to the management system.

I. Additional Requirements

1. Data Integrity-The laboratory maintains a Data Integrity Program as a part of its Ethics requirements. The program is described in Section 4.16 of this quality assurance manual and in the SOP referenced in that section.
   a. Procedures are in place for confidential reporting of data integrity issues.
   b. Management shall be informed of the need for detailed investigation.
2. The Quality Assurance Manager is responsible for keeping the Quality Assurance Manual current.
3. This Quality Assurance Manual contains the following required elements:
   a. Title - "Quality Assurance Manual for Analytical Services, Eurofins Calscience";
   b. Official name and address - Eurofins Calscience, 2841 Dow Ave., Suite 100, Tustin, CA 92780.
   c. Major organizational units included in Organizational Chart found in Appendix 3 with effective date of the current version.
   d. Approved Signatories-The Business Unit Manager, Laboratory Director and all project managers are authorized to sign reports. Certain Quality Assurance personnel are authorized to sign reports that are for internal use. Additionally, some project manager assistants are authorized to sign preliminary reports and final reports under certain conditions. The Quality Assurance group keeps a current list of approved signatories.
   e. The laboratory uses electronic signatures on reports for customers. The IT group collects electronic copies of authorized user's actual signature. They are stored securely and attached to the authorized user's login, where they are made available for use on reports.
   f. The objectives of the laboratory and official quality policy statement are found in section 4.2.B and C.
4. This Quality Assurance Manual contains or references the following:
   a. All maintenance, calibration and verification procedures found in associated technical and operational SOPs;
   b. Major equipment inventory maintained by the Facilities Manager, reference measurement standards obtained from a list of certified vendors maintained by QA, and facilities and services obtained from a list maintained by Operations are used by the laboratory in conducting tests;
   c. Verification practices include proficiency testing and internal QC schemes found in Internal Quality Control Checks SOP, current version, and use of certified reference materials from the certified vendor list maintained by QA;
   d. Procedures for reporting analytical results found in various operational SOPs including current versions of Detection Limits, T009 - Electronic Transmission of Test Results, T015 - Correction/Prevention of Errors in Test Records, T017 - Electronic Data Capture and Reporting, T026 - Data Qualifiers, T040 - Electronic Data Deliverables, and information related to LIMS can also be found on the corporate intranet.
   e. Organization and management structure of the laboratory, its place in parent organization and organizational charts included in Section 4.1 and Appendix 3 of this Quality Manual;
   f. Procedures to ensure that records required in the most current TNI 2009/2016 Standard are retained, procedures for control and maintenance of documentation through systems that ensure all SOPs, manuals, or documents indicate the time period that the procedure or document was enforced found in the Document Control SOP, current version;
   g. Job descriptions of key staff and reference to job descriptions of other staff contained in Appendix 2 of this Quality Manual;
   h. Procedures for achieving traceability of measurements found in various SOPs including current revisions of Reagents and Standards, Support Equipment, T041 - Electronic Data, T063 - LIMS, T064 - Sample Container Prep, Sample Receipt and Login Procedures, etc.;
   i. Laboratory's lists of approved methods included on the applicable scopes of accreditation, which are available electronically in the quality department files;
   j. Procedures for ensuring that the laboratory reviews all new work to ensure it has the appropriate resources before beginning that work found in Project Management, Section - Project Development;
   k. Procedures for handling samples contained in Sample Receipt and Login Procedures, current revision;
   l. Procedures for feedback and corrective action when testing discrepancies are found or deviations from documented policies and procedures occur covered in SOP-T022 - Corrective/Preventive Actions as well as Annual Ethics and Data Integrity Training and using eJIRA PowerPoint presentations;

m. Policies for permitting departures from documented policies and procedures or from standard specifications defined in analytical SOPs when outliers do not appear to be systemic and are handled using data qualifiers or nonconformance memos (narratives) or handled through client-specific Quality Assurance Plans that are agreed upon and documented prior to any work being performed, which are stored electronically by the QA Department;
n. Procedures for dealing with complaints included in SOP-T018 - Handling of Inquiries and Complaints, current version and section 4.8 of this QAM;
o. Procedures for protecting confidentiality (including national security concerns), and proprietary information presented in Annual Ethics and Data Integrity Training and QAM section 4.7 - Service to the Client;
p. Procedures for audits and data review found in QAM Section 4.14, SOP-T020 - Internal Quality Control Checks, Internal Audits, and Project Management include;
    i. internal data reviews consisting of a 3-tiered system of verification that includes 100% review by the analyst, 100% verification review by a technically qualified supervisor or data review specialist, and a final administrative review performed by Project Management. The analyst and verification review fulfills the following objectives:
        1. determines whether the results meet the lab specific quality parameters;
        2. verifies consistency with project specific criteria, such as those found in a Quality Assurance Project Plan;
        3. ensures the appropriate sample preparatory and analytical SOPs and methods were followed and that chain of custody and holding time requirements were met;
        4. confirms all calibration and quality control requirements were met;
        5. checks for complete qualification of anomalous results and corrections.
q. Procedures for ensuring that staff is adequately experienced in the processes they perform and receive needed training are included in the Employee Training SOP to include new employee procedures, IDOC/CDOC, continuous training procedures. Internal audits and proficiency testing also support this objective. Training is also addressed in section 5.2.B of this Quality Manual;
r. A policy addressing the use of unique electronic signatures found above in section 4.2.I.3. of this Quality Manual.

5. SOPs are maintained that accurately reflect current laboratory activities, such as assessing data integrity, corrective actions, customer complaints, and all methods.
    a. These documents may be equipment manuals or internally written documents with enough detail that someone qualified could reproduce the procedures used to generate the test results.
    b. SOPs are readily available to pertinent staff.
    c. Each SOP has the effective date, the revision number and the signature of approver (or equivalent).
    d. Documents that contain sufficient information to be used as written do not need to be revised if selected options are included.
    e. The laboratory has an SOP for each accredited analyte or method.
    f. An SOP may be a copy of a published or referenced method. If modifications are made where a method provides insufficient detail, the changes are clearly described.
    g. Each SOP includes or references the 23 elements listed in TNI section 4.2.8.5.f) as indicated in Analytical and Operations SOP templates and SOP Preparation, Review, and Revision.

4.3) Document Control

A. General
    1. The laboratory has established and maintains procedures to control all documents that form part of its management system (internally generated or from external sources), such as regulations, standards, other normative documents, test and/or calibration methods, as well as drawings, software, specifications, instructions and manuals. The procedures are detailed in Calscience SOPs, Document Control and SOP Preparation, Review, and Revision. The former document details the overall document control program while the latter provides specific instructions and templates for writing Standard Operating Procedures and related documents.
B. Document Approval and Issue
    1. All documents issued to personnel in the laboratory as part of the management system are reviewed and approved according to the procedure in SOP Preparation, Review, and Revision.

2. All documents issued to personnel in the laboratory as part of the management system are approved by appropriate management prior to use.
   a. The Quality Assurance Manual, which must be approved by the Business Unit Manager, Quality Assurance Manager, and Laboratory Director.
   b. Documents applicable to management, quality, and resources of the laboratory must be approved by the Group Leader (as applicable) and the QA Manager. In some cases, only the QA Manager will be required to approve the document.
   c. Documents applicable to a specific laboratory production or support group must be approved by the Group Leader (as applicable) and the assigned QA Specialist (or QA Manager). Exceptions may be made for some analyst aids (such as posted Linear Range Summaries), which must only be approved by the group leader.
   d. Instrument manuals are tacitly approved for use through the purchase of the instrument and are kept in the laboratory near the instrument or in a designated area in the QA Offices.
3. Master lists are used to identify the current revision status and distribution of documents in the management system. See the Document Control SOP for further information.
4. The procedure(s) adopted ensure the following:
   a. Authorized editions of appropriate documents are available in either the electronic document control platform, D4, or in the Q: Drive, accessible to all laboratory staff with logon credentials. The Q: Drive is available at all work station locations where operations essential to the effective functioning of the laboratory are performed.
   b. Documents are periodically reviewed and, where necessary, revised to ensure continuing suitability and compliance with applicable requirements.
      i. This Quality Assurance Manual will be reviewed annually.
      ii. Method SOPs are reviewed every two years.
      iii. Other documents written internally are reviewed periodically.
      iv. External documents that may change are verified every two years.
      v. External documents that do not change, such as manufacturers' instrument manuals, are not reviewed.
   c. Invalid or obsolete documents are promptly retired from use to prevent unintended use.
   d. Any remaining paper documents from the previous document control system have been removed from use and shredded with the exception the master copy, which is marked "Obsolete" and placed in archive. Electronic documents are removed from the active directory and placed into document archive files.
   e. When a new document is published, appropriate personnel are notified through email. Group Leaders are responsible for ensuring their employees receive the notification.
5. Management system documents generated by the laboratory are uniquely identified and include any document providing instructions to laboratory personnel. The identification system is detailed in the Document Control SOP.

C. Document Changes
1. Changes to documents are reviewed and approved by the same laboratory positions as approved the original document, or their designee. See Section 4.3.b above. The requirements and specifics, including specific responsibilities, are included in the Document Control SOP.
2. Altered or new text, when practical, is identified by the use highlighted yellow font in the finished version of the document. Use of a highlighted font is considered not practical when a significant rewrite of a document is performed.
3. Amendment of documents by hand is not allowed.

4.4) Review of Requests, Tenders and Contracts

A. The laboratory has established and maintains procedures for the review of requests, tenders and contracts. The policies and procedures adopted for these reviews leading to a contract are intended to ensure the following:
1. The requirements, including the methods to be used, are adequately defined, documented and understood.
2. The laboratory has the capability and resources to meet the requirements.
3. The appropriate test and/or calibration method is selected and is capable of meeting the customers' requirements. Any deviations from the published test method must be communicated to the customer. See Section 5.4.A.5.

4. Any differences between the request or tender and the contract must be resolved before any work commences. Each contract must be acceptable both to the laboratory and to the customer.
5. The review of requests, tenders and contracts may be simplified for internal customers.
6. A contract may be any written or oral agreement to provide a customer with testing services.

B. Records of reviews, including any significant changes, are maintained. Records are also maintained of pertinent discussions with a customer relating to the customer's requirements or the results of the work during the period of execution of the contract. A more detailed explanation of the processes used to meet these requirements are contained in the Calscience SOP- Business Development, current version.
1. The method of recording the review depends on the type of review required.
2. For large sample contracts, the client usually contacts the laboratory prior to bringing samples to the laboratory. Any telephone conversations will be confirmed by e-mail to the client stating the expected samples, the methods that will be used, etc. These electronic communications are maintained as a record of the review. In addition, checklists are developed for review of RFPs and associated project plans or sampling and analysis plans (SAPs). For ongoing projects, this review only needs to be performed at the outset and if any changes are made.
3. For walk-in clients, a chain of custody is required. If clients do not bring one in with their samples, the laboratory provides one and requests that it be filled out. The laboratory reviews the COC as part of the login process and ensures the specific methods to be used are listed. A laboratory representative signs the COC and provides a copy to the client. This becomes the record of the review.
4. If samples are shipped in without prior notice, the same procedures as for walk-in clients are followed, but the copy of the COC is provided to the client by mail or electronic mail.

C. The review must also cover any work that is subcontracted by the laboratory. Subcontracting is detailed in the Section 4.5 of this Quality Assurance Manual.

D. The customer must be informed of any deviation from the contract. Usually, this communication is made by electronic mail. If made by other means, e.g., telephone call, e-mail confirmation will be performed to provide a written record.

E. If a contract needs to be amended after work has commenced, the same contract review process must be repeated and any amendments are communicated to all affected personnel.

4.5) Subcontracting of Environmental Tests

A. When the laboratory subcontracts work, whether because of unforeseen reasons (e.g. workload, need for further expertise or temporary incapacity) or on a continuing basis (e.g. through permanent subcontracting, agency or franchising arrangements), this work shall be placed with a competent subcontractor. A competent subcontractor is one that holds an appropriate accreditation for the work in question.

B. Proper accreditation is confirmed by initial and then by at least annual review of the subcontract laboratory's accreditation certificate(s). Additionally, Calscience sends instructions with each subcontracted job requiring the subcontract laboratory to notify Calscience of the following:
1. Any changes or loss of accreditation or certification for the applicable analyses,
2. Any analyses for which the laboratory has had unacceptable PT results that are not able to be addressed through corrective action, and
3. Need to further subcontract the sample analyses to a different subcontracting laboratory, including any "in-network" laboratory operating under a different accreditation or certification.

C. The laboratory advises the customer of the arrangement in writing and, when appropriate, gains the approval of the customer, preferably in writing. Personnel from Calscience's Project Management group are tasked with management of subcontracting.
1. In the case of large contract work, notification is done as part of the contracting procedure described in the previous section. (Section 4.4)
2. In the case of walk-in or other individual lot type of work, the need to subcontract will be included on the COC that is copied and given to the customer or in an e-mail to the customer. If by e-mail, it is the project manager's responsibility to maintain the e-mail as a record of notification.
3. In some cases, customers may give a standing order to subcontract their samples. Records of such an order must be maintained by the project manager.

D. The laboratory is responsible to the customer for the subcontractor's work, except in the case where the customer or a regulatory authority specifies which subcontractor is to be used.

E. The Project Management group maintains a list of all subcontractors that it uses for tests and a record of having reviewed the appropriate accreditation certificate(s) for the tests that are subcontracted.
F. The laboratory performing the subcontracted work is indicated in the final report. The laboratory will make a copy of the subcontractor's report available to the client when requested.
G. Procedure:
   1. The project manager generates a separate chain of custody to accompany the subcontracted samples to the designated laboratory. In some instances, the client will deliver samples directly to the subcontract lab due logistics such as short holding times.
   2. The PM gathers the sample containers to be shipped and places them in a designated area in the sample receiving walk-in cooler. If samples are required to be split, PM personnel ensure that the proper splits are prepared.
   3. PM or sample management personnel attach a sheet to the CoC noting the requirements listed in 4.5.B above for a new subcontract lab.
   4. Sample management personnel load the cooler and ship the samples to the subcontract laboratory.

4.6) Purchasing Services and Supplies

A. The laboratory has a policy and procedure(s) for the selection and purchasing of services and supplies it uses that affect the quality of the tests. The policy of the laboratory is to purchase items that will be of sufficient quality to complete testing in compliance and to not adversely affect the processes. Procedures exist for the purchase, reception and storage of reagents and laboratory consumable materials relevant for the tests as described below.
B. The laboratory ensures that purchased supplies and reagents and consumable materials that affect the quality of analyses are not used until they have been inspected or otherwise verified as complying with standard specifications or requirements defined in the methods for the analyses concerned. These services and supplies used are selected to comply with specified requirements. Records of actions taken to check compliance are maintained.
   1. In general; supplies, reagents and consumable materials are purchased so that no additional testing is required prior to use. In this case, the initials of the person receiving the material state that the correct material was received, based on the ordering information, and it is, therefore, compliant.
   2. In cases where there is no history with a vendor or where a particular supply has been shown to require testing, the testing is performed and records of the results tied to the lot of material tested, are maintained by the Group Leader where the supplies are used.
   3. Reagents and standards used in analysis have some more specific requirements for inspection and testing. These requirements are included in the Reagents and Standards SOP, current version.
   4. Equipment that may affect quality is calibrated or otherwise demonstrated to be suitable prior to use. Requirements and records are maintained as described in the related technical documents; such as method SOPs, support equipment SOPs, etc.
C. Purchasing documents for items affecting the quality of laboratory output are required to contain data describing the services and supplies ordered. Review and approval for technical content is performed prior to release. The manner in which this is performed depends on the type of supply or service.
   1. Many routine consumable supplies are included in a stockroom supply contract. The specific items to be stocked are approved by the Group Leader who prepares the list for their area on an annual basis.
   2. Items such as solvents and acids are ordered in bulk after consultation with Group Leaders. Specific grades are specified in the Reagents and Standards SOP.
   3. Large equipment purchases are approved by laboratory (technical) management or corporate technical areas.
   4. Other supplies or services are approved on an individual basis by Group Leaders or designees as part of their sign-off in the routine ordering process.
D. The laboratory evaluates suppliers of critical consumables, supplies and services that affect the quality of testing and calibration, and maintains records of these evaluations and list those approved.
   1. Large supply houses, such as Fisher Scientific and VWR, supplying consumable materials that do not require traceability are considered to be approved for use unless proven otherwise.

2. Vendors providing calibration services and reference materials used for calibration must be able to provide certificates of accreditation for the specific services or materials provided through an internationally-recognized ISO Accreditation Body and must be able to provide endorsed certificates of calibration under the appropriate ISO or national standard in order to be considered approved. Where accredited reference materials are not available, other requirements apply. See the Calscience SOPs Reagents and Standards, Support Equipment, and Thermometer Verification and Temperature Monitoring, current versions, for further information.
3. Consultants are approved based on evaluation of their work history and, if deemed necessary by the Laboratory Director or designee, by reference.
4. The corporate purchasing system does not include technical vendor approval. Calscience maintains a list of approved vendors in the Laboratory Operations office.

4.7) Service to the Client

A. The laboratory is willing to cooperate with customers or their representatives in clarifying the customer's request and in monitoring the laboratory's performance in relation to the work performed, provided that the laboratory can ensure confidentiality to other customers.
   1. The laboratory will provide the customer or the customer's representative reasonable access to relevant areas of the laboratory for the witnessing of tests performed for the customer, provided this can be done while ensuring confidentiality to other customers.
   2. Customers wishing to perform on-site audits of the laboratory must commit to maintaining confidentiality. The laboratory maintains an SOP and confidentiality agreement for external audits, Calscience SOP Customer and Regulatory Audits, T-027, current version.
      Note: Assessors representing State and Third Party Accreditation Bodies, or similar agencies bound by their own confidentiality policies, are not included under this clause.
   3. If requested, the laboratory will help with preparation, packaging, and dispatch of samples needed by the customer for verification purposes.
   4. The laboratory will take other such reasonable actions requested by the customer.
B. The laboratory seeks feedback, both positive and negative, from its customers. The feedback is used and analyzed to improve the management system, testing activities, and customer service.
   1. Feedback is solicited with each electronic report sent to the customer.
   2. Feedback collected is included for review in the annual Management Review.

4.8) Complaints

A. The laboratory has a policy and procedure for the resolution of complaints received from customers or other parties. Records are maintained of all complaints and of the investigations and corrective actions taken by the laboratory.
B. All complaints must be recorded and investigated at least sufficiently enough to determine whether they are with or without merit.
   1. Complaints are recorded in the eJIRA system by the person who receives the complaint. The "issue" screen is filled out down through the "Description" section of the screen.
   2. That individual either investigates the complaint or assigns the investigation to another individual using the eJIRA system.
C. Complaints are initially evaluated as justified, e.g., complaints about missed turn-around times or results that are found to have been reported erroneously, or as unjustified, e.g., complaints about results that, while not desired, are in fact correct or about pricing that was previously accepted.
   1. Record the investigation in the "Investigation" field
   2. Conclude that that investigation is justified or not.
D. Complaints that are found to be justified are placed into the corrective action system for disposition. In eJIRA, an ICAR is created, the issues are further investigated, root cause is determined, actions are taken and all of these steps are recorded as described in the corrective action procedures.

4.9) Control of Nonconforming Environmental Testing Work

A. The laboratory has a policy and procedures that must be implemented when any aspect of its testing work, or the results of this work, do not conform to its own procedures or the agreed requirements of the customer. The policy of the laboratory is that non-conforming work must be

addressed as defined below or in pertinent SOPs so that the needs of the customer are met. Examples of places non-conforming work could occur include customer complaints, quality control, instrument calibration, checking of consumable materials, staff observations or supervision, test report checking, management reviews and internal or external audits.

1. The responsibilities and authorities for the management of nonconforming work are as follows.
   a. All laboratory personnel are responsible for taking appropriate action when non-conforming work is identified, including notification of the Laboratory Director, if needed. In many cases, the appropriate action is defined in the analytical SOPs.
   b. All personnel may stop work when non-conforming work is identified, but the Group Leader, Operations Manager, Laboratory Director, QA representative or QA manager must be notified of a stoppage as soon as is feasible.
   c. The Laboratory Director, QA Manager, Operations Manager or their designees, are authorized to recall work or withhold analytical reports, if necessary.
2. An evaluation of the significance of the nonconforming work is made. Exceptions are first evaluated by the analyst or other personnel performing the work and their group leader.
3. Correction is taken immediately, together with any decision about the acceptability of the nonconforming work. "Corrections" are things done to continue working, report the data, and fix the immediate problem. Note that this is different than corrective action, which is described in Section 4.11.
4. Where necessary, the customer is notified and work is recalled. The responsibility for authorizing the resumption of work is given to the Laboratory Director, or designee, in consultation with the QA manager and following the review of root cause(s) and corrective action.

B. Where the evaluation indicates that the nonconforming work could recur or that there is doubt about the compliance of the laboratory's operations with its own policies and procedures, the corrective action procedures given in 4.11 shall be promptly followed.

4.10) Improvement

A. The laboratory strives to continually improve the effectiveness of its management system through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management review.
B. Personnel are encouraged to bring to the attention of management items that may improve the functioning of the laboratory and its management system.
C. Improvements must be vetted and follow the change control procedures used in the laboratory to ensure continuing compliance with policies, Standards, regulations, methods, etc.

4.11) Corrective Action

A. General
   1. The laboratory policy is to take appropriate corrective action whenever departures from the laboratory's policies and procedures are identified in the management system or the laboratory's technical operations. This is done using the procedures described below. For quality control outliers that do not appear to be systematic, appropriate actions are defined in the analytical SOPs and thus formal corrective action process is not required.
   2. A non-conformance with the management system or with the technical operations of the laboratory may be identified through a variety of activities, such as control of nonconforming work, internal or external audits, proficiency test failures, management reviews, and feedback from customers and from staff observations.
   3. All personnel in the laboratory are responsible to initiate corrective action when indicated by SOPs, observance of departures from documented systems, or simply good scientific judgment or common sense. When bench analysts believe corrective action is needed, they must notify their group leader as soon as possible so the group leader can review and assign responsibilities.
   4. The eJira system is used to record all steps of the corrective action process.
   5. The issue must be defined with adequate detail to allow further investigation. Typically, the important elements to include are: what event(s) occurred, in what process did the event(s) occur, who witnessed the event(s) or performed the process, when (date/time) did the event(s) occur, where did the event(s) occur, what other processes were or may be impacted. Record this information in the "Description" section of the eJira system.

6. Once the problem or failure is defined, responsibility for investigation is assigned to one or more laboratory personnel by the Group Leader, Operations Director, Laboratory Director, or Quality Assurance personnel. The eJira system sends an email to those assigned to notify them of the responsibility.
7. If sample data are affected, provide as much information as possible about which data and how they were affected in the "Impact on Sample Data" section of the eJira system.

B. Cause Analysis
1. For failures that appear to be systematic, the procedure for corrective action starts with an investigation to determine the root cause(s) of the problem. Cause analysis is key to the corrective action procedure.
2. Root cause analysis is the most challenging aspect of the corrective action process. When correctly applied, root cause analysis leads to more effective solutions, continuous improvement, and a reduced likelihood of further deficiencies. In some cases, the root cause is singular and easily discerned. In other cases, determination of the root cause or causes may require more effort to identify. For this reason, there is no single 'recipe' that can be followed. There is no single procedure that will be applicable to all scenarios, but there are guiding principles, the most important of which is addressing the question: "Why did this deficiency occur?"
3. Root Cause Analysis seeks to identify the origin of a problem. It assumes that systems and events are interrelated. One event leads to another, which leads to another. By tracing back these actions, you can discover the original source of the problem.
4. Adequate data must be collected to allow effective Root Cause Analysis. In addition to the information required in the definition of the problem, investigations must also attempt to determine the duration, frequency, and/or pervasiveness of the problem and identify any other areas where the same or similar problems could occur.
5. Root causes are specific underlying causes that can be reasonably identified, that management has control to fix and for which effective recommendations for preventing recurrences can be generated.
6. Potential causes could include, but are not limited to, issues related to customer requirements, sample matrix, methods and procedures, staff skills and training, consumables, equipment calibration and maintenance, environmental conditions.
7. Record the Root Cause(s) determined in detail in eJira Section "Detailed Explanation of the Root Cause". At the same time, select the best option in the "Root Cause Category" drop down. This is used for category tracking purposes. If more than one root cause is identified, choose the category that has a greater impact on the laboratory.

C. Selection and Implementation of Corrective Actions
1. If possible, generate several potential solutions to the root cause(s) of the problem.
2. Rank the potential solutions according to their likelihood of eliminating the problem, preventing its recurrence, the cost vs benefit, and the risk of unintended negative impacts.
3. Select one or more actions appropriate to the magnitude of the problem and the risk of recurrence.
4. List the potential corrective action(s) and note those selected for implementation in the "Corrective Action Plan" section in the eJira.
5. Assign personnel responsible for implementation in eJira. The system will email the person(s) assigned to notify them of the responsibility.
6. Assign a completion date for implementation. Standard completion time is targeted at two weeks, but this may not be appropriate and may be changed depending on the nature of the actions and the needs of the laboratory and its customers.

D. Monitoring of Corrective Actions
1. Routine monitoring of corrective actions is combined with internal auditing. When ICARs are closed by a member of QA, that person will enter the issue into the "QA Issue Follow Ups" Excel. Monthly, these issues will be checked to ensure activities are proceeding in a timely way and implemented corrective actions appear to be effective.
2. Additionally, during preparation for internal audits, the eJira system is queried for corrective actions related to the area to be audited. Verification of the continued effectiveness of these corrective actions are then included in the scope of the internal audit. Records of the verification are maintained in the audit record.

E. Additional Audits--Where the review of corrective actions shows clusters of similar root causes, or where monitoring of implementation of corrective actions shows continued or significant non-

conformances, the laboratory ensures that the appropriate areas of activity are audited in accordance with 4.14 as soon as possible.

4.12) Preventive Action

A. Needed improvements and potential sources of nonconformities, either technical or concerning the management system, must be identified. When improvement opportunities are identified or if preventive action is required, action plans are developed, implemented and monitored to reduce the likelihood of the occurrence of such nonconformities and to take advantage of the opportunities for improvement.

B. As noted in the Standard, preventive action is a pro-active process to identify opportunities for improvement rather than a reaction to the identification of problems or complaints. Performing appropriate preventive action requires a mindset of looking at laboratory operations with an eye toward seeing what could go wrong. Often, this will be based on what types of problems have been solved in the past. Preventive actions may come as a result of the management review process or through attempts to improve the efficiency of the laboratory, including LEAN initiatives.

C. The preventive action process is as follows
   1. Identify the needed preventive action
   2. Develop an action plan to implement the action
   3. Implement the action, with changes as necessary
   4. Monitor the results of the action to verify that the action taken is achieving the desired results and has not caused unanticipated negative impacts.

D. Preventive actions should be recorded. Unless another mechanism is indicated, such as LEAN records, use the eJIRA system. Identification of a root cause is not part of the preventive action system. Fields in the eJIRA system relating to root cause should be listed as "NA".

E. Management of Change (MoC) is a form of preventive action used to minimize risk and ensure smooth transitions to improved processes. MoC items should be recorded in eJIRA. MoC are required for: new equipment, new methods, changes to Key Staff, and operational changes affecting more than approximately 10% of staff. Records are required for these changes whether the change is temporary or permanent. Generally, the following items should be included in MoC Records, as appropriate:
   1. Who raised the issue?
   2. Why the change is important / Expected measurable results.
   3. Risks the changes pose and who will be affected by those risks.
   4. Resources are required to complete and sustain the change.
   5. The main person responsible for organization of the change (usually the assignee) and other parties involved (usually the watchers).
   6. Relationship of this change to other completed or planned changes in the affected area.
   7. Records of steps taken during implementation.

4.13) Control of Records

A. General
   1. The laboratory has established and maintains procedures for identification, collection, indexing, access, filing, storage, maintenance and disposal of quality and technical records. Quality records maintained include reports from internal audits and management reviews as well as records of corrective and preventive actions.
   2. All records must be legible and stored in such a way that they are readily retrievable. Calscience maintains records in both hard copy and electronic formats. Both types of records must be stored so as to prevent damage and deterioration. All records are maintained for a minimum of five years after last use.
   3. All records are held secure and in confidence.
   4. The laboratory maintains procedures to protect and back up electronic records and to prevent unauthorized amendments to these records.

B. Technical records
   1. The laboratory is required to retain records of original observations, derived data and sufficient information to establish an audit trail, calibration records, staff records and a copy of each analytical report issued, for the time period defined above or longer, if required by the customer. The records for each test or calibration must contain sufficient information to facilitate, if possible, identification of factors affecting the uncertainty and to enable the test or

calibration to be repeated under conditions as close as possible to the original. The records must include the identity of personnel responsible for the sampling, performance of each test and/or calibration and review of results.

2. Observations, data and calculations must be recorded at the time they are made and must be identifiable to the specific task. For example, it is not acceptable to record a number without identifying what the number means.
3. When mistakes occur in records, each mistake shall be crossed out with a single line; not erased, made illegible or deleted; and the correct value entered alongside. All alterations to records shall be dated and signed or initialed by the person making the correction or addition, including handwritten notes added to electronic information. Additionally, corrections due to reasons other than transcription errors must specify the reason for the correction. In the case of records stored electronically, equivalent measures shall be taken to avoid loss or change of original data.

C. Additional Requirements

1. The laboratory's record keeping system is designed to allow the history of the sample and associated data to be readily understood through the documentation. This system produces unequivocal, accurate records that document all laboratory activities such as laboratory facilities, equipment, analytical methods, and related laboratory activities, such as sample receipt, sample preparation, or data verification, and inter-laboratory transfers of samples and/or extracts.
2. Records are made available to the accreditation body. Records concerning a customer's samples will be made available to that customer if it can be done without compromising the confidentiality of other customer's data.
3. Records that are stored only on electronic media are supported by the hardware and software necessary for their retrieval for the full retention time required for the record type, typically 5 years.
4. Access to archived information is documented with an access log. Electronic access is tracked through electronic storage systems. Hard copy archive access is documented with a log.
5. All information necessary for the historical reconstruction of data shall be maintained by the laboratory, including the items listed below.
   a. All raw data, whether hard copy or electronic, for calibrations, samples and quality control measures, including analysts' worksheets and data output records (chromatograms, strip charts, and other instrument response readout records).
   b. A written description or reference to the specific method used, which includes a description of the specific computational steps used to translate parametric observations into a reportable analytical value.
   c. The laboratory sample ID code.
   d. The date of analysis.
   e. The time of analysis is required if the holding time is seventy-two (72) hours or less, or when time critical steps are included in the analysis (e.g., extractions and incubations).
   f. Instrumentation identification and instrument operating conditions/parameters (or reference to such data).
   g. All manual calculations.
   h. Analyst's or operator's initials/signature or electronic identification.
   i. Sample preparation including cleanup, separation protocols, volumes, weights, instrument printouts, meter readings, calculations, and reagents.
   j. Test results.
   k. Standard and reagent origin, receipt, preparation and use.
   l. Calibration criteria, frequency and acceptance criteria.
   m. Data and statistical calculations, review, confirmation, interpretation, assessment and reporting conventions.
   n. Quality control protocols and assessment.
   o. Electronic data security, software documentation and verification, software and hardware audits, backups, and records of any changes to automated data entries.
   p. Method performance criteria, quality control requirements.
   q. Proficiency test results.
   r. Records of Demonstration of capability.
   s. Records of identification numbers for all individuals responsible for signing laboratory records.

6. All generated data, except those that are generated by automated data collection systems, are recorded legibly in permanent ink with corrections dated and initials as well as accompanied by the reason for the correction if other than transcription error.
7. If the laboratory transfers ownership or goes out of business, Calscience will ensure that the records are maintained or transferred according to customer instruction.
   a. Upon ownership transfer, record retention requirements shall be addressed in the ownership transfer agreement and the responsibility for maintaining archives will be clearly established. In cases of bankruptcy, appropriate regulatory and state legal requirements concerning laboratory records will be followed.
   b. If the laboratory goes out of business, all records will revert to the control of the client or regulatory agency, as applicable. As much notice as possible will be given to clients and the accrediting bodies who have worked with the laboratory during the previous 5 years of such action.

D. Signature log: The laboratory keeps a log of each employee's name, signature and initials. The laboratory also assigns each employee a numerical "Analyst ID". Technical personnel generally use this number rather than their signature or initials on analytical records. The log is kept on file in the QA offices.

4.14) Internal Audits

A. The laboratory periodically, and in accordance with a predetermined schedule and procedure, conducts internal audits of its activities to verify that its operations continue to comply with the requirements of the management system and with all applicable Standards. The internal audit program addresses all elements of the management system and laboratory process. Additional detail on auditing requirements and qualification of internal auditors is found in the Calscience SOP Internal Audits, current revision.
   1. It is the responsibility of the Quality Assurance Manager to plan and organize audits as required by the schedule and requested by management. Audits are performed so that the entire management system is audited annually.
   2. Internal audits are performed by trained and qualified personnel who are independent of the activity to be audited.
   3. Checklists are used to assist the audit procedure. This ensures that there is documentation of what items were checked and what the results of the checks were.

B. If audit findings cast doubt on the correctness or validity of calibrations or analytical results, immediate corrective action must be taken. Deficiencies discovered during the auditing process are rectified and documented using the corrective action process described in Section 4.11 of this manual. Records are maintained in the eJira system.

C. The area of activity audited, the audit findings and corrective actions that arise from them are recorded in an audit report.

D. Follow-up audit activities verify and record the implementation and effectiveness of the corrective action taken. Follow up is a part of the corrective action procedure and is documented in the corrective action system.

E. Additional Items
   1. If the laboratory identifies events that cast doubt on the validity of test results, the laboratory is required to notify clients with affected data within 15 business days of the discovery. Notification must be recorded in the eJira system.
   2. The laboratory management must ensure that these actions taken as a result of internal audits are executed within the agreed time frame.

4.15) Management Review

A. The Laboratory Management is responsible for performing an annual management review of the laboratory. The focus of the management review is on the sufficiency of the Quality Assurance Manual and system to meet the standards of NELAP. The meeting is organized by the QA manager.
   1. The review is performed in multiple stages. First, the quality department personnel and upper management collect information to fill out the Eurofins Environment Testing form "Management Review Meeting Agenda".
   2. Then, a local meeting is held with the President, Laboratory Director, the quality department staff, Operations Manager, Client Services Manager, Office Manager, and other parties as deemed by the President.

3. The output of the meeting is the completed "Management Review Meeting Agenda" form with proposed action items.
4. Finally, the action items are entered as issues in the eJIRA system and the progress of their investigation and resolution is tracked in the Monthly Metrics Report. Closure of the issues must be completed within the subsequent 12 months or if deemed to be insufficiently resolved and requiring continued action, may be brought forward into the next year's agenda.
5. Subsequent review of the efficacy of resolutions is followed as in Section 4.11.D Monitoring of Corrective Actions.

B. The review will include but is not limited to the following items:
1. The suitability of policies and procedures, including data integrity procedures
2. Results of the annual assessment
3. Results of proficiency testing samples
4. Corrective and preventive actions
5. Results of any external assessments, e.g., certification assessments
6. Any changes in the volume or type of work, particularly anticipated changes
7. Review of client complaints or other client feedback
8. Any other relevant factors, such as quality control activities, resources, and staff training.

4.16) Data Integrity

A. It is the policy of the laboratory to produce data which are sound, correct and complete. The laboratory maintains a documented data integrity system which is reviewed annually and approved by management. The program in place in the laboratory includes the following elements which are detailed in the Calscience SOP Data Integrity, current version:
1. Data Integrity Training
2. Documentation signed by each employee
3. In-depth, periodic monitoring of data integrity
4. Documentation of data integrity procedures.

B. Laboratory management will uphold the spirit of the laboratory's data integrity program and will work to effectively implement the requirements of these procedures.

C. Employees undergo Data Integrity training and sign statements that they agree to abide by the requirements of the Data Integrity Program at orientation and annually.

D. The laboratory maintains a no-fault reporting policy for data integrity issues.

E. If a report is received of a potential violation of the laboratory's data integrity procedures or if the laboratory's auditing program reveals evidence of inappropriate actions or vulnerabilities related to data integrity, further review is required. All investigations will be handled in a confidential manner until such time as a follow-up evaluation, full investigation, or other appropriate actions have been completed and the issues clarified.

F. All investigations that result in finding of inappropriate activity must be recorded and the records must include any disciplinary actions involved, corrective actions taken, and all notifications of clients. All records must be kept for at least five years.

5) Technical Requirements

5.1) General Information

A. Many factors determine the correctness and reliability of the tests performed by a laboratory including human factors, accommodation and environmental conditions, test and calibration methods and method validation, equipment, measurement traceability, sampling, handling of test items, as well as others.

B. The extent to which the factors contribute to the total uncertainty of measurement differs considerably between different types of tests. The laboratory takes these factors into consideration in developing test methods and procedures, in training and qualifying personnel, and in the selection and calibration of the equipment employed.

5.2) Personnel

A. The laboratory management must ensure the competence of all who operate specific equipment, perform tests, evaluate results, and sign test reports. When using staff in training, appropriate

supervision must be provided. Personnel performing specific tasks are qualified on the basis of appropriate education, training, experience and/or demonstrated skills.

B. The management of the laboratory formulates goals with respect to the education, training and skills of the laboratory personnel. The laboratory policy and procedures for identifying training needs and providing training of personnel are outlined below. The training program is intended to be relevant to the present and anticipated tasks of the laboratory. The overall goals of the training program are to ensure that all personnel have the skills to perform their work in compliance with the management system and the Standard, are trained in the parts of the management system that affect their specific job, and have demonstrated competency to perform the tests, parts of tests or other functions for which they are responsible. Details of the training program, including records requirements, are contained in the Calscience SOP Employee Training (current version).
   1. Training needs are identified through evaluation of current skills by management. Initially, individuals are trained to perform specific methods or support procedures as defined by their initial job description. After initial training in specific job functions, annual evaluations include identification of other training needs. Training on basic laboratory techniques is performed along with method training that uses those techniques.
   2. Initial training is designed to provide a new employee with the information required to perform their job in compliance with the overall management system. Additional training needs are determined during employee evaluations and may include additional method training, training in additional tasks such as sample management, refresher training, or, in some cases, retraining on particular parts of the management system.
   3. Training effectiveness is evaluated initially through observation of the employee's performance of tasks and/or through evaluations of Demonstrations of Capability. Continuing evaluations are made through additional observation, through evaluation of quality control data and proficiency testing data as well as review of reports and records generated by the employee in the performance of their duties.
   4. The laboratory routinely uses personnel who are employed by the laboratory. However, new employees are often brought in through a temporary agency and may be converted to full-time company employees after a trial period. Regardless of whether company employees or contracted personnel are used, the laboratory ensures that such personnel are supervised and competent and that they work in accordance with the laboratory's management system.

C. The laboratory maintains current job descriptions for managerial, technical and key support personnel involved in tests and/or calibrations. Minimum job descriptions (as required by the Standard) for key managerial personnel are found in Appendix 2 of this Quality Manual. Job descriptions for analytical ("bench") personnel are maintained by the Laboratory Director, Operations Manager and/or Group Leaders. Information in job description may include, for example, the following items.
   1. Responsibilities with respect to performing tests.
   2. Responsibilities with respect to the planning of tests and evaluation of results
   3. Responsibilities with respect to method modification and development and validation of new methods
   4. Expertise and experience required
   5. Qualifications and any required training programs
   6. Managerial duties.

D. Laboratory management authorizes specific personnel to perform particular types of sampling and testing, to issue test reports, and to operate particular types of equipment. The laboratory maintains records of the relevant authorization(s), competence, educational and professional qualifications, training, skills and experience of all technical personnel, including contracted personnel. This information is maintained by the QA office and kept readily available. It must include the date on which authorization and/or competence is confirmed.
   1. Authorization to perform tests is given by the approval of the Initial Demonstration of Capability. Authorization to operate specific types of equipment is included with the method authorization that uses that equipment.
   2. Each analyst must demonstrate capability for each test method used in the laboratory initially, prior to reporting samples using the method, and on an annual basis thereafter. Records of these demonstrations must be maintained.
   3. For processes that do not include an analytical method, authorization is indicated by one of several methods:
      a. For processes that require specific LIMS or other electronic permissions, the authorization is indicated by the supervisor's e-mail to QA requesting that the permission be given to the

employee.

b. For analytical processes that do not lend themselves to a demonstration of capability, authorization is indicated through inclusion by the supervisor of the method on the employee's "Method Proficiency List and Demonstration of Capability Certification Statement" form along with the record of having read and understood the governing SOP(s).

4. This laboratory does not offer opinions or interpretations, so there is no authorization procedure for them.

E. Group Leader (Technical Managers) qualifications

1. Any Group Leader involved in chemical analysis must have a bachelor's degree in a chemical, environmental, biological science, physical science or engineering, with at least 24 college semester credit hours in chemistry and at least 2 years of experience in the environmental analysis of inorganic and organic analytes for which the lab maintains accreditation. A master's or doctoral degree in one of these disciplines can be substituted for one year of experience.
2. Any Group Leader limited to inorganic chemical analysis, other than metals, must have an associate's degree in a chemical, physical or environmental science or 2 years of equivalent college education with at least 16 college semester credit hours in chemistry and must have at least 2 years of experience performing such analysis.
3. Group leaders are responsible for ensuring that training requirements are met for assigned personnel, and
4. Ensuring that training records are maintained and up to date for assigned personnel.

F. Data Integrity Training

1. Data integrity training is required as a part of the initial new employee orientation and annually thereafter.
2. The Data Integrity Program, including training requirements, is described in Section 4.16 above and in the SOP referenced there.

5.3) Accommodation and Environmental Conditions

A. The laboratory facilities for testing, including but not limited to energy sources, lighting and environmental conditions, must facilitate correct performance of the tests. The laboratory will ensure that the environmental conditions do not invalidate the results or adversely affect the required quality of any measurement. The technical requirements for accommodation and environmental conditions that can affect the results of test and calibration are required to be documented.

B. Most of the laboratory is amenable to normal industrial building controls. There are few areas in the laboratory where temperature requirements are prescribed. Where test methods make specific requirements, these are incorporated into the testing areas. Tests are stopped when these conditions are unable to be met.

C. The laboratory maintains an effective separation between areas in which there are incompatible activities. Measures are taken to prevent cross-contamination.

1. Volatile organic analyses and air analyses are performed in an environmentally controlled area, separate from areas where organic extractions and semivolatile organic analyses are performed.
2. Other analyses with a potential for cross-contamination from preparation (e.g., metals) are performed in separate rooms.

D. Laboratory access is controlled. Only authorized individuals who have been issued access via electronic keyless entry are allowed in laboratory areas. Guests may be allowed in the laboratory only with an authorized escort.

1. Customer information must be kept confidential when visitors are in the laboratory area. Do not allow visitors, particularly customers, to view worksheets from other customers' samples.
2. Do not leave visitors unescorted in the laboratory areas.

E. Laboratory personnel are required to practice appropriate good housekeeping.

1. In general, no specific laboratory protocols are required for the types of analyses performed at Calscience. Where specific protocols are required for specific tests, they are documented in the applicable test method SOPs.
2. The laboratory seeks to minimize clutter while maximizing accessibility of appropriate apparatus, reagents, and standards. Laboratory personnel are required to maintain their work spaces in a clean and orderly manner.
3. The laboratory employs a contractor to provide basic custodial services. The contractor has been instructed to not use cleaning chemicals in the areas where volatile organic analyses are

performed.

5.4) Environmental Methods and Method Validation

A. The laboratory is required to use appropriate methods and procedures for all tests within its scope and all calibrations and verifications of equipment.
   1. These include sampling, handling, transport, storage and preparation of samples to be analyzed and, where appropriate, an estimation of the measurement uncertainty as well as statistical techniques for analysis of quality control data.
   2. The laboratory has instructions on the use and operation of all relevant equipment, and on the handling and preparation of samples for analysis, or both, where the absence of such instructions could jeopardize the results of tests and/or calibrations.
      a. These instructions are included in the laboratory's SOPs for specific methods and in the instrument manufacturer's manuals.
      b. Additional instructions may be included in SOPs specific to a particular task or instrument.
   3. All instructions, standards, manuals and reference data relevant to the work of the laboratory are required to be kept up to date and made readily available to personnel (see section 4.3) Deviation from sample collection, preparation, test, and calibration methods may occur only if the deviation has been documented, technically justified, authorized, and accepted by the customer.
   4. The laboratory maintains specific SOPs for each environmental test method used in the laboratory.
   5. Deviations from the published method are listed in a specific section in the SOP along with their technical justification. Data supporting the validity of listed deviations, if required, is kept on file in the laboratory. Listed deviations are collated by the QA department and then provided to project management.

B. The laboratory must ensure it uses test methods, including methods for sampling, which meet the needs of the customer and which are appropriate for the tests and/or calibrations it undertakes.
   1. Methods published in international, regional or national standards are preferably used.
      a. Sources include methods that have been published either in international, regional or national standards, or by reputable technical organizations, or in relevant scientific texts or journals, or as specified by the manufacturer of the equipment. Specific sources of methods used at Calscience include the EPA, Standard Methods for the Examination of Water and Wastewater, ASTM, the State of California and local municipalities, and scientific journals.
      b. The laboratory must use the latest valid edition of a standard unless it is not appropriate or possible to do so. Note: Some accreditations and some contracts held by the laboratory require the use of earlier editions of methods.
      c. When necessary, the method is supplemented with additional details to ensure consistent application.
   2. When the customer does not specify the method to be used, the laboratory selects what it deems the most appropriate method.
   3. Laboratory-developed methods or methods adopted by the laboratory may also be used if they are appropriate for the intended use and if they are validated. The customer must be informed as to the method chosen. See clause 5.4.C below.
   4. The laboratory is required to confirm that it can properly operate standard methods before introducing the tests or calibrations. If the standard method changes, in such a way that the detection system, the chemistry, or the sensitivity of the method may be affected, the confirmation must be repeated. This is accomplished by performing a Demonstration of Capability and, where applicable, a determination of detection limits study.
   5. The laboratory must inform the customer when the method proposed by the customer is considered to be inappropriate or out of date.
   6. All customer notifications are performed as part of the request, tenders, and contracts procedure. (See Section 4.4)

C. Laboratory-Developed methods. It is not likely that the laboratory will develop any in-house methods. If the need arises, the laboratory will develop validation plans in line with the requirements of the Standards.

D. Non-Standard methods, if used, will be validated using the procedures included in the Calscience New Method/Analyte Validation Checklist.

E. Validation of the implementation of analytical methods will be performed using the procedures included in the Calscience New Method/Analyte Validation Checklist.

F. Estimation of Analytical Uncertainty
   1. The laboratory maintains procedures for determining the uncertainty associated with analysis. Determination of total uncertainty, including sampling, transport, etc. is beyond the scope of the laboratory and will not be determined.
      a. The nature of some test methods may preclude rigorous, statistically valid estimation of analytical uncertainty. In these cases the laboratory will attempt to identify all components of analytical uncertainty and make a reasonable estimation and shall ensure that the form of data reporting does not give a wrong impression of the uncertainty. A reasonable estimation is based on knowledge of method performance and previous experience. When estimating the analytical uncertainty, all uncertainty components which are of importance in the given situation must be taken into account.
      b. When the laboratory is using a well-recognized test method that specifies limits to the values of the major source of uncertainty of measurement and specifies the form of presentation of calculated results, the laboratory is considered to have satisfied the requirements on analytical uncertainty by following the test method and reporting instructions.
      c. The laboratory is only responsible for estimating the portion of measurement uncertainty that is under its control.
   2. For testing laboratories, the laboratory shall ensure that the equipment used can provide the analytical portion of measurement uncertainty needed by the customer.

G. Control of Data
   1. Calculations and data transfers shall be subject to appropriate checks in a systematic manner.
   2. When computers or automated equipment are used for the acquisition, processing, recording, reporting, storage or retrieval of test or calibration data, the laboratory ensures that:
      a. Computer software developed by the user is documented in sufficient detail and is suitably validated as being adequate for use;
      b. Procedures are established and implemented for protecting the data; such procedures shall include, but not be limited to, integrity and confidentiality of data entry or collection, data storage, data transmission and data processing;
      c. Computers and automated equipment are maintained to ensure proper functioning and are provided with the environmental and operating conditions necessary to maintain the integrity of test and calibration data.
      d. Commercial off-the-shelf software (e.g. word processing, database and statistical programs) in general use within their designed application range may be considered to be sufficiently validated. However, laboratory software configuration/ modifications should be validated as in 5.4.G.2.a.
      e. User names and passwords are required for all information system access. Passwords are changed at least every six months.
      f. Employees are trained at hiring and annually thereafter on computer security awareness. This training is assigned through Eurofins training platform, The Learning Centre.

5.5) Equipment

A. The laboratory is furnished with all items of sampling, measurement and test equipment required for the correct performance of the tests and/or calibrations (including sampling, preparation of test and/or calibration items, processing and analysis of test and/or calibration data). The laboratory does not use equipment that is outside its permanent control.
B. Equipment and its software used for testing, calibration, and sampling are capable of achieving the accuracy required and procedures ensure that the equipment complies with specifications relevant to the tests and/or calibrations concerned.
   1. Calibration programs are established for key quantities or values of the instruments where these properties have a significant effect on the results. General equipment requirements are described in this section. Specific requirements are described in pertinent SOPs.
      a. Calibration of analytical instrumentation is generally described in the Calscience SOP Internal Quality Control Checks, T020 current version. Specific requirements are contained in the test method SOPs governing the equipment.
      b. Calibration and verification of support equipment is described in Calscience SOP Support Equipment, current version.
   2. Before being placed into service, equipment (including that used for sampling) must be calibrated or checked to establish that it meets the laboratory's specification requirements and

complies with the relevant standard specifications. It shall be checked and/or calibrated before use as required by the analytical methods or the SOPs.

C. Equipment is operated only by authorized personnel. Up-to-date instructions on the use and maintenance of equipment (including any relevant manuals provided by the manufacturer of the equipment) are readily available for use by the appropriate laboratory personnel. See the Routine Instrument Maintenance SOP, current version, Support Equipment SOP, current version, instrument manuals or the specific test method SOPs for these instructions.

D. Each item of equipment and its software used for testing and significant to the result is, when practical, uniquely identified.

E. Records are maintained of each item of equipment and its software significant to the tests performed. The records shall include at least the following:
   1. the identity of the item of equipment and its software;
   2. the manufacturer's name, type identification, and serial number or other unique identification;
   3. checks that equipment complies with the specification (see 5.5.2);
   4. the current location, where appropriate;
   5. the manufacturer's instructions, if available, or reference to their location;
   6. dates, results and copies of reports and certificates of all calibrations, adjustments, acceptance criteria, and the due date of next calibration;
   7. the maintenance plan, where appropriate, and maintenance carried out to date;
   8. any damage, malfunction, modification or repair to the equipment.
   9. Items 1, 2 and 4 are kept in spreadsheets by the QA Department. Items required in item 5 are kept in the QA Department. Maintenance plans are kept in the Routine Instrument Maintenance SOP, current version. Records of calibration/verification of analytical equipment are kept in the analytical data. Records of calibration/verification of support equipment are kept by the QA Department. Records of maintenance are kept in maintenance logs with the equipment.

F. The laboratory has procedures for safe handling, transport, storage, use and planned maintenance of measuring equipment to ensure proper functioning and in order to prevent contamination or deterioration. Additional procedures may be necessary when measuring equipment is used outside the permanent laboratory for tests, calibrations or sampling. See the Routine Instrument Maintenance SOP, current version, Support Equipment SOP, current version, or the specific test method SOPs for these instructions.

G. Equipment that has been subjected to overloading or mishandling, gives suspect results, or has been shown to be defective or outside specified limits, must be taken out of service.
   1. The equipment is isolated to prevent its use or clearly labeled or marked as being out of service until it has been repaired and shown by calibration or test to perform correctly. The laboratory has “Out of Service” signs available to place on instrumentation and requirements to include the out of service notification in logbooks associated with the equipment.
   2. The laboratory must determine the effect of the defect or departure from specified limits on previous tests and/or calibrations and institute the "Control of nonconforming work" procedure (see 4.9). This is particularly important if support equipment is found to be out of tolerance during routine calibration cycles or if analytical equipment or reporting systems are found to have errors that may have been missed when used to generate earlier data.

H. Whenever possible, all equipment under the control of the laboratory and requiring calibration shall be labeled, coded or otherwise identified to indicate the status of calibration, including the date when last calibrated and the date or expiration criteria when recalibration is due.
   1. Support equipment is labeled with its calibration status whenever possible.
   2. Analytical instrumentation is calibrated according to test method requirements and requires some sort of calibration or calibration verification with every use. Therefore, the calibration status is generally maintained in and inferred from the instrument data.

I. When, for whatever reason, equipment goes outside the direct control of the laboratory, the laboratory shall ensure that the function and calibration status of the equipment are checked and shown to be satisfactory before the equipment is returned to service.
   1. Analytical Instrumentation must pass method calibration requirements prior to return to use. If the instrumentation has been subject to repairs or alterations, new detection limit studies and an IDOC may be required. When in doubt, check with QA personnel.
   2. Support equipment must be calibrated or verified as required before use.
   3. Calibration Standards, such as Class 2 weights and traceable thermometers require verification upon return from calibration. See the Calscience SOP Support Equipment, and Calscience SOP Thermometer Verification and Temperature Monitoring, current versions, for more information.

J. When intermediate checks are needed to maintain confidence in the calibration status of the equipment, these checks are carried out according to the procedures in the governing SOPs.
K. Where calibrations give rise to a set of correction factors, the laboratory procedures ensure that copies (e.g. in computer software, on calibration records, etc.) are correctly updated.
   1. Interelement correction factors used in metals analysis, for example, must be updated through the software and saved appropriately.
   2. Correction factors used on thermometers, for example, are listed on the thermometer.
L. Test and calibration equipment, including both hardware and software, must be safeguarded from adjustments which would invalidate the test and/or calibration results.
M. Support Equipment
   1. In addition to analytical instruments, requirements for calibration apply to all devices that may not be the actual test instrument, but are necessary to support laboratory operations. These include, but are not limited to; balances, ovens, refrigerators, freezers, incubators, water baths, temperature measuring devices (including thermometers and thermistors), thermal/pressure sample preparation devices and volumetric dispensing devices (such as Eppendorf® or automatic dilutor/dispensing devices), if quantitative results are dependent on their accuracy, as in standard preparation and dispensing or dilution into a specified volume. Detailed requirements and procedures are contained in the Calscience SOP Support Equipment, and Calscience SOP Thermometer Verification and Temperature Monitoring, current versions.
      a. All support equipment shall be maintained in proper working order. The records of all repair and maintenance activities, including service calls, shall be kept.
      b. Temperature measuring devices must be calibrated or verified at least annually, using references traceable to a recognized National Metrology Institute, such as NIST, when available. If the temperature measuring device is used over a range of 10°C or less, a single point verification within the range of use is acceptable, while a range of greater than 10°C the verification must bracket the range of use.
      c. The results of such calibration or verification are required to be within the specifications required of the application for which this equipment is used or the equipment is removed from service until repaired.
      d. The laboratory must maintain records of established correction factors arising from these calibrations or verifications to correct all measurements.
      e. Raw data records are retained to document equipment performance.
      f. On each day the equipment is used, balances, ovens, refrigerators, freezers and water baths shall be checked and the results recorded. The acceptability for use or continued use is set according to the needs of the analysis or application for which the equipment is being used.
      g. Volumetric dispensing devices used for quality-affecting measurements are checked for accuracy on a quarterly basis. Glass microliter syringes are generally exempt except as a requirement of some client QAPPs. Class A glassware is exempt from verification.
      h. All other volumetric support equipment must be calibrated or verified at least annually using a NIST-traceable reference when available, bracketing range of use.
N. Instrument Calibration
   1. Calibration of analytical instrumentation is addressed in general in the Calscience SOP Internal Quality Control Checks, current version.
   2. Specifics of instrument calibration, including acceptance criteria, are contained in the technical SOP governing the analysis.

5.6) Measurement Traceability

A. All equipment used for tests and/or calibrations, including equipment for measurement of environmental conditions, having a significant effect on the accuracy or validity of the result of the test, calibration or sampling shall be calibrated before being put into service. The laboratory's program and procedures for the calibration of its equipment as well as traceability of standards and reagents is described in this section.
B. Measuring and test equipment with measuring functions used must be calibrated on at least an annual basis. Whenever possible, calibration is performed using reference standards or reference materials that are traceable to a national standard or other standard acceptable to NELAP or customer, as applicable, unless it has been established that the associated contribution from the calibration contributes little to the total uncertainty of the test result. When this situation arises, the laboratory ensures that the equipment used can provide the uncertainty of measurement needed.

C. Reference Standards and Reference Materials
   1. Reference Standards –The laboratory has a program and procedure for the calibration of its reference standards. Reference standards, such as weights used for checking balances and reference thermometers, must be calibrated by a calibration laboratory accredited to ISO 17025 for the particular calibration provided. Reference standards of measurement held by the laboratory are used for calibration or verification only and for no other purpose. The specifics of the calibration program are contained in the Calscience SOP Support Equipment, and Calscience SOP Thermometer Verification and Temperature Monitoring, current versions.
   2. Reference Materials – Reference materials, where possible, are traceable to SI units of measurement, to certified reference materials, or to national or international standard reference materials. Internal reference materials are checked as far as is technically and economically practicable.
   3. Intermediate Checks – Checks needed to maintain confidence in the calibration status of reference, primary, transfer or working standards and reference materials are carried out according to procedures and schedules defined in the appropriate technical SOPs.
   4. The laboratory shall have procedures for safe handling, transport, storage and use of reference standards and reference materials in order to prevent contamination or deterioration and in order to protect their integrity.
   5. The laboratory provides evidence of correlation of results by participation in a program of proficiency testing through PT providers that provide traceability to a national standard.

D. Documentation and Labeling of Standards, Reagents, and Reference Materials -- Documented procedures are in place for the purchase, receipt and storage of consumable materials used for the technical operations of the laboratory. Refer to the reagents and standards SOP?
   1. The laboratory retains records for all standards, reagents, reference materials, and media, including the manufacturer/vendor, the manufacturer's Certificate of Analysis or purity (if available), the date of receipt, and recommended storage conditions.
   2. For original containers, if an expiration date is provided by the manufacturer or vendor it shall be recorded on the container. If an expiration date is not provided by the manufacturer or vendor it is not required.
   3. Records are maintained on standard, reference material, and reagent preparation. These records indicate traceability to purchased stocks or neat compounds, reference to the method of preparation, date of preparation, expiration date and preparer's initials or PUID.
   4. All containers of prepared standards, reference materials, and reagents are labeled with a unique identifier and expiration date.
   5. Procedures are in place to ensure prepared reagents meet the requirements of the method.
   6. Standards, reference materials, and reagents shall not be used after their expiration dates unless their reliability is verified by the laboratory.

5.7) Sampling

A. The laboratory performs some sampling for customers, virtually all of it related to wastewater treatment. Additionally, the laboratory performs subsampling of samples provided by customers to provide aliquots for specific analyses.
   1. For external sampling, the procedures are described in detail in the Calscience SOP Wastewater Sampling, T101, current version. Customers provide sampling plans to the laboratory. The SOP describes the specifics of the processes and factors to be controlled or monitored.
   2. Subsampling, as in obtaining a representative sample for analysis from a sample container, is described in technical SOPs that deal with sample preparation.

B. Where the customer requires deviations, additions or exclusions from the documented sampling procedure, these are recorded in detail with the appropriate sampling data and are included in all documents containing test and/or calibration results, and are communicated to the appropriate personnel.

C. The laboratory maintains procedures for recording relevant data and operations relating to sampling that forms part of the testing or calibration that is undertaken. These records include the sampling procedure used, the identification of the sampler, environmental conditions (if relevant) and diagrams or other equivalent means to identify the sampling location as necessary and, if appropriate, the statistics the sampling procedures are based upon.

D. Sampling records for external sampling include the date and time of sampling and any deviations from the sampling procedures that were requested or required.

5.8) Handling Samples and Test Items

A. The laboratory has procedures for the transportation, receipt, handling, protection, storage, retention and/or disposal of test and/or calibration items, including all provisions necessary to protect the integrity of the test or calibration item, and to protect the interests of the laboratory and the customer. The procedures used to meet the requirements of this section are included in the Calscience SOP Sample Receipt and Login Procedures, current version.

B. The laboratory has a system for identifying test and/or calibration items. The identification shall be retained throughout the life of the item in the laboratory. The system is designed and operated so as to ensure that items cannot be confused physically or when referred to in records or other documents. The system accommodates a sub-division of groups of items and the transfer of items within and from the laboratory, including all samples, sub-samples, preservations, sample containers, tests, and subsequent extracts and/or digestates.
   1. The system generates a laboratory code, which maintains an unequivocal link with the unique field ID code assigned to each sample.
   2. The laboratory ID code is placed as a durable label on the sample container.
   3. The laboratory ID code is entered into LIMS and is the link that associates the sample with related laboratory activities such as sample preparation.

C. Upon receipt of the test or calibration item, abnormalities or departures from normal or specified conditions, as described in the test or calibration method, shall be recorded. When there is doubt as to the suitability of an item for test or calibration, or when an item does not conform to the description provided, or the test or calibration required is not specified in sufficient detail, the laboratory consults the customer for further instructions before proceeding and shall record the discussion.
   1. The laboratory maintains procedures to be used when samples show signs of damage, contamination, inadequate preservation, or other exceptions to the sample receipt policy.
   2. If the sample does not meet the sample receipt acceptance criteria listed, sample receiving personnel notify the appropriate project manager of the exceptions or questions, who, in turn, confer with the customer. The laboratory shall either:
      a. Retain correspondence and/or records of conversations concerning the final disposition of rejected samples; or,
      b. Fully document any decision to proceed with the analysis of samples not meeting acceptance criteria.
      c. The condition of these samples shall be noted on the chain of custody or transmittal form and in LIMS.
      d. The analysis data shall be appropriately qualified on the final report.

D. The laboratory has procedures and appropriate facilities for avoiding deterioration, loss or damage to the test or calibration item during storage, handling and preparation. Handling instructions provided with the item shall be followed. When items have to be stored or conditioned under specified environmental conditions, these conditions shall be maintained, monitored and recorded. These procedures are contained in the Calscience SOP Sample Receipt and Login Procedures, current version.
   Note: Calscience does not provide secure, legal chain-of-custody procedures.

E. Additional Requirements – Sample Receipt Protocols
   1. The laboratory has implemented procedures for verifying and documenting preservation.
   2. The laboratory uses LIMS to create a permanent chronological record to document receipt of all sample containers. This record contains the following required information:
      a. Client/project name,
      b. Date and time of laboratory receipt,
      c. Unique laboratory ID code, and,
      d. The identification of the person making the entries.
   3. During the login process, the following information shall be unequivocally linked to the log record using the LIMS.
      a. The field ID code, which identifies each sample, shall be linked to the laboratory ID code in the sample receipt log.
      b. The date and time of sample collection shall be linked to the sample and to the date and time of receipt in the laboratory.
      c. The requested analyses (including applicable approved method numbers), linked to the laboratory ID code.

d. Any comments resulting from inspection for sample rejection shall be linked to the laboratory ID code.

4. All documentation, such as memos, chain of custody, or transmittal forms that are transmitted to the laboratory by the sample transmitter, is retained.
5. A complete chain of custody record form is maintained to document transfer of the sample to the laboratory.
   a. For most samples, once the sample is inside the laboratory and the receiving process is completed, sample movement within the laboratory is not routinely recorded.
   b. An internal chain-of-custody is available upon customer request.

F. The laboratory has a written sample acceptance policy, which is available to customers of the laboratory and other sampling personnel. This policy requires the following information be provided with each sample. The policy is included as an appendix in the Calscience SOP Sample Receipt and Login Procedures, current version.
   1. Proper, full, and complete documentation, which includes sample identification; the location, date and time of collection; collector's name, preservation type, sample type and any special remarks concerning the sample;
   2. Proper sample labeling to include unique identification and a labeling system for the samples with requirements concerning the durability of the labels (water resistant) and the use of indelible ink;
   3. Use of appropriate sample containers;
   4. Adherence to specified holding times;
   5. Sufficient sample volume to perform the necessary tests;

G. Additional Requirements – Sample Storage and Disposal
   1. Samples shall be stored according to the conditions specified by preservation protocols. For most samples, this means that samples are refrigerated.
      a. Samples that require thermal preservation shall be stored under refrigeration that is +/- 2°C of the specified preservation temperature unless regulatory or method specific criteria exist. For samples with a specified storage temperature of 4°C, storage at a temperature above the freezing point of water to 6°C shall be acceptable. (≤6°C, not frozen)
      b. In practice, most samples are kept in the refrigerators for ease of retrieval.
      c. Samples must be stored away from all standards, reagents, and food. Samples must be stored in such a manner to prevent cross contamination.
   2. Sample fractions, extracts, leachates and other sample preparation products are stored according to specifications in the method and the requirements listed above.
   3. The laboratory addresses disposal of samples, digestates, leachates and extracts and other sample preparation products in SOP T005, Disposal of Laboratory Samples and Wastes.

5.9) Quality Control for Environmental Testing

A. The laboratory has implemented quality control procedures for monitoring the validity of tests and calibrations undertaken. The resulting data are recorded in such a way that trends are detectable and, where possible, statistical techniques are applied to the reviewing of the results. This monitoring is planned and reviewed and includes, but may not be limited to, the following:
   1. regular use of certified reference materials and/or internal quality control using secondary reference materials;
   2. participation in proficiency testing programs;
   3. replicate testing;
   4. retesting or recalibration of retained items;
   5. correlation of results for different characteristics of an item.

B. Quality control data are analyzed as soon as is feasible after analysis and, where they are found to be outside predefined criteria, planned action is taken to correct the problem and to prevent incorrect results from being reported.

C. Essential Quality Control Procedures
   1. The laboratory has written protocols in place to monitor the following quality controls. The specific controls and their evaluations are contained in Calscience SOP T020, Internal Quality Control Checks, current version, and in the appropriate test method SOPs. These SOPs shall assure that the applicable principles are addressed:
      a. positive and negative controls, as applicable to the test type, to monitor tests such as blanks, LCSs, and matrix spikes;

b. tests to define the variability and/or repeatability of the laboratory results such as replicates, laboratory duplicates, and spiked duplicates;
c. measures to assure the accuracy of the method including calibration and/or continuing calibrations, use of certified reference materials, proficiency test samples, or other measures;
d. measures to evaluate method capability, such as limit of detection and limit of quantitation or range of applicability such as linearity;
e. selection of appropriate formulae to reduce raw data to final results such as regression analysis, comparison to internal/external standard calculations, and statistical analyses;
f. selection and use of reagents and standards of appropriate quality;
g. measures to assure the selectivity of the test for its intended purpose; and
h. measures to assure constant and consistent test conditions (both instrumental and environmental) where required by the method suchas temperature, humidity, light or specific instrument conditions.

2. All quality control measures are evaluated on an ongoing basis and acceptance criteria are used.
3. The laboratory has procedures for developing acceptance and rejection criteria where there is no method or regulatory criteria.
4. The quality control procedures specified by the laboratory SOPs shall be followed. The laboratory ensures that the essential standards outlined in the Technical Module of the TNI Standard or mandated method or regulations is to be followed.

D. Instruments are calibrated as described in Section 5.5 of this QAM and detailed in Calscience SOP – Internal Quality Control Checks, current version, and the laboratory method SOPs.
E. Batch QC samples are prepared with each preparation batch. A preparation batch is a batch of samples of the same quality system matrix, not to exceed a total of 20 field samples. QC samples are not counted as part of the 20. Unless otherwise specified and justified in the test method SOP, the following QC samples are required. The test method SOP may reduce or increase this requirement.
   1. Each batch must contain, where applicable; a Laboratory Control Sample and Laboratory Sample Duplicate, a Method Blank, a Matrix Spike sample and a Matrix Spike Duplicate or Matrix Duplicate sample. The preparation and specific evaluation criteria for each of these QC sample types are detailed in the laboratory method SOPs.
   2. All quality control measures must be assessed and evaluated while the analyses are ongoing or as soon after as practicable. Laboratory personnel use bench sheets or instrument software to record all raw data. These system include the recording and evaluating of QC data at the same time as the sample data. QC data is used to determine the usability of the sample data as described later in this section.
   3. Specific requirements for QC samples and their evaluation are included in the Calscience SOP – Internal Quality Control Checks, current version.
F. Limits of Detection and Limits of Quantitation
   1. The laboratory uses a combination of Limits of Detection and Limits of Quantitation ("Reporting Limits") to convey sensitivity for each analysis performed in the laboratory. Specific requirements and instructions for the determination of these limits are contained in Calscience SOP – Detection Limits, current version.

5.10) Reporting of Results

A. General Considerations
   1. The result of each environmental test must be reported accurately, clearly, unambiguously and objectively as well as in accordance with any specific instructions included in the test method.
   2. The results shall be reported in a test report and shall include all the information requested by the customer and necessary for the interpretation of the test results and all information required by the method used. This information is normally that required by 5.10.B, and 5.10.C or 5.10.D, below.
   3. Instructions for generating test reports are located in the Calscience SOP-Project Management, current revision.
B. Test Reports
   1. Each test report shall include at least the following information. An exception is taken when "Preliminary Results" are provided to meet customer's rush turn-around time requests. Preliminary reports are labeled as such on the cover and are always followed by the complete final report.

a. A Title. This laboratory titles its reports "Analytical Report"
b. The name and address of the laboratory;
c. The Work Order number is the unique identification of the test report. It is displayed on each page in order to ensure that the page is recognized as a part of the test report. Report pages are numbered as 1 of n, where "n" is the total number of pages.
d. The name and address of the customer;
e. identification of the test method used;
f. description of, the condition of, and unambiguous identification of the samples tested;
g. the date of receipt of the samples where this is critical to the validity and application of the results (See 5.10.K below), and the date(s) of performance of the analysis or different analytical steps, as applicable;
h. reference to the sampling plan and procedures used by the laboratory or other bodies where these are relevant to the validity or application of the results (this is rare in this laboratory);
i. the analytical results with the units of measurement;
j. the name(s), function(s) and signature(s) or equivalent identification of person(s) authorizing the test report;
k. where relevant, a statement to the effect that the results relate only to the samples tested;
l. statement specifying that the client is specifically prohibited from making material changes to the report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise.

C. Test Reports
1. In addition to the requirements listed in 5.10.B, test reports shall, where necessary for the interpretation of the test results, include the following:
a. Deviations from, additions to, or exclusions from the test method, and information on specific test conditions, such as environmental conditions;
b. Where relevant, a statement of compliance/non-compliance with requirements and/or specifications;
c. Where applicable, a statement on the estimated uncertainty of measurement. (Note: estimation of uncertainty in measurement is addressed in Section 5.6 of this document); information on uncertainty is needed in test reports when it is relevant to the validity or application of the test results, when a customer's instruction so requires, or when the uncertainty affects compliance to a specification limit;
d. Additional information which may be required by specific methods, customers or groups of customers.
2. In addition to the requirements listed in 5.10.B and 5.10.C.1, test reports containing the results of sampling shall include the following, where necessary for the interpretation of test results:
a. The date of sampling.
b. The customer's reference to the sampling site and other information as noted on the Chain of Custody.
c. Any details of conditions during sampling or any deviations, additions or exclusions from the specified sampling plan.

D. The laboratory does not offer opinions or interpretations of the data reported.
E. When the analytical report contains results of tests performed by subcontractors, these results are clearly identified. The subcontractor must report the results either in writing or electronically.
F. Electronic transmission of results
1. In the case of transmission of test or calibration results by telephone, e-mail, facsimile or other electronic or electromagnetic means, the requirements of this section (see also Section 5.4.G) shall be met.
2. Most reports are submitted by electronic mail to the person requesting the analysis. Results may not be submitted to any other entities without the approval of the original requestor. A record of this approval must be maintained by the laboratory.
3. Electronic mail transmissions are accompanied by statements regarding confidentiality and privacy of information.

G. The format of the reports is designed to accommodate each type of test carried out and to minimize the possibility of misunderstanding or misuse.
H. Amendments to test reports;
1. When required, amendments are made by regenerating the entire report. Amended reports are labeled on the cover as "Supplemental Report #" where "#" is a sequential number, starting with 1. The Work Order number is also listed and the electronic file name is incremented with "_s#" to clearly identify the revision.

2. Such amendments are designed to meet all the requirements of this International Standard.

I. While rare, it is possible that Calscience may be requested to produce abbreviated report at some times. If the request arises, Calscience will maintain all of the information that would be required for the full report.

J. Additional Requirements
   1. Reports must also include the following information, when applicable.
      a. Time of sample preparation and/or analysis if the required holding time for either activity is less than or equal to seventy-two (72) hours.
      b. Results that are reported on a basis other than as received (e. g., dry weight).
      c. Any non-accredited tests shall be clearly identified as such to the client when claims of accreditation to this Standard are made in the analytical report or in the supporting electronic or hardcopy deliverables.
      d. Clear identification of numerical results with values outside the calibration range.

6) Appendices

A. Appendix 1 -- Definitions
B. Appendix 2 -- Job Descriptions of Key Personnel
C. Appendix 3 -- Organizational Chart

End of document

Version	Approval	Revision information
8.1	01.JUL.2020	
9	11.JAN.2022	Update location and information regarding new Tustin facility. Incorporate Appendix 3 (List of Physical Locations) into primary document. Remove references to DoD-only requirements.
10	22.FEB.2022	Add Business Unit Manager and Laboratory Director as document approvers.

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

CALIFORNIA STATE

ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

CERTIFICATE OF ENVIRONMENTAL LABORATORY ACCREDITATION

Is hereby granted to

Eurofins Frontier Global Sciences, LLC

5755 8th Street East

Tacoma, WA 98424

Scope of the certificate is limited to the
"Fields of Accreditation"
which accompany this Certificate.

Continued accredited status depends on compliance with applicable laws and regulations, proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of Section 100825, et seq. of the Health and Safety Code.

Certificate No.: **2954**

Effective Date: **7/1/2020**

Expiration Date: **7/7/2022**

Sacramento, California
subject to forfeiture or revocation

Christine Sotelo, Chief
Environmental Laboratory Accreditation Program

CALIFORNIA STATE
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Fields of Accreditation

Eurofins Frontier Global Sciences, LLC

5755 8th Street East
Tacoma, WA 98424
Phone: 2539222310

Certificate Number: **2954**
Expiration Date: **7/7/2022**

				Primary Accreditation Body
Field of Accreditation: 109 - Metals and Trace Elements in Non-Potable Water				
109.625	001	Aluminum	EPA 200.8 (1994 Rev. 5.4)	OR
109.625	002	Antimony	EPA 200.8 (1994 Rev. 5.4)	OR
109.625	003	Arsenic	EPA 200.8 (1994 Rev. 5.4)	OR
109.625	004	Barium	EPA 200.8 (1994 Rev. 5.4)	OR
109.625	005	Beryllium	EPA 200.8 (1994 Rev. 5.4)	OR
109.625	007	Cadmium	EPA 200.8 (1994 Rev. 5.4)	OR
109.625	008	Chromium	EPA 200.8 (1994 Rev. 5.4)	OR
109.625	009	Cobalt	EPA 200.8 (1994 Rev. 5.4)	OR
109.625	010	Copper	EPA 200.8 (1994 Rev. 5.4)	OR
109.625	012	Iron	EPA 200.8 (1994 Rev. 5.4)	OR
109.625	013	Lead	EPA 200.8 (1994 Rev. 5.4)	OR
109.625	014	Manganese	EPA 200.8 (1994 Rev. 5.4)	OR
109.625	015	Molybdenum	EPA 200.8 (1994 Rev. 5.4)	OR
109.625	016	Nickel	EPA 200.8 (1994 Rev. 5.4)	OR
109.625	017	Selenium	EPA 200.8 (1994 Rev. 5.4)	OR
109.625	018	Silver	EPA 200.8 (1994 Rev. 5.4)	OR
109.625	019	Thallium	EPA 200.8 (1994 Rev. 5.4)	OR
109.625	022	Vanadium	EPA 200.8 (1994 Rev. 5.4)	OR
109.625	023	Zinc	EPA 200.8 (1994 Rev. 5.4)	OR
109.657	001	Mercury	EPA 1631 E (2002)	OR
Field of Accreditation: 114 - Inorganic Constituents in Hazardous Waste				
114.010	001	Antimony	EPA 6010 B	OR
114.010	002	Arsenic	EPA 6010 B	OR
114.010	003	Barium	EPA 6010 B	OR
114.010	004	Beryllium	EPA 6010 B	OR
114.010	005	Cadmium	EPA 6010 B	OR
114.010	006	Chromium	EPA 6010 B	OR
114.010	007	Cobalt	EPA 6010 B	OR
114.010	008	Copper	EPA 6010 B	OR
114.010	009	Lead	EPA 6010 B	OR
114.010	010	Molybdenum	EPA 6010 B	OR
114.010	011	Nickel	EPA 6010 B	OR
114.010	012	Selenium	EPA 6010 B	OR

114.010	013	Silver	EPA 6010 B	OR
114.010	014	Thallium	EPA 6010 B	OR
114.010	015	Vanadium	EPA 6010 B	OR
114.010	016	Zinc	EPA 6010 B	OR
114.020	001	Antimony	EPA 6020	OR
114.020	002	Arsenic	EPA 6020	OR
114.020	003	Barium	EPA 6020	OR
114.020	004	Beryllium	EPA 6020	OR
114.020	005	Cadmium	EPA 6020	OR
114.020	006	Chromium	EPA 6020	OR
114.020	007	Cobalt	EPA 6020	OR
114.020	008	Copper	EPA 6020	OR
114.020	009	Lead	EPA 6020	OR
114.020	010	Molybdenum	EPA 6020	OR
114.020	011	Nickel	EPA 6020	OR
114.020	012	Selenium	EPA 6020	OR
114.020	013	Silver	EPA 6020	OR
114.020	014	Thallium	EPA 6020	OR
114.020	015	Vanadium	EPA 6020	OR
114.020	016	Zinc	EPA 6020	OR
114.140	001	Mercury	EPA 7470 A	OR
114.141	001	Mercury	EPA 7471 A	OR
114.221	001	Cyanide, Total	EPA 9012 A	OR
114.241	001	Corrosivity - pH Determination	EPA 9045 C	OR
114.315	002	Antimony	EPA 6010 B	OR
114.315	003	Arsenic	EPA 6010 B	OR
114.315	004	Barium	EPA 6010 B	OR
114.315	005	Beryllium	EPA 6010 B	OR
114.315	007	Cadmium	EPA 6010 B	OR
114.315	009	Chromium	EPA 6010 B	OR
114.315	010	Cobalt	EPA 6010 B	OR
114.315	011	Copper	EPA 6010 B	OR
114.315	013	Lead	EPA 6010 B	OR
114.315	016	Molybdenum	EPA 6010 B	OR
114.315	017	Nickel	EPA 6010 B	OR
114.315	019	Selenium	EPA 6010 B	OR
114.315	020	Silver	EPA 6010 B	OR
114.315	023	Thallium	EPA 6010 B	OR
114.315	026	Vanadium	EPA 6010 B	OR
114.315	027	Zinc	EPA 6010 B	OR
114.335	002	Antimony	EPA 6020	OR
114.335	003	Arsenic	EPA 6020	OR

114.335	004	Barium	EPA 6020	OR
114.335	005	Beryllium	EPA 6020	OR
114.335	006	Cadmium	EPA 6020	OR
114.335	007	Chromium	EPA 6020	OR
114.335	008	Cobalt	EPA 6020	OR
114.335	009	Copper	EPA 6020	OR
114.335	010	Lead	EPA 6020	OR
114.335	012	Nickel	EPA 6020	OR
114.335	013	Silver	EPA 6020	OR
114.335	014	Thallium	EPA 6020	OR
114.335	015	Zinc	EPA 6020	OR
114.335	016	Molybdenum	EPA 6020	OR
114.335	017	Selenium	EPA 6020	OR
114.535	001	Mercury	EPA 7471 A	OR
114.705	001	Cyanide, Total	EPA 9012 A	OR
or	001	Corrosivity - pH Determination	EPA 9040 B	OR
Field of Accreditation: 115 - Leaching/Extraction Tests and Physical Characteristics of Hazardous Waste				
115.135	001	Corrosivity - pH Determination	EPA 9045 C	OR
Field of Accreditation: 116 - Volatile Organic Compounds in Hazardous Waste				
116.010	000	EDB and DBCP	EPA 8011	OR
116.030	001	Gasoline Range Organics (GRO)	EPA 8015 B	OR
116.080	000	Volatile Organic Compounds	EPA 8260 B	OR
116.080	120	Oxygenates	EPA 8260 B	OR
116.215	001	1,2-Dibromoethane (EDB)	EPA 8011	OR
116.215	002	1,2-Dibromo-3-chloropropane (DBCP)	EPA 8011	OR
116.265	001	Benzene	EPA 8260 B	OR
116.265	002	Bromobenzene	EPA 8260 B	OR
116.265	003	Bromochloromethane	EPA 8260 B	OR
116.265	004	Bromodichloromethane	EPA 8260 B	OR
116.265	005	Bromoform	EPA 8260 B	OR
116.265	006	Bromomethane (Methyl Bromide)	EPA 8260 B	OR
116.265	007	n-Butylbenzene	EPA 8260 B	OR
116.265	008	sec-Butylbenzene	EPA 8260 B	OR
116.265	009	tert-Butylbenzene	EPA 8260 B	OR
116.265	010	Carbon Disulfide	EPA 8260 B	OR
116.265	011	Carbon Tetrachloride	EPA 8260 B	OR
116.265	012	Chlorobenzene	EPA 8260 B	OR
116.265	013	Chlorodibromomethane (Dibromochloromethane)	EPA 8260 B	OR
116.265	014	Chloroethane	EPA 8260 B	OR
116.265	015	Chloroform	EPA 8260 B	OR
116.265	016	Chloromethane (Methyl Chloride)	EPA 8260 B	OR
116.265	017	Dibromomethane	EPA 8260 B	OR

116.265	018	Dichlorodifluoromethane (Freon 12)	EPA 8260 B	OR
116.265	019	cis-1,2-Dichloroethylene (cis 1,2 Dichloroethene)	EPA 8260 B	OR
116.265	020	trans-1,2-Dichloroethylene (trans- 1,2 Dichloroethene)	EPA 8260 B	OR
116.265	021	cis-1,3-Dichloropropylene (cis 1,3 Dichloropropene)	EPA 8260 B	OR
116.265	022	trans-1,3-Dichloropropylene (trans-1,3 Dichloropropene)	EPA 8260 B	OR
116.265	023	Ethylbenzene	EPA 8260 B	OR
116.265	024	Hexachlorobutadiene	EPA 8260 B	OR
116.265	025	Methyl tert-butyl Ether (MTBE)	EPA 8260 B	OR
116.265	026	Methylene Chloride (Dichloromethane)	EPA 8260 B	OR
116.265	027	Naphthalene	EPA 8260 B	OR
116.265	029	N-propylbenzene	EPA 8260 B	OR
116.265	030	Styrene	EPA 8260 B	OR
116.265	031	Tetrachloroethylene (Tetrachloroethene)	EPA 8260 B	OR
116.265	032	Toluene	EPA 8260 B	OR
116.265	033	Trichloroethylene (Trichloroethene)	EPA 8260 B	OR
116.265	034	Trichlorofluoromethane	EPA 8260 B	OR
116.265	035	Vinyl Chloride	EPA 8260 B	OR
116.265	036	m+p-Xylene	EPA 8260 B	OR
116.265	037	o-Xylene	EPA 8260 B	OR
116.265	038	m-Xylene	EPA 8260 B	OR
116.265	039	p-Xylene	EPA 8260 B	OR
116.265	040	1,1-Dichloroethane	EPA 8260 B	OR
116.265	041	1,1-Dichloroethylene (1,1-Dichloroethene)	EPA 8260 B	OR
116.265	042	1,1,1-Trichloroethane	EPA 8260 B	OR
116.265	043	1,1,1,2-Tetrachloroethane	EPA 8260 B	OR
116.265	044	1,1,2,2-Tetrachloroethane	EPA 8260 B	OR
116.265	045	1,1,2-Trichloroethane	EPA 8260 B	OR
116.265	046	1,2-Dichlorobenzene	EPA 8260 B	OR
116.265	047	1,2-Dichloroethane (Ethylene Dichloride)	EPA 8260 B	OR
116.265	048	1,2-Dibromoethane (EDB)	EPA 8260 B	OR
116.265	049	1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260 B	OR
116.265	050	1,2-Dichloropropane	EPA 8260 B	OR
116.265	051	1,2,3-Trichloropropane (TCP)	EPA 8260 B	OR
116.265	052	1,2,4-Trichlorobenzene	EPA 8260 B	OR
116.265	053	1,3-Dichlorobenzene	EPA 8260 B	OR
116.265	054	1,4-Dichlorobenzene	EPA 8260 B	OR
116.265	055	2-Chloroethyl vinyl Ether	EPA 8260 B	OR
116.265	056	4-Chlorotoluene	EPA 8260 B	OR
116.265	057	4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	EPA 8260 B	OR

Field of Accreditation:117 - Semi-volatile Organic Chemistry of Hazardous Waste

117.010	001	Diesel Range Organics (DRO)	EPA 8015 B	OR
117.110	000	Extractable Organics	EPA 8270 C	OR

117.210	000	Organochlorine Pesticides	EPA 8081 A	OR
117.220	000	PCBs	EPA 8082	OR
117.235	001	Gasoline Range Organics (GRO)	EPA 8015 B	OR
117.235	002	Diesel Range Organics (DRO)	EPA 8015 B	OR
117.315	001	Aldrin	EPA 8081 A	OR
117.315	002	alpha-BHC	EPA 8081 A	OR
117.315	003	beta-BHC	EPA 8081 A	OR
117.315	004	delta-BHC	EPA 8081 A	OR
117.315	005	gamma-BHC (Lindane)	EPA 8081 A	OR
117.315	006	Chlordane (total)	EPA 8081 A	OR
117.315	007	trans-Chlordane	EPA 8081 A	OR
117.315	008	4,4'-DDD	EPA 8081 A	OR
117.315	009	4,4'-DDE	EPA 8081 A	OR
117.315	010	4,4'-DDT	EPA 8081 A	OR
117.315	011	Dieldrin	EPA 8081 A	OR
117.315	012	Endosulfan I	EPA 8081 A	OR
117.315	013	Endosulfan II	EPA 8081 A	OR
117.315	014	Endosulfan Sulfate	EPA 8081 A	OR
117.315	015	Endrin	EPA 8081 A	OR
117.315	016	Endrin Aldehyde	EPA 8081 A	OR
117.315	017	Endrin Ketone	EPA 8081 A	OR
117.315	018	Heptachlor	EPA 8081 A	OR
117.315	019	Heptachlor Epoxide	EPA 8081 A	OR
117.315	020	Methoxychlor	EPA 8081 A	OR
117.315	021	Toxaphene	EPA 8081 A	OR
117.335	001	Aroclor 1016	EPA 8082	OR
117.335	002	Aroclor 1221	EPA 8082	OR
117.335	003	Aroclor 1232	EPA 8082	OR
117.335	004	Aroclor 1242	EPA 8082	OR
117.335	005	Aroclor 1248	EPA 8082	OR
117.335	006	Aroclor 1254	EPA 8082	OR
117.335	007	Aroclor 1260	EPA 8082	OR
117.435	001	Acenaphthene	EPA 8270 C	OR
117.435	002	Acenaphthylene	EPA 8270 C	OR
117.435	003	Aniline	EPA 8270 C	OR
117.435	004	Anthracene	EPA 8270 C	OR
117.435	006	Benzoic Acid	EPA 8270 C	OR
117.435	007	Benzo(a)anthracene	EPA 8270 C	OR
117.435	008	Benzo(b)fluoranthene	EPA 8270 C	OR
117.435	009	Benzo(k)fluoranthene	EPA 8270 C	OR
117.435	010	Benzo(g,h,i)perylene	EPA 8270 C	OR
117.435	011	Benzo(a)pyrene	EPA 8270 C	OR

117.435	012	Benzyl Alcohol	EPA 8270 C	OR
117.435	013	Bis(2-chloroethoxy) Methane	EPA 8270 C	OR
117.435	014	Bis(2-chloroethyl) Ether	EPA 8270 C	OR
117.435	015	Bis(2-ethylhexyl)phthalate (Di(2-ethylhexyl) phthalate)	EPA 8270 C	OR
117.435	016	Butyl Benzyl Phthalate	EPA 8270 C	OR
117.435	017	Chrysene	EPA 8270 C	OR
117.435	018	Dibenz(a,h)anthracene	EPA 8270 C	OR
117.435	019	Dibenzofuran	EPA 8270 C	OR
117.435	020	Di-n-butyl Phthalate	EPA 8270 C	OR
117.435	021	Diethyl Phthalate	EPA 8270 C	OR
117.435	022	Dimethyl Phthalate	EPA 8270 C	OR
117.435	023	Di-n-octyl Phthalate	EPA 8270 C	OR
117.435	024	Fluoranthene	EPA 8270 C	OR
117.435	025	Fluorene	EPA 8270 C	OR
117.435	026	Naphthalene	EPA 8270 C	OR
117.435	027	Nitrobenzene	EPA 8270 C	OR
117.435	029	Pentachlorophenol	EPA 8270 C	OR
117.435	031	1,2-Dichlorobenzene	EPA 8270 C	OR
117.435	032	1,3-Dichlorobenzene	EPA 8270 C	OR
117.435	033	1,4-Dichlorobenzene	EPA 8270 C	OR
117.435	034	2-Chloronaphthalene	EPA 8270 C	OR
117.435	035	2-Chlorophenol	EPA 8270 C	OR
117.435	036	2,4-Dichlorophenol	EPA 8270 C	OR
117.435	037	2,4-Dimethylphenol	EPA 8270 C	OR
117.435	038	2,4-Dinitrophenol	EPA 8270 C	OR
117.435	039	2,4-Dinitrotoluene	EPA 8270 C	OR
117.435	041	2,6-Dinitrotoluene	EPA 8270 C	OR
117.435	042	2-Nitroaniline	EPA 8270 C	OR
117.435	043	2-Nitrophenol	EPA 8270 C	OR
117.435	044	3-Nitroaniline	EPA 8270 C	OR
117.435	045	3,3'-Dichlorobenzidine	EPA 8270 C	OR
117.435	046	4-Chloroaniline	EPA 8270 C	OR
117.435	047	4-Chloro-3-methylphenol	EPA 8270 C	OR
117.435	048	4-Bromophenyl Phenyl Ether	EPA 8270 C	OR
117.435	049	4-Chlorophenyl Phenyl Ether	EPA 8270 C	OR
117.435	050	4-Nitroaniline	EPA 8270 C	OR
117.435	051	4-Nitrophenol	EPA 8270 C	OR
117.435	088	N-nitrosodimethylamine	EPA 8270 C	OR
117.435	089	N-nitrosodiphenylamine	EPA 8270 C	OR
117.435	090	N-nitroso-di-n-propylamine	EPA 8270 C	OR

Field of Accreditation:130 - Inorganic constituents in Hazardous waste (Matrix Aqueous)

130.010	002	Antimony	EPA 6010 B	OR

130.010	003	Arsenic	EPA 6010 B	OR
130.010	004	Barium	EPA 6010 B	OR
130.010	005	Beryllium	EPA 6010 B	OR
130.010	007	Cadmium	EPA 6010 B	OR
130.010	009	Chromium	EPA 6010 B	OR
130.010	010	Cobalt	EPA 6010 B	OR
130.010	011	Copper	EPA 6010 B	OR
130.010	013	Lead	EPA 6010 B	OR
130.010	016	Molybdenum	EPA 6010 B	OR
130.010	017	Nickel	EPA 6010 B	OR
130.010	019	Selenium	EPA 6010 B	OR
130.010	020	Silver	EPA 6010 B	OR
130.010	023	Thallium	EPA 6010 B	OR
130.010	026	Vanadium	EPA 6010 B	OR
130.010	027	Zinc	EPA 6010 B	OR
130.030	002	Antimony	EPA 6020	OR
130.030	003	Arsenic	EPA 6020	OR
130.030	004	Barium	EPA 6020	OR
130.030	005	Beryllium	EPA 6020	OR
130.030	006	Cadmium	EPA 6020	OR
130.030	007	Chromium	EPA 6020	OR
130.030	008	Cobalt	EPA 6020	OR
130.030	009	Copper	EPA 6020	OR
130.030	010	Lead	EPA 6020	OR
130.030	012	Nickel	EPA 6020	OR
130.030	013	Silver	EPA 6020	OR
130.030	014	Thallium	EPA 6020	OR
130.030	015	Zinc	EPA 6020	OR
130.030	016	Molybdenum	EPA 6020	OR
130.030	017	Selenium	EPA 6020	OR
130.250	001	Mercury	EPA 7470 A	OR
130.430	001	Cyanide, Total	EPA 9012 A	OR

Field of Accreditation:131 - Leaching/Extraction, Physical Chacterstics in Hazardous Waste (Matrix Aqueous)

131.110	001	Corrosivity - pH Determination	EPA 9040 B	OR

Field of Accreditation:132 - Volatile Organic Compounds in Hazardous Waste (Matrix Aqueous)

132.010	001	1,2-Dibromoethane (EDB)	EPA 8011	OR
132.010	002	1,2-Dibromo-3-chloropropane (DBCP)	EPA 8011	OR
132.060	001	Benzene	EPA 8260 B	OR
132.060	002	Bromobenzene	EPA 8260 B	OR
132.060	003	Bromochloromethane	EPA 8260 B	OR
132.060	004	Bromodichloromethane	EPA 8260 B	OR
132.060	005	Bromoform	EPA 8260 B	OR

132.060	006	Bromomethane (Methyl Bromide)	EPA 8260 B	OR
132.060	007	n-Butylbenzene	EPA 8260 B	OR
132.060	008	sec-Butylbenzene	EPA 8260 B	OR
132.060	009	tert-Butylbenzene	EPA 8260 B	OR
132.060	010	Carbon Disulfide	EPA 8260 B	OR
132.060	011	Carbon Tetrachloride	EPA 8260 B	OR
132.060	012	Chlorobenzene	EPA 8260 B	OR
132.060	013	Chlorodibromomethane (Dibromochloromethane)	EPA 8260 B	OR
132.060	014	Chloroethane	EPA 8260 B	OR
132.060	015	Chloroform	EPA 8260 B	OR
132.060	016	Chloromethane (Methyl Chloride)	EPA 8260 B	OR
132.060	017	Dibromomethane	EPA 8260 B	OR
132.060	018	Dichlorodifluoromethane (Freon 12)	EPA 8260 B	OR
132.060	019	cis-1,2-Dichloroethylene (cis 1,2 Dichloroethene)	EPA 8260 B	OR
132.060	020	trans-1,2-Dichloroethylene (trans- 1,2 Dichloroethene)	EPA 8260 B	OR
132.060	021	cis-1,3-Dichloropropylene (cis 1,3 Dichloropropene)	EPA 8260 B	OR
132.060	022	trans-1,3-Dichloropropylene (trans-1,3 Dichloropropene)	EPA 8260 B	OR
132.060	023	Ethylbenzene	EPA 8260 B	OR
132.060	024	Hexachlorobutadiene	EPA 8260 B	OR
132.060	025	Methyl tert-butyl Ether (MTBE)	EPA 8260 B	OR
132.060	026	Methylene Chloride (Dichloromethane)	EPA 8260 B	OR
132.060	027	Naphthalene	EPA 8260 B	OR
132.060	029	N-propylbenzene	EPA 8260 B	OR
132.060	030	Styrene	EPA 8260 B	OR
132.060	031	Tetrachloroethylene (Tetrachloroethene)	EPA 8260 B	OR
132.060	032	Toluene	EPA 8260 B	OR
132.060	033	Trichloroethylene (Trichloroethene)	EPA 8260 B	OR
132.060	034	Trichlorofluoromethane	EPA 8260 B	OR
132.060	035	Vinyl Chloride	EPA 8260 B	OR
132.060	036	m+p-Xylene	EPA 8260 B	OR
132.060	037	o-Xylene	EPA 8260 B	OR
132.060	038	m-Xylene	EPA 8260 B	OR
132.060	039	p-Xylene	EPA 8260 B	OR
132.060	040	1,1-Dichloroethane	EPA 8260 B	OR
132.060	041	1,1-Dichloroethylene (1,1-Dichloroethene)	EPA 8260 B	OR
132.060	042	1,1,1-Trichloroethane	EPA 8260 B	OR
132.060	043	1,1,1,2-Tetrachloroethane	EPA 8260 B	OR
132.060	044	1,1,2,2-Tetrachloroethane	EPA 8260 B	OR
132.060	045	1,1,2-Trichloroethane	EPA 8260 B	OR
132.060	046	1,2-Dichlorobenzene	EPA 8260 B	OR
132.060	047	1,2-Dichloroethane (Ethylene Dichloride)	EPA 8260 B	OR
132.060	048	1,2-Dibromoethane (EDB)	EPA 8260 B	OR

132.060	049	1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260 B	OR
132.060	050	1,2-Dichloropropane	EPA 8260 B	OR
132.060	051	1,2,3-Trichloropropane (TCP)	EPA 8260 B	OR
132.060	052	1,2,4-Trichlorobenzene	EPA 8260 B	OR
132.060	053	1,3-Dichlorobenzene	EPA 8260 B	OR
132.060	054	1,4-Dichlorobenzene	EPA 8260 B	OR
132.060	055	2-Chloroethyl vinyl Ether	EPA 8260 B	OR
132.060	056	4-Chlorotoluene	EPA 8260 B	OR
132.060	057	4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	EPA 8260 B	OR

Field of Accreditation:133 - Semi-Volatile Organic Chemistry in Hazardous Waste (Matrix Aqueous)

133.010	001	Gasoline Range Organics (GRO)	EPA 8015 B	OR
133.010	002	Diesel Range Organics (DRO)	EPA 8015 B	OR
133.090	001	Aldrin	EPA 8081 A	OR
133.090	002	alpha-BHC	EPA 8081 A	OR
133.090	003	beta-BHC	EPA 8081 A	OR
133.090	004	delta-BHC	EPA 8081 A	OR
133.090	005	gamma-BHC (Lindane)	EPA 8081 A	OR
133.090	006	Chlordane	EPA 8081 A	OR
133.090	007	trans-Chlordane	EPA 8081 A	OR
133.090	008	4,4'-DDD	EPA 8081 A	OR
133.090	009	4,4'-DDE	EPA 8081 A	OR
133.090	010	4,4'-DDT	EPA 8081 A	OR
133.090	011	Dieldrin	EPA 8081 A	OR
133.090	012	Endosulfan I	EPA 8081 A	OR
133.090	013	Endosulfan II	EPA 8081 A	OR
133.090	014	Endosulfan Sulfate	EPA 8081 A	OR
133.090	015	Endrin	EPA 8081 A	OR
133.090	016	Endrin Aldehyde	EPA 8081 A	OR
133.090	017	Endrin Ketone	EPA 8081 A	OR
133.090	018	Heptachlor	EPA 8081 A	OR
133.090	019	Heptachlor Epoxide	EPA 8081 A	OR
133.090	020	Methoxychlor	EPA 8081 A	OR
133.090	021	Toxaphene	EPA 8081 A	OR
133.120	001	Aroclor 1016	EPA 8082	OR
133.120	002	Aroclor 1221	EPA 8082	OR
133.120	003	Aroclor 1232	EPA 8082	OR
133.120	004	Aroclor 1242	EPA 8082	OR
133.120	005	Aroclor 1248	EPA 8082	OR
133.120	006	Aroclor 1254	EPA 8082	OR
133.120	007	Aroclor 1260	EPA 8082	OR
133.230	001	Acenaphthene	EPA 8270 C	OR
133.230	002	Acenaphthylene	EPA 8270 C	OR

133.230	003	Aniline	EPA 8270 C	OR
133.230	004	Anthracene	EPA 8270 C	OR
133.230	006	Benzoic Acid	EPA 8270 C	OR
133.230	007	Benzo(a)anthracene	EPA 8270 C	OR
133.230	008	Benzo(b)fluoranthene	EPA 8270 C	OR
133.230	009	Benzo(k)fluoranthene	EPA 8270 C	OR
133.230	010	Benzo(g,h,i)perylene	EPA 8270 C	OR
133.230	011	Benzo(a)pyrene	EPA 8270 C	OR
133.230	012	Benzyl Alcohol	EPA 8270 C	OR
133.230	013	Bis(2-chloroethoxy) Methane	EPA 8270 C	OR
133.230	014	Bis(2-chloroethyl) Ether	EPA 8270 C	OR
133.230	015	Bis(2-ethylhexyl)phthalate (Di(2-ethylhexyl) phthalate)	EPA 8270 C	OR
133.230	016	Butyl Benzyl Phthalate	EPA 8270 C	OR
133.230	017	Chrysene	EPA 8270 C	OR
133.230	018	Dibenz(a,h)anthracene	EPA 8270 C	OR
133.230	019	Dibenzofuran	EPA 8270 C	OR
133.230	020	Di-n-butyl Phthalate	EPA 8270 C	OR
133.230	021	Diethyl Phthalate	EPA 8270 C	OR
133.230	022	Dimethyl Phthalate	EPA 8270 C	OR
133.230	023	Di-n-octyl Phthalate	EPA 8270 C	OR
133.230	024	Fluoranthene	EPA 8270 C	OR
133.230	025	Fluorene	EPA 8270 C	OR
133.230	026	Naphthalene	EPA 8270 C	OR
133.230	027	Nitrobenzene	EPA 8270 C	OR
133.230	029	Pentachlorophenol	EPA 8270 C	OR
133.230	031	1,2-Dichlorobenzene	EPA 8270 C	OR
133.230	032	1,3-Dichlorobenzene	EPA 8270 C	OR
133.230	033	1,4-Dichlorobenzene	EPA 8270 C	OR
133.230	034	2-Chloronaphthalene	EPA 8270 C	OR
133.230	035	2-Chlorophenol	EPA 8270 C	OR
133.230	036	2,4-Dichlorophenol	EPA 8270 C	OR
133.230	037	2,4-Dimethylphenol	EPA 8270 C	OR
133.230	038	2,4-Dinitrophenol	EPA 8270 C	OR
133.230	039	2,4-Dinitrotoluene	EPA 8270 C	OR
133.230	041	2,6-Dinitrotoluene	EPA 8270 C	OR
133.230	042	2-Nitroaniline	EPA 8270 C	OR
133.230	043	2-Nitrophenol	EPA 8270 C	OR
133.230	044	3-Nitroaniline	EPA 8270 C	OR
133.230	045	3,3'-Dichlorobenzidine	EPA 8270 C	OR
133.230	046	4-Chloroaniline	EPA 8270 C	OR
133.230	047	4-Chloro-3-methylphenol	EPA 8270 C	OR
133.230	048	4-Bromophenyl Phenyl Ether	EPA 8270 C	OR

133.230	049	4-Chlorophenyl Phenyl Ether	EPA 8270 C	OR
133.230	050	4-Nitroaniline	EPA 8270 C	OR
133.230	051	4-Nitrophenol	EPA 8270 C	OR
133.230	088	N-nitrosodimethylamine	EPA 8270 C	OR
133.230	089	N-nitrosodiphenylamine	EPA 8270 C	OR
133.230	090	N-nitroso-di-n-propylamine	EPA 8270 C	OR

CALIFORNIA STATE
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Fields of Accreditation

Eurofins Lancaster Laboratories Environment Testing, LLC

2425 New Holland Pike
Lancaster, PA 17601
Phone: 7176562300

Certificate Number: 2792
Expiration Date: 1/31/2022

				Primary Accreditation Body
Field of Accreditation: 102 - Inorganic Chemistry of Drinking Water				
102.020	001	Turbidity	EPA 180.1	PA
102.026	001	Calcium	EPA 200.7	PA
102.026	002	Magnesium	EPA 200.7	PA
102.026	003	Potassium	EPA 200.7	PA
102.026	005	Sodium	EPA 200.7	PA
102.030	003	Chloride	EPA 300.0	PA
102.030	005	Fluoride	EPA 300.0	PA
102.030	006	Nitrate (as N)	EPA 300.0	PA
102.030	007	Nitrite (as N)	EPA 300.0	PA
102.030	009	Sulfate (as SO4)	EPA 300.0	PA
102.050	001	Cyanide, Total	EPA 335.4	PA
102.060	001	Nitrate (as N) (Calculation)	EPA 353.2	PA
102.061	001	Nitrite (as N)	EPA 353.2	PA
102.095	001	Turbidity	SM 2130 B-2001	PA
102.100	001	Alkalinity	SM 2320 B-1997	PA
102.120	001	Hardness (Calculation)	SM 2340 B-1997	PA
102.121	001	Hardness	SM 2340 C-1997	PA
102.130	001	Specific Conductance	SM 2510 B-1997	PA
102.140	001	Residue, Filterable TDS	SM 2540 C-1997	PA
102.174	002	Chlorine, Total Residual	SM 4500-Cl F-2000	PA
102.200	001	Fluoride	SM 4500-F C-1997	PA
102.203	001	Hydrogen Ion (pH)	SM 4500-H+ B-2000	PA
102.240	001	Phosphate,Ortho (as P)	SM 4500-P E-1999	PA
102.242	001	Silica	SM 4500-SiO2 C-1997	PA
102.262	001	Organic Carbon-Total (TOC)	SM 5310 C-2000	PA
102.270	001	Surfactants	SM 5540 C-2000	PA
Field of Accreditation: 103 - Toxic Chemical Elements of Drinking Water				
103.130	003	Barium	EPA 200.7	PA
103.130	007	Chromium	EPA 200.7	PA
103.130	008	Copper	EPA 200.7	PA
103.130	009	Iron	EPA 200.7	PA
103.130	011	Manganese	EPA 200.7	PA
103.130	012	Nickel	EPA 200.7	PA

103.130	015	Silver	EPA 200.7	PA
103.130	017	Zinc	EPA 200.7	PA
103.140	001	Aluminum	EPA 200.8	PA
103.140	002	Antimony	EPA 200.8	PA
103.140	003	Arsenic	EPA 200.8	PA
103.140	004	Barium	EPA 200.8	PA
103.140	005	Beryllium	EPA 200.8	PA
103.140	006	Cadmium	EPA 200.8	PA
103.140	007	Chromium	EPA 200.8	PA
103.140	008	Copper	EPA 200.8	PA
103.140	009	Lead	EPA 200.8	PA
103.140	010	Manganese	EPA 200.8	PA
103.140	012	Nickel	EPA 200.8	PA
103.140	013	Selenium	EPA 200.8	PA
103.140	015	Thallium	EPA 200.8	PA
103.140	016	Zinc	EPA 200.8	PA
103.160	001	Mercury	EPA 245.1	PA

Field of Accreditation:104 - Volatile Organic Chemistry of Drinking Water

104.035	001	1,2,3-Trichloropropane (TCP)	SRL 524M-TCP	CA
104.040	001	Benzene	EPA 524.2	PA
104.040	007	n-Butylbenzene	EPA 524.2	PA
104.040	008	sec-Butylbenzene	EPA 524.2	PA
104.040	009	tert-Butylbenzene	EPA 524.2	PA
104.040	010	Carbon Tetrachloride	EPA 524.2	PA
104.040	011	Chlorobenzene	EPA 524.2	PA
104.040	015	2-Chlorotoluene	EPA 524.2	PA
104.040	016	4-Chlorotoluene	EPA 524.2	PA
104.040	019	1,3-Dichlorobenzene	EPA 524.2	PA
104.040	020	1,2-Dichlorobenzene	EPA 524.2	PA
104.040	021	1,4-Dichlorobenzene	EPA 524.2	PA
104.040	022	Dichlorodifluoromethane	EPA 524.2	PA
104.040	023	1,1-Dichloroethane	EPA 524.2	PA
104.040	024	1,2-Dichloroethane (Ethylene Dichloride)	EPA 524.2	PA
104.040	025	1,1-Dichloroethylene (1,1-Dichloroethene)	EPA 524.2	PA
104.040	026	cis-1,2-Dichloroethylene (cis 1,2 Dichloroethene)	EPA 524.2	PA
104.040	027	trans-1,2-Dichloroethylene (trans- 1,2 Dichloroethene)	EPA 524.2	PA
104.040	028	Dichloromethane (Methylene Chloride)	EPA 524.2	PA
104.040	029	1,2-Dichloropropane	EPA 524.2	PA
104.040	033	cis-1,3-Dichloropropylene (cis 1,3 Dichloropropene)	EPA 524.2	PA
104.040	034	trans-1,3-Dichloropropylene (trans-1,3 Dichloropropene)	EPA 524.2	PA
104.040	035	Ethylbenzene	EPA 524.2	PA
104.040	037	Isopropylbenzene	EPA 524.2	PA

104.040	039	Naphthalene	EPA 524.2	PA
104.040	041	N-propylbenzene	EPA 524.2	PA
104.040	042	Styrene	EPA 524.2	PA
104.040	043	1,1,1,2-Tetrachloroethane	EPA 524.2	PA
104.040	044	1,1,2,2-Tetrachloroethane	EPA 524.2	PA
104.040	045	Tetrachloroethylene (Tetrachloroethene)	EPA 524.2	PA
104.040	046	Toluene	EPA 524.2	PA
104.040	047	1,2,3-Trichlorobenzene	EPA 524.2	PA
104.040	048	1,2,4-Trichlorobenzene	EPA 524.2	PA
104.040	049	1,1,1-Trichloroethane	EPA 524.2	PA
104.040	050	1,1,2-Trichloroethane	EPA 524.2	PA
104.040	051	Trichloroethylene (Trichloroethene)	EPA 524.2	PA
104.040	052	Trichlorofluoromethane	EPA 524.2	PA
104.040	054	1,2,4-Trimethylbenzene	EPA 524.2	PA
104.040	055	1,3,5-Trimethylbenzene	EPA 524.2	PA
104.040	056	Vinyl Chloride	EPA 524.2	PA
104.040	059	o-Xylene	EPA 524.2	PA
104.040	061	Carbon Disulfide	EPA 524.2	PA
104.040	062	Methyl isobutyl ketone (MIBK, 4-Methyl-2-pentanone)	EPA 524.2	PA
104.040	063	m+p-Xylene	EPA 524.2	PA
104.045	001	Bromodichloromethane	EPA 524.2	PA
104.045	002	Bromoform	EPA 524.2	PA
104.045	003	Chloroform	EPA 524.2	PA
104.045	004	Dibromochloromethane (Chlorodibromomethane)	EPA 524.2	PA
104.050	002	Methyl tert-butyl Ether (MTBE)	EPA 524.2	PA
104.050	003	tert-Amyl Methyl Ether (TAME)	EPA 524.2	PA
104.050	004	Ethyl tert-butyl Ether (ETBE)	EPA 524.2	PA
104.050	006	t-Butyl alcohol (2-Methyl-2-propanol)	EPA 524.2	PA

Field of Accreditation:105 - Semi-volatile Organic Chemistry of Drinking Water

105.100	001	Aldicarb (Temik)	EPA 531.1	PA
105.100	002	Aldicarb Sulfone	EPA 531.1	PA
105.100	003	Aldicarb Sulfoxide	EPA 531.1	PA
105.100	004	Carbaryl (Sevin)	EPA 531.1	PA
105.100	005	Carbofuran (Furadan)	EPA 531.1	PA
105.100	006	3-Hydroxycarbofuran	EPA 531.1	PA
105.100	007	Methomyl (Lannate)	EPA 531.1	PA
105.100	008	Oxamyl	EPA 531.1	PA
105.106	001	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	EPA 537.1	PA
105.106	002	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	EPA 537.1	PA
105.106	003	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	EPA 537.1	PA
105.106	004	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	EPA 537.1	PA
105.106	005	N-Ethylperfluorooctane Sulfonamido Acetic Acid (NEtFOSAA)	EPA 537.1	PA

105.106	006	N-Methylperfluorooctane Sulfonamido Acetic Acid (NMeFOSAA)	EPA 537.1	PA
105.106	007	Perfluorobutane Sulfonic Acid (PFBS)	EPA 537.1	PA
105.106	008	Perfluorodecanoic Acid (PFDA)	EPA 537.1	PA
105.106	009	Perfluorododecanoic Acid (PFDoA)	EPA 537.1	PA
105.106	010	Perfluoroheptanoic Acid (PFHpA)	EPA 537.1	PA
105.106	011	Perfluorohexane Sulfonic Acid (PFHxS)	EPA 537.1	PA
105.106	012	Perfluorohexanoic Acid (PFHxA)	EPA 537.1	PA
105.106	013	Perfluorononanoic Acid (PFNA)	EPA 537.1	PA
105.106	014	Perfluorooctanoic Acid (PFOA)	EPA 537.1	PA
105.106	015	Perfluorooctane Sulfonic Acid (PFOS)	EPA 537.1	PA
105.106	016	Perfluorotetradecanoic Acid (PFTDA)	EPA 537.1	PA
105.106	017	Perfluorotridecanoic Acid (PFTrDA)	EPA 537.1	PA
105.106	018	Perfluoroundecanoic Acid (PFUnDA)	EPA 537.1	PA
105.230	001	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	EPA 1613 B	PA

Field of Accreditation: 108 - Inorganic Constituents in Non-Potable Water

108.009	001	Turbidity	EPA 180.1 (1993 Rev. 2.0)	PA
108.013	001	Calcium	EPA 200.7 (1994 Rev. 4.4)	PA
108.013	002	Magnesium	EPA 200.7 (1994 Rev. 4.4)	PA
108.013	004	Potassium	EPA 200.7 (1994 Rev. 4.4)	PA
108.013	006	Sodium	EPA 200.7 (1994 Rev. 4.4)	PA
108.015	001	Calcium	EPA 200.8 (1994 Rev. 5.4)	PA
108.015	002	Magnesium	EPA 200.8 (1994 Rev. 5.4)	PA
108.015	003	Potassium	EPA 200.8 (1994 Rev. 5.4)	PA
108.015	005	Sodium	EPA 200.8 (1994 Rev. 5.4)	PA
108.017	001	Bromide	EPA 300.0 (1993 Rev. 2.1)	PA
108.017	002	Chloride	EPA 300.0 (1993 Rev. 2.1)	PA
108.017	003	Fluoride	EPA 300.0 (1993 Rev. 2.1)	PA
108.017	004	Nitrate (as N)	EPA 300.0 (1993 Rev. 2.1)	PA
108.017	006	Nitrite (as N)	EPA 300.0 (1993 Rev. 2.1)	PA
108.017	008	Sulfate (as SO4)	EPA 300.0 (1993 Rev. 2.1)	PA
108.023	001	Cyanide, Total	EPA 335.4 (1993 Rev. 1.0)	PA
108.025	001	Ammonia (as N)	EPA 350.1 (1993 Rev. 2.0)	PA
108.029	001	Kjeldahl Nitrogen,Total (as N)	EPA 351.2 (1993 Rev. 2.0)	PA
108.033	001	Nitrate-Nitrite (as N)	EPA 353.2 (1993 Rev. 2.0)	PA
108.033	002	Nitrite (as N)	EPA 353.2 (1993 Rev. 2.0)	PA
108.035	002	Phosphorus,Total	EPA 365.1 (1993 Rev. 2.0)	PA
108.037	001	Phosphate,Ortho (as P)	EPA 365.3 (1978)	PA
108.045	001	Chemical Oxygen Demand	EPA 410.4 (1993 Rev. 2.0)	PA
108.049	001	Phenols, Total	EPA 420.4 (1993 Rev. 2.0)	PA
108.053	002	Oil & Grease Total	EPA 1664 B	PA
108.055	001	Color	SM 2120 B-2011	PA
108.061	001	Acidity	SM 2310 B-2011	PA

108.063	001	Alkalinity	SM 2320 B-2011	PA
108.065	001	Hardness (Calculation)	SM 2340 B-2011	PA
108.067	001	Hardness	SM 2340 C-2011	PA
108.069	001	Specific Conductance	SM 2510 B-2011	PA
108.071	001	Residue, Total	SM 2540 B-2011	PA
108.073	001	Residue, Filterable TDS	SM 2540 C-2011	PA
108.075	001	Residue, Non-filterable TSS	SM 2540 D-2011	PA
108.079	001	Residue, Settleable	SM 2540 F-2011	PA
108.080	001	Temperature	SM 2550 B-2010	PA
108.109	001	Chlorine, Total Residual	SM 4500-Cl F-2011	PA
108.117	001	Chloride	SM 4500-Chloride C-2011	PA
108.131	001	Fluoride	SM 4500-F C-2011	PA
108.137	001	Hydrogen Ion (pH)	SM 4500-H+ B-2011	PA
108.139	001	Ammonia (as N)	SM 4500-NH3 C-2011	PA
108.140	001	Ammonia (as N)	SM 4500-NH3 D-2011	PA
108.173	001	Oxygen, Dissolved	SM 4500-O G-2011	PA
108.175	001	Phosphate,Ortho (as P)	SM 4500-P E-2011	PA
108.177	002	Phosphorus,Total	SM 4500-P F-2011	PA
108.184	001	Silica, Dissolved	SM 4500-SiO2 C-2011	PA
108.189	001	Sulfite (as SO3)	SM 4500-SO3 B-2011	PA
108.201	001	Sulfide (as S)	SM 4500-S D-2011	PA
108.203	001	Sulfide (as S)	SM 4500-S F-2011	PA
108.207	001	Biochemical Oxygen Demand	SM 5210 B-2011	PA
108.207	002	Carbonaceous BOD	SM 5210 B-2011	PA
108.217	001	Organic Carbon-Total (TOC)	SM 5310 C-2011	PA
108.225	001	Surfactants	SM 5540 C-2011	PA
108.321	001	Cyanide, Total	ASTM D7511-12	PA
108.333	001	Oxygen, Dissolved	Hach 10360	PA
108.339	001	Cyanide, Available	OIA-1677-09	PA
108.339	002	Cyanide, Free	OIA-1677-09	PA

Field of Accreditation:109 - Metals and Trace Elements in Non-Potable Water

109.623	001	Aluminum	EPA 200.7 (1994 Rev. 4.4)	PA
109.623	002	Antimony	EPA 200.7 (1994 Rev. 4.4)	PA
109.623	003	Arsenic	EPA 200.7 (1994 Rev. 4.4)	PA
109.623	004	Barium	EPA 200.7 (1994 Rev. 4.4)	PA
109.623	005	Beryllium	EPA 200.7 (1994 Rev. 4.4)	PA
109.623	006	Boron	EPA 200.7 (1994 Rev. 4.4)	PA
109.623	007	Cadmium	EPA 200.7 (1994 Rev. 4.4)	PA
109.623	008	Chromium	EPA 200.7 (1994 Rev. 4.4)	PA
109.623	009	Cobalt	EPA 200.7 (1994 Rev. 4.4)	PA
109.623	010	Copper	EPA 200.7 (1994 Rev. 4.4)	PA
109.623	011	Iron	EPA 200.7 (1994 Rev. 4.4)	PA

109.623	012	Lead	EPA 200.7 (1994 Rev. 4.4)	PA
109.623	013	Manganese	EPA 200.7 (1994 Rev. 4.4)	PA
109.623	014	Molybdenum	EPA 200.7 (1994 Rev. 4.4)	PA
109.623	015	Nickel	EPA 200.7 (1994 Rev. 4.4)	PA
109.623	016	Selenium	EPA 200.7 (1994 Rev. 4.4)	PA
109.623	017	Silver	EPA 200.7 (1994 Rev. 4.4)	PA
109.623	018	Thallium	EPA 200.7 (1994 Rev. 4.4)	PA
109.623	019	Tin	EPA 200.7 (1994 Rev. 4.4)	PA
109.623	020	Titanium	EPA 200.7 (1994 Rev. 4.4)	PA
109.623	021	Vanadium	EPA 200.7 (1994 Rev. 4.4)	PA
109.623	022	Zinc	EPA 200.7 (1994 Rev. 4.4)	PA
109.625	001	Aluminum	EPA 200.8 (1994 Rev. 5.4)	PA
109.625	002	Antimony	EPA 200.8 (1994 Rev. 5.4)	PA
109.625	003	Arsenic	EPA 200.8 (1994 Rev. 5.4)	PA
109.625	004	Barium	EPA 200.8 (1994 Rev. 5.4)	PA
109.625	005	Beryllium	EPA 200.8 (1994 Rev. 5.4)	PA
109.625	007	Cadmium	EPA 200.8 (1994 Rev. 5.4)	PA
109.625	008	Chromium	EPA 200.8 (1994 Rev. 5.4)	PA
109.625	009	Cobalt	EPA 200.8 (1994 Rev. 5.4)	PA
109.625	010	Copper	EPA 200.8 (1994 Rev. 5.4)	PA
109.625	012	Iron	EPA 200.8 (1994 Rev. 5.4)	PA
109.625	013	Lead	EPA 200.8 (1994 Rev. 5.4)	PA
109.625	014	Manganese	EPA 200.8 (1994 Rev. 5.4)	PA
109.625	015	Molybdenum	EPA 200.8 (1994 Rev. 5.4)	PA
109.625	016	Nickel	EPA 200.8 (1994 Rev. 5.4)	PA
109.625	017	Selenium	EPA 200.8 (1994 Rev. 5.4)	PA
109.625	018	Silver	EPA 200.8 (1994 Rev. 5.4)	PA
109.625	019	Thallium	EPA 200.8 (1994 Rev. 5.4)	PA
109.625	020	Tin	EPA 200.8 (1994 Rev. 5.4)	PA
109.625	021	Titanium	EPA 200.8 (1994 Rev. 5.4)	PA
109.625	022	Vanadium	EPA 200.8 (1994 Rev. 5.4)	PA
109.625	023	Zinc	EPA 200.8 (1994 Rev. 5.4)	PA
109.629	001	Chromium VI (Hexavalent Chromium)	EPA 218.6 (1994 Rev. 3.3)	PA
109.635	001	Mercury	EPA 245.1 (1994 Rev. 3.0)	PA
109.685	002	Chromium VI (Hexavalent Chromium)	SM 3500-Cr B-2011	
109.693	001	Iron	SM 3500-Fe B-2011	

Field of Accreditation: 110 - Volatile Organic Constituents in Non-Potable Water

110.040	001	Acetone	EPA 624.1	PA
110.040	002	Acetonitrile	EPA 624.1	PA
110.040	003	Acrolein	EPA 624.1	PA
110.040	004	Acrylonitrile	EPA 624.1	PA
110.040	005	Benzene	EPA 624.1	PA

110.040	006	Bromodichloromethane	EPA 624.1	PA
110.040	007	Bromoform	EPA 624.1	PA
110.040	008	Bromomethane (Methyl Bromide)	EPA 624.1	PA
110.040	009	t-Butyl alcohol (2-Methyl-2-propanol)	EPA 624.1	PA
110.040	010	Carbon Tetrachloride	EPA 624.1	PA
110.040	011	Chlorobenzene	EPA 624.1	PA
110.040	012	Chloroethane	EPA 624.1	PA
110.040	013	2-Chloroethyl vinyl Ether	EPA 624.1	PA
110.040	014	Chloroform	EPA 624.1	PA
110.040	015	Chloromethane (Methyl Chloride)	EPA 624.1	PA
110.040	016	Dibromochloromethane (Chlorodibromomethane)	EPA 624.1	PA
110.040	017	1,2-Dichlorobenzene	EPA 624.1	PA
110.040	018	1,3-Dichlorobenzene	EPA 624.1	PA
110.040	019	1,4-Dichlorobenzene	EPA 624.1	PA
110.040	020	1,1-Dichloroethane	EPA 624.1	PA
110.040	021	1,2-Dichloroethane (Ethylene Dichloride)	EPA 624.1	PA
110.040	022	1,1-Dichloroethylene (1,1-Dichloroethene)	EPA 624.1	PA
110.040	023	trans-1,2-Dichloroethylene (trans- 1,2 Dichloroethene)	EPA 624.1	PA
110.040	024	1,2-Dichloropropane	EPA 624.1	PA
110.040	025	cis-1,3-Dichloropropylene (cis 1,3 Dichloropropene)	EPA 624.1	PA
110.040	026	trans-1,3-Dichloropropylene (trans-1,3 Dichloropropene)	EPA 624.1	PA
110.040	028	Ethyl Acetate	EPA 624.1	PA
110.040	029	Ethylbenzene	EPA 624.1	PA
110.040	031	Methylene Chloride (Dichloromethane)	EPA 624.1	PA
110.040	032	4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	EPA 624.1	PA
110.040	034	1,1,2,2-Tetrachloroethane	EPA 624.1	PA
110.040	035	Tetrachloroethylene (Tetrachloroethene)	EPA 624.1	PA
110.040	036	Tetrahydrofuran	EPA 624.1	PA
110.040	037	Toluene	EPA 624.1	PA
110.040	038	1,1,1-Trichloroethane	EPA 624.1	PA
110.040	039	1,1,2-Trichloroethane	EPA 624.1	PA
110.040	040	Trichloroethylene (Trichloroethene)	EPA 624.1	PA
110.040	041	Vinyl Chloride	EPA 624.1	PA
110.040	043	o-Xylene	EPA 624.1	PA
110.040	045	Trichlorofluoromethane	EPA 624.1	PA
110.040	046	m+p-Xylene	EPA 624.1	PA
110.040	047	2-Butanone (MEK)	EPA 624.1	PA
110.070	002	n-Amyl Acetate	EPA 1666 A	PA
110.070	003	n-Amyl Alcohol	EPA 1666 A	PA
110.070	004	n-Butyl Acetate	EPA 1666 A	PA
110.070	005	t-Butyl alcohol (2-Methyl-2-propanol)	EPA 1666 A	PA
110.070	009	Ethyl Acetate	EPA 1666 A	PA

110.070	010	n-Heptane	EPA 1666 A	PA
110.070	011	n-Hexane	EPA 1666 A	PA
110.070	012	Isobutyraldehyde	EPA 1666 A	PA
110.070	013	Isopropyl Acetate	EPA 1666 A	PA
110.070	014	Isopropyl Alcohol (Isopropanol)	EPA 1666 A	PA
110.070	018	Methyl Formate	EPA 1666 A	PA
110.070	019	4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	EPA 1666 A	PA
110.070	021	Tetrahydrofuran	EPA 1666 A	PA
110.070	023	m-Xylene	EPA 1666 A	PA
110.070	024	o-Xylene	EPA 1666 A	PA
110.070	025	p-Xylene	EPA 1666 A	PA
110.070	026	m+p-Xylene	EPA 1666 A	PA
110.090	001	Acetonitrile	EPA 1671 A	PA
110.090	002	Diethylamine	EPA 1671 A	PA
110.090	003	Dimethyl Sulfoxide	EPA 1671 A	PA
110.090	004	Ethanol	EPA 1671 A	PA
110.090	005	Methanol	EPA 1671 A	PA
110.090	006	2-Methoxyethanol	EPA 1671 A	PA
110.090	007	n-Propanol (1-Propanol)	EPA 1671 A	PA
110.090	008	Triethylamine	EPA 1671 A	PA

Field of Accreditation:111 - Semi-volatile Organic Constituents in Non-Potable Water

111.055	001	Aldrin	EPA 608.3	PA
111.055	002	alpha-BHC	EPA 608.3	PA
111.055	003	beta-BHC	EPA 608.3	PA
111.055	004	delta-BHC	EPA 608.3	PA
111.055	005	gamma-BHC (Lindane)	EPA 608.3	PA
111.055	006	Chlordane	EPA 608.3	PA
111.055	007	4,4'-DDD	EPA 608.3	PA
111.055	008	4,4'-DDE	EPA 608.3	PA
111.055	009	4,4'-DDT	EPA 608.3	PA
111.055	010	Dieldrin	EPA 608.3	PA
111.055	011	Endosulfan I	EPA 608.3	PA
111.055	012	Endosulfan II	EPA 608.3	PA
111.055	013	Endosulfan Sulfate	EPA 608.3	PA
111.055	014	Endrin	EPA 608.3	PA
111.055	015	Endrin Aldehyde	EPA 608.3	PA
111.055	016	Heptachlor	EPA 608.3	PA
111.055	017	Heptachlor Epoxide	EPA 608.3	PA
111.055	019	PCB-1016 (Aroclor-1016)	EPA 608.3	PA
111.055	020	PCB-1221 (Aroclor-1221)	EPA 608.3	PA
111.055	021	PCB-1232 (Aroclor-1232)	EPA 608.3	PA
111.055	022	PCB-1242 (Aroclor-1242)	EPA 608.3	PA

111.055	023	PCB-1248 (Aroclor-1248)	EPA 608.3	PA
111.055	024	PCB-1254 (Aroclor-1254)	EPA 608.3	PA
111.055	025	PCB-1260 (Aroclor-1260)	EPA 608.3	PA
111.055	046	Methoxychlor	EPA 608.3	PA
111.055	048	Mirex	EPA 608.3	PA
111.055	060	Toxaphene	EPA 608.3	PA
111.160	001	Acenaphthene	EPA 625.1	PA
111.160	002	Acenaphthylene	EPA 625.1	PA
111.160	003	Anthracene	EPA 625.1	PA
111.160	004	Benzidine	EPA 625.1	PA
111.160	005	Benzo(a)anthracene	EPA 625.1	PA
111.160	006	Benzo(a)pyrene	EPA 625.1	PA
111.160	007	Benzo(b)fluoranthene	EPA 625.1	PA
111.160	008	Benzo(g,h,i)perylene	EPA 625.1	PA
111.160	009	Benzo(k)fluoranthene	EPA 625.1	PA
111.160	010	Bis(2-chloroethoxy) Methane	EPA 625.1	PA
111.160	011	Bis(2-chloroethyl) Ether	EPA 625.1	PA
111.160	012	bis(2-Chloroisopropyl) ether (2,2'-Oxybis[1-chloropropane])	EPA 625.1	PA
111.160	013	Bis(2-ethylhexyl)phthalate (Di(2-ethylhexyl) phthalate)	EPA 625.1	PA
111.160	014	4-Bromophenyl Phenyl Ether	EPA 625.1	PA
111.160	015	Butyl Benzyl Phthalate	EPA 625.1	PA
111.160	016	2-Chloronaphthalene	EPA 625.1	PA
111.160	017	4-Chlorophenyl Phenyl Ether	EPA 625.1	PA
111.160	018	Chrysene	EPA 625.1	PA
111.160	019	Dibenz(a,h)anthracene	EPA 625.1	PA
111.160	020	3,3'-Dichlorobenzidine	EPA 625.1	PA
111.160	021	Diethyl Phthalate	EPA 625.1	PA
111.160	022	Dimethyl Phthalate	EPA 625.1	PA
111.160	023	Di-n-butyl Phthalate	EPA 625.1	PA
111.160	024	2,4-Dinitrotoluene	EPA 625.1	PA
111.160	025	2,6-Dinitrotoluene	EPA 625.1	PA
111.160	026	Di-n-octyl Phthalate	EPA 625.1	PA
111.160	027	Fluoranthene	EPA 625.1	PA
111.160	028	Fluorene	EPA 625.1	PA
111.160	029	Hexachlorobenzene	EPA 625.1	PA
111.160	030	Hexachlorobutadiene	EPA 625.1	PA
111.160	031	Hexachloroethane	EPA 625.1	PA
111.160	032	Indeno(1,2,3-c,d)pyrene	EPA 625.1	PA
111.160	033	Isophorone	EPA 625.1	PA
111.160	034	Naphthalene	EPA 625.1	PA
111.160	035	Nitrobenzene	EPA 625.1	PA
111.160	036	N-nitroso-di-n-propylamine	EPA 625.1	PA

111.160	037	Phenanthrene	EPA 625.1	PA
111.160	038	Pyrene	EPA 625.1	PA
111.160	039	1,2,4-Trichlorobenzene	EPA 625.1	PA
111.160	040	4-Chloro-3-methylphenol	EPA 625.1	PA
111.160	041	2-Chlorophenol	EPA 625.1	PA
111.160	042	2,4-Dichlorophenol	EPA 625.1	PA
111.160	043	2,4-Dimethylphenol	EPA 625.1	PA
111.160	044	2,4-Dinitrophenol	EPA 625.1	PA
111.160	045	2-Methyl-4,6-dinitrophenol	EPA 625.1	PA
111.160	046	2-Nitrophenol	EPA 625.1	PA
111.160	047	4-Nitrophenol	EPA 625.1	PA
111.160	048	Pentachlorophenol	EPA 625.1	PA
111.160	049	Phenol	EPA 625.1	PA
111.160	050	2,4,6-Trichlorophenol	EPA 625.1	PA
111.160	098	Hexachlorocyclopentadiene	EPA 625.1	PA
111.160	108	N-nitrosodimethylamine	EPA 625.1	PA
111.160	110	N-nitrosodiphenylamine	EPA 625.1	PA
111.160	139	Acetophenone	EPA 625.1	PA
111.160	140	Carbazole	EPA 625.1	PA
111.160	142	n-decane (n-C10)	EPA 625.1	PA
111.160	143	1,2-Diphenylhydrazine	EPA 625.1	PA
111.160	145	Pyridine	EPA 625.1	PA
111.160	146	Biphenyl (1,1'-biphenyl)	EPA 625.1	PA
111.160	151	2,4,5-Trichlorophenol	EPA 625.1	PA
111.250	001	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	EPA 1613 B	PA
111.250	002	Total Tetrachlorodibenzo-p-dioxin (TCDD)	EPA 1613 B	PA
111.250	003	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	EPA 1613 B	PA
111.250	004	Total Tetrachlorodibenzofuran (TCDF)	EPA 1613 B	PA
111.250	005	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	EPA 1613 B	PA
111.250	006	Total Pentachlorodibenzo-p-dioxin (PeCDD)	EPA 1613 B	PA
111.250	007	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	EPA 1613 B	PA
111.250	008	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	EPA 1613 B	PA
111.250	009	Total Pentachlorodibenzofuran (PeCDF)	EPA 1613 B	PA
111.250	010	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 1613 B	PA
111.250	011	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 1613 B	PA
111.250	012	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 1613 B	PA
111.250	013	Total Hexachlorodibenzo-p-dioxin (HxCDD)	EPA 1613 B	PA
111.250	014	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 1613 B	PA
111.250	015	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 1613 B	PA
111.250	016	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	EPA 1613 B	PA
111.250	017	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	EPA 1613 B	PA
111.250	018	Total Hexachlorodibenzofuran (HxCDF)	EPA 1613 B	PA

111.250	019	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	EPA 1613 B	PA
111.250	020	Total Heptachlorodibenzo-p-dioxin (HpCDD)	EPA 1613 B	PA
111.250	021	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	EPA 1613 B	PA
111.250	022	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	EPA 1613 B	PA
111.250	023	Total Heptachlorodibenzofuran (HpCDF)	EPA 1613 B	PA
111.250	024	OCDD	EPA 1613 B	PA
111.250	025	OCDF	EPA 1613 B	PA
111.345	001	N-Ethylperfluorooctane Sulfonamido Acetic Acid (NEtFOSAA)	DoD QSM Version 5.1 (or newe	DOD
111.345	002	4:2 Fluorotelomer Sulfonic Acid (4:2 FTS)	DoD QSM Version 5.1 (or newe	DOD
111.345	003	6:2 Fluorotelomer Sulfonic Acid (6:2 FTS)	DoD QSM Version 5.1 (or newe	DOD
111.345	004	8:2 Fluorotelomer Sulfonic Acid (8:2 FTS)	DoD QSM Version 5.1 (or newe	DOD
111.345	005	N-Methylperfluorooctane Sulfonamido Acetic Acid (NMeFOSAA)	DoD QSM Version 5.1 (or newe	DOD
111.345	006	Perfluorobutanoic Acid (PFBA)	DoD QSM Version 5.1 (or newe	DOD
111.345	007	Perfluorobutane Sulfonic Acid (PFBS)	DoD QSM Version 5.1 (or newe	DOD
111.345	008	Perfluorodecanoic Acid (PFDA)	DoD QSM Version 5.1 (or newe	DOD
111.345	009	Perfluorododecanoic Acid (PFDoA)	DoD QSM Version 5.1 (or newe	DOD
111.345	010	Perfluorodecane Sulfonic Acid (PFDS)	DoD QSM Version 5.1 (or newe	DOD
111.345	011	Perfluoroheptanoic Acid (PFHpA)	DoD QSM Version 5.1 (or newe	DOD
111.345	012	Perfluoroheptane Sulfonic Acid (PFHpS)	DoD QSM Version 5.1 (or newe	DOD
111.345	013	Perfluorohexane Sulfonic Acid (PFHxS)	DoD QSM Version 5.1 (or newe	DOD
111.345	014	Perfluorohexanoic Acid (PFHxA)	DoD QSM Version 5.1 (or newe	DOD
111.345	015	Perfluorononanoic Acid (PFNA)	DoD QSM Version 5.1 (or newe	DOD
111.345	016	Perfluorooctanoic Acid (PFOA)	DoD QSM Version 5.1 (or newe	DOD
111.345	017	Perfluorooctane Sulfonic Acid (PFOS)	DoD QSM Version 5.1 (or newe	DOD
111.345	018	Perfluorooctane Sulfonamide (PFOSAm)	DoD QSM Version 5.1 (or newe	DOD
111.345	019	Perfluoropentanoic Acid (PFPeA)	DoD QSM Version 5.1 (or newe	DOD
111.345	020	Perfluoropentane Sulfonic Acid (PFPeS)	DoD QSM Version 5.1 (or newe	DOD
111.345	021	Perfluorotetradecanoic Acid (PFTDA)	DoD QSM Version 5.1 (or newe	DOD
111.345	022	Perfluorotridecanoic Acid (PFTrDA)	DoD QSM Version 5.1 (or newe	DOD
111.345	023	Perfluoroundecanoic Acid (PFUnDA)	DoD QSM Version 5.1 (or newe	DOD
111.345	024	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	DoD QSM Version 5.1 (or newe	DOD
111.345	025	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	DoD QSM Version 5.1 (or newe	DOD
111.345	026	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	DoD QSM Version 5.1 (or newe	DOD
111.345	027	N-Ethylperfluorooctane Sulfonamide (EtFOSAm)	DoD QSM Version 5.1 (or newe	DOD
111.345	028	N-Ethylperfluorooctane Sulfonamido Ethanol (EtFOSE)	DoD QSM Version 5.1 (or newe	DOD
111.345	029	10:2 Fluorotelomer Sulfonic Acid (10:2 FTS)	DoD QSM Version 5.1 (or newe	DOD
111.345	030	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	DoD QSM Version 5.1 (or newe	DOD
111.345	031	N-Methylperfluorooctane Sulfonamide (NMeFOSA)	DoD QSM Version 5.1 (or newe	DOD
111.345	032	N-Methylperfluorooctane Sulfonamido Ethanol (NMeFOSE)	DoD QSM Version 5.1 (or newe	DOD
111.345	033	Perfluorohexadecanoic Acid (PFHxDA)	DoD QSM Version 5.1 (or newe	DOD
111.345	034	Perfluorononane Sulfonic Acid (PFNS)	DoD QSM Version 5.1 (or newe	DOD

Field of Accreditation:114 - Inorganic Constituents in Hazardous Waste

114.010	001	Antimony	EPA 6010 B	PA
114.010	002	Arsenic	EPA 6010 B	PA
114.010	003	Barium	EPA 6010 B	PA
114.010	004	Beryllium	EPA 6010 B	PA
114.010	005	Cadmium	EPA 6010 B	PA
114.010	006	Chromium	EPA 6010 B	PA
114.010	007	Cobalt	EPA 6010 B	PA
114.010	008	Copper	EPA 6010 B	PA
114.010	009	Lead	EPA 6010 B	PA
114.010	010	Molybdenum	EPA 6010 B	PA
114.010	011	Nickel	EPA 6010 B	PA
114.010	012	Selenium	EPA 6010 B	PA
114.010	013	Silver	EPA 6010 B	PA
114.010	014	Thallium	EPA 6010 B	PA
114.010	015	Vanadium	EPA 6010 B	PA
114.010	016	Zinc	EPA 6010 B	PA
114.020	001	Antimony	EPA 6020	PA
114.020	002	Arsenic	EPA 6020	PA
114.020	003	Barium	EPA 6020	PA
114.020	004	Beryllium	EPA 6020	PA
114.020	005	Cadmium	EPA 6020	PA
114.020	006	Chromium	EPA 6020	PA
114.020	007	Cobalt	EPA 6020	PA
114.020	008	Copper	EPA 6020	PA
114.020	009	Lead	EPA 6020	PA
114.020	010	Molybdenum	EPA 6020	PA
114.020	011	Nickel	EPA 6020	PA
114.020	012	Selenium	EPA 6020	PA
114.020	013	Silver	EPA 6020	PA
114.020	014	Thallium	EPA 6020	PA
114.020	015	Vanadium	EPA 6020	PA
114.020	016	Zinc	EPA 6020	PA
114.103	001	Chromium VI (Hexavalent Chromium)	EPA 7196 A	PA
114.106	001	Chromium VI (Hexavalent Chromium)	EPA 7199	PA
114.141	001	Mercury	EPA 7471 A	PA
114.221	001	Cyanide, Total	EPA 9012 A	PA
114.241	001	Corrosivity - pH Determination	EPA 9045 C	PA
Field of Accreditation: 115 - Leaching/Extraction Tests and Physical Characteristics of Hazardous Waste				
115.020	001	Toxicity Characteristic Leaching Procedure (TCLP)	EPA 1311	PA
115.040	001	Synthetic Precipitation Leaching Procedure (SPLP)	EPA 1312	PA
Field of Accreditation: 116 - Volatile Organic Compounds in Hazardous Waste				
116.010	000	EDB and DBCP	EPA 8011	PA

116.020	030	Nonhalogenated Volatiles	EPA 8015 B	PA
116.020	031	Methanol	EPA 8015 B	PA
116.030	001	Gasoline Range Organics (GRO)	EPA 8015 B	PA
116.080	000	Volatile Organic Compounds	EPA 8260 B	PA
116.080	120	Oxygenates	EPA 8260 B	PA

Field of Accreditation:117 - Semi-volatile Organic Chemistry of Hazardous Waste

117.010	001	Diesel Range Organics (DRO)	EPA 8015 B	PA
117.110	000	Extractable Organics	EPA 8270 C	PA
117.130	000	Dioxins and Dibenzofurans	EPA 8290	PA
117.150	000	Carbonyl Compounds	EPA 8315 A	PA
117.210	000	Organochlorine Pesticides	EPA 8081 A	PA
117.220	000	PCBs	EPA 8082	PA
117.250	000	Chlorinated Herbicides	EPA 8151 A	PA
117.270	000	Carbamates, N-methylcarbamates	EPA 8318	PA
117.575	001	N-Ethylperfluorooctane Sulfonamide (EtFOSAm)	DoD QSM Version 5.1 (or newe	DOD
117.575	002	N-Ethylperfluorooctane Sulfonamido Acetic Acid (NEtFOSAA)	DoD QSM Version 5.1 (or newe	DOD
117.575	003	N-Ethylperfluorooctane Sulfonamido Ethanol (EtFOSE)	DoD QSM Version 5.1 (or newe	DOD
117.575	004	4:2 Fluorotelomer Sulfonic Acid (4:2 FTS)	DoD QSM Version 5.1 (or newe	DOD
117.575	005	6:2 Fluorotelomer Sulfonic Acid (6:2 FTS)	DoD QSM Version 5.1 (or newe	DOD
117.575	006	8:2 Fluorotelomer Sulfonic Acid (8:2 FTS)	DoD QSM Version 5.1 (or newe	DOD
117.575	007	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	DoD QSM Version 5.1 (or newe	DOD
117.575	008	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	DoD QSM Version 5.1 (or newe	DOD
117.575	009	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	DoD QSM Version 5.1 (or newe	DOD
117.575	010	N-Methylperfluorooctane Sulfonamide (NMeFOSA)	DoD QSM Version 5.1 (or newe	DOD
117.575	011	N-Methylperfluorooctane Sulfonamido Acetic Acid (NMeFOSAA)	DoD QSM Version 5.1 (or newe	DOD
117.575	012	N-Methylperfluorooctane Sulfonamido Ethanol (NMeFOSE)	DoD QSM Version 5.1 (or newe	DOD
117.575	013	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	DoD QSM Version 5.1 (or newe	DOD
117.575	014	Perfluorobutanoic Acid (PFBA)	DoD QSM Version 5.1 (or newe	DOD
117.575	015	Perfluorobutane Sulfonic Acid (PFBS)	DoD QSM Version 5.1 (or newe	DOD
117.575	016	Perfluorodecanoic Acid (PFDA)	DoD QSM Version 5.1 (or newe	DOD
117.575	017	Perfluorododecanoic Acid (PFDoA)	DoD QSM Version 5.1 (or newe	DOD
117.575	018	Perfluorodecane Sulfonic Acid (PFDS)	DoD QSM Version 5.1 (or newe	DOD
117.575	019	Perfluoroheptanoic Acid (PFHpA)	DoD QSM Version 5.1 (or newe	DOD
117.575	020	Perfluoroheptane Sulfonic Acid (PFHpS)	DoD QSM Version 5.1 (or newe	DOD
117.575	021	Perfluorohexane Sulfonic Acid (PFHxS)	DoD QSM Version 5.1 (or newe	DOD
117.575	022	Perfluorohexanoic Acid (PFHxA)	DoD QSM Version 5.1 (or newe	DOD
117.575	023	Perfluorononanoic Acid (PFNA)	DoD QSM Version 5.1 (or newe	DOD
117.575	024	Perfluorooctanoic Acid (PFOA)	DoD QSM Version 5.1 (or newe	DOD
117.575	025	Perfluorooctane Sulfonic Acid (PFOS)	DoD QSM Version 5.1 (or newe	DOD
117.575	026	Perfluorooctane Sulfonamide (PFOSAm)	DoD QSM Version 5.1 (or newe	DOD
117.575	027	Perfluoropentanoic Acid (PFPeA)	DoD QSM Version 5.1 (or newe	DOD
117.575	028	Perfluoropentane Sulfonic Acid (PFPeS)	DoD QSM Version 5.1 (or newe	DOD

117.575	029	Perfluorotetradecanoic Acid (PFTDA)	DoD QSM Version 5.1 (or newe	DOD
117.575	030	Perfluorotridecanoic Acid (PFTrDA)	DoD QSM Version 5.1 (or newe	DOD
117.575	031	Perfluoroundecanoic Acid (PFUnDA)	DoD QSM Version 5.1 (or newe	DOD
117.575	032	10:2 Fluorotelomer Sulfonic Acid (10:2 FTS)	DoD QSM Version 5.1 (or newe	DOD
117.575	033	Perfluorohexadecanoic Acid (PFHxDA)	DoD QSM Version 5.1 (or newe	DOD
117.575	034	Perfluorononane Sulfonic Acid (PFNS)	DoD QSM Version 5.1 (or newe	DOD
117.575	035	Perfluorooctadecanoic Acid (PFODA)	DoD QSM Version 5.1 (or newe	DOD

Field of Accreditation:120 - Physical Properties of Hazardous Waste

120.010	001	Ignitability	EPA 1010	PA
120.040	001	Reactive Cyanide	Section 7.3 SW-846	PA
120.050	001	Reactive Sulfide	Section 7.3 SW-846	PA
120.080	001	Corrosivity - pH Determination	EPA 9045 C	PA

Oregon
Environmental Laboratory
Accreditation Program

NELAP Recognized

Weck Laboratories, Inc.

4047

14859 Clark Avenue

City of Industry, CA 91745

IS GRANTED APPROVAL BY ORELAP UNDER THE 2016 TNI STANDARDS, TO PERFORM ANALYSES ON ENVIRONMENTAL SAMPLES IN MATRICES AS LISTED BELOW :

Air	Drinking Water	Non-Potable Water	Solids and Chemical Waste	Tissue
	Chemistry	Chemistry	Chemistry	

AND AS RECORDED IN THE LIST OF APPROVED ANALYTES, METHODS, ANALYTICAL TECHNIQUES, AND FIELDS OF TESTING ISSUED CONCURRENTLY WITH THIS CERTIFICATE AND REVISED AS NECESSARY.

ACCREDITED STATUS DEPENDS ON SUCCESSFUL ONGOING PARTICIPATION IN THE PROGRAM AND CONTINUED COMPLIANCE WITH THE STANDARDS.

CUSTOMERS ARE URGED TO VERIFY THE LABORATORY'S CURRENT ACCREDITATION STATUS IN OREGON.

Travis Bartholomew
Oregon State Public Health Laboratory
ORELAP Program Manager
7202 NE Evergreen Parkway, Suite 100
Hillsboro, OR 97124

EFFECTIVE DATE : **1/28/2022**
EXPIRATION DATE : **1/29/2023**
Certificate No : **4047 - 009**

OREGON

Environmental Laboratory Accreditation Program

ORELAP Fields of Accreditation

Weck Laboratories, Inc.
14859 Clark Avenue
City of Industry, CA 91745

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
Drinking Water					
	EPA 1613B			10120602	Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS
		9618	2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD)		
	EPA 180.1 2			10011800	Turbidity - Nephelometric
		2055	Turbidity		
	EPA 200.7 4.4			10013806	ICP - metals
		1000	Aluminum		
		1010	Arsenic		
		1015	Barium		
		1020	Beryllium		
		1025	Boron		
		1030	Cadmium		
		1035	Calcium		
		1034	Cerium		
		1040	Chromium		
		1050	Cobalt		
		1055	Copper		
		1760	Hardness (calc.)		
		1070	Iron		
		1075	Lead		
		1080	Lithium		
		1085	Magnesium		
		1090	Manganese		
		1100	Molybdenum		
		1105	Nickel		
		1910	Phosphorus, total		
		1125	Potassium		
		1990	Silica as SiO2		
		1145	Silicon		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		1150	Silver		
		1155	Sodium		
		1160	Strontium		
		1175	Tin		
		1180	Titanium		
		1185	Vanadium		
		1190	Zinc		
	EPA 200.8 5.4			10014605	Metals by ICP-MS
		1000	Aluminum		
		1005	Antimony		
		1010	Arsenic		
		1015	Barium		
		1020	Beryllium		
		1023	Bismuth		
		1025	Boron		
		1030	Cadmium		
		1040	Chromium		
		1050	Cobalt		
		1055	Copper		
		1760	Hardness (calc.)		
		1070	Iron		
		1075	Lead		
		1090	Manganese		
		1100	Molybdenum		
		1105	Nickel		
		1125	Potassium		
		1140	Selenium		
		1150	Silver		
		1160	Strontium		
		1165	Thallium		
		1170	Thorium		
		1175	Tin		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		1180	Titanium		
		1184	Uranium (mass)		
		1185	Vanadium		
		1190	Zinc		
	EPA 218.6 3.3			10028009	Dissolved Hexavalent Chromium by Ion Chromatography
		1045	Chromium VI		
	EPA 218.7 1			10268414	Determination of Hexavalent Chromium in Drinking Water by Ion Chromatography with Post-column Derivatization and UV-VIS Spectroscopic Determination
		1045	Chromium VI		
	EPA 245.1 3			10036609	Mercury by Cold Vapor Atomic Absorption
		1095	Mercury		
	EPA 300.0 2.1			10053200	Methods for the Determination of Inorganic Substances in Environmental Samples
		1540	Bromide		
		1575	Chloride		
		1730	Fluoride		
		1810	Nitrate as N		
		1820	Nitrate plus Nitrite as N		
		1840	Nitrite as N		
		2000	Sulfate		
	EPA 300.1 1.0			10275602	Determination of Inorganic Anions in Drinking Water by Ion Chromatography
		1535	Bromate		
		1540	Bromide		
		1570	Chlorate		
		1595	Chlorite		
	EPA 314.0			10277006	Perchlorate in Drinking Water by Ion Chromatography
		1895	Perchlorate		
	EPA 331.0 1.0			10059708	Determination of Perchlorate in Drinking Water by Liquid Chromatography Electrospray Mass Spectrometry (LC/ESI/MS)
		1895	Perchlorate		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
	EPA 335.4 1.0			10061402	Methods for the Determination of Inorganic Substances in Environmental Samples
		1645	Total cyanide		
	EPA 353.2 2			10067604	Nitrate/Nitrite Nitrogen - Automated, Cadmium
		1810	Nitrate as N		
		1820	Nitrate plus Nitrite as N		
		1840	Nitrite as N		
		1825	Total nitrate+nitrite		
	EPA 365.1 2			10070005	Phosphorous - Colorimetric, Automated persulfate
		1870	Orthophosphate as P		
	EPA 415.3 1.2			10239222	Determination of Total Organic Carbon and Specific UV Absorbance at 254 nm in Source Water and Drinking Water
		1710	Dissolved organic carbon (DOC)		
		2040	Total organic carbon		
		2060	UV 254		
	EPA 504.1 1.1			10082801	EDB/DBCP/TCP micro-extraction, GC/ECD
		4570	1,2-Dibromo-3-chloropropane (DBCP)		
		4585	1,2-Dibromoethane (EDB, Ethylene dibromide)		
	EPA 508 3.1			10085208	Chlorinated Pesticides in Water by GC/ECD
		7355	4,4'-DDD		
		7360	4,4'-DDE		
		7365	4,4'-DDT		
		7025	Aldrin		
		7110	alpha-BHC (alpha-Hexachlorocyclohexane)		
		8880	Aroclor-1016 (PCB-1016)		
		8885	Aroclor-1221 (PCB-1221)		
		8890	Aroclor-1232 (PCB-1232)		
		8895	Aroclor-1242 (PCB-1242)		
		8900	Aroclor-1248 (PCB-1248)		
		8905	Aroclor-1254 (PCB-1254)		
		8910	Aroclor-1260 (PCB-1260)		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		7115	beta-BHC (beta-Hexachlorocyclohexane)		
		7250	Chlordane (tech.)		
		7310	Chlorthalonil (Daconil)		
		7240	cis-chlordane (alpha-Chlordane)		
		7105	delta-BHC		
		7470	Dieldrin		
		7510	Endosulfan I		
		7515	Endosulfan II		
		7520	Endosulfan sulfate		
		7540	Endrin		
		7530	Endrin aldehyde		
		7535	Endrin ketone		
		7120	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)		
		7245	gamma-Chlordane		
		7685	Heptachlor		
		7690	Heptachlor epoxide		
		6275	Hexachlorobenzene		
		6285	Hexachlorocyclopentadiene		
		7810	Methoxychlor		
		8870	PCBs		
		8045	Propachlor (Ramrod)		
		8250	Toxaphene (Chlorinated camphene)		
	EPA 508.1 2			10086405	Chlorinated Pesticides, Herbicides, and Organohalides, liquid/solid extraction by GC/ECD
		7355	4,4'-DDD		
		7360	4,4'-DDE		
		7365	4,4'-DDT		
		7025	Aldrin		
		7110	alpha-BHC (alpha-Hexachlorocyclohexane)		
		8880	Aroclor-1016 (PCB-1016)		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		8885	Aroclor-1221 (PCB-1221)		
		8890	Aroclor-1232 (PCB-1232)		
		8895	Aroclor-1242 (PCB-1242)		
		8900	Aroclor-1248 (PCB-1248)		
		8905	Aroclor-1254 (PCB-1254)		
		8910	Aroclor-1260 (PCB-1260)		
		8912	Aroclor-1262 (PCB-1262)		
		7115	beta-BHC (beta-Hexachlorocyclohexane)		
		7250	Chlordane (tech.)		
		7240	cis-chlordane (alpha-Chlordane)		
		7105	delta-BHC		
		7470	Dieldrin		
		7510	Endosulfan I		
		7515	Endosulfan II		
		7520	Endosulfan sulfate		
		7540	Endrin		
		7530	Endrin aldehyde		
		7535	Endrin ketone		
		7120	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)		
		7245	gamma-Chlordane		
		7685	Heptachlor		
		7690	Heptachlor epoxide		
		6275	Hexachlorobenzene		
		6285	Hexachlorocyclopentadiene		
		7810	Methoxychlor		
		8872	PCB Aroclor Identification		
		8045	Propachlor (Ramrod)		
		8250	Toxaphene (Chlorinated camphene)		
		8295	Trifluralin (Treflan)		
	EPA 515.4 1			10088503	Chlorinated acids Liquid/Solid and GC/ECD
		8655	2,4,5-T		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		8545	2,4-D		
		8560	2,4-DB		
		8600	3,5-Dichlorobenzoic acid		
		8505	Acifluorfen		
		8530	Bentazon		
		8550	Dacthal (DCPA)		
		7347	Dacthal Acid Metabolites		
		8555	Dalapon		
		8570	DCPA di acid degradate		
		8565	DCPA mono-acid		
		8595	Dicamba		
		8605	Dichloroprop (Dichlorprop)		
		8620	Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)		
		6605	Pentachlorophenol		
		8645	Picloram		
		8650	Silvex (2,4,5-TP)		
	EPA 522 1			10088570	1,4-Dioxane in Drinking Water by SPE and GC/MS SIM
		4735	1,4-Dioxane (1,4- Diethyleneoxide)		
	EPA 524.2 4.1			10088809	Volatile Organic Compounds GC/MS Capillary Column
		5105	1,1,1,2-Tetrachloroethane		
		5185	1,1,1-Trichloro-2,2,2-trifluoroethane (Freon 113a)		
		5160	1,1,1-Trichloroethane		
		5110	1,1,2,2-Tetrachloroethane		
		5195	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		
		5165	1,1,2-Trichloroethane		
		7450	1,1-Dichloro-2-propanone		
		4630	1,1-Dichloroethane		
		4640	1,1-Dichloroethylene		
		4670	1,1-Dichloropropene		
		5150	1,2,3-Trichlorobenzene		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		5180	1,2,3-Trichloropropane		
		5155	1,2,4-Trichlorobenzene		
		5210	1,2,4-Trimethylbenzene		
		4610	1,2-Dichlorobenzene		
		4635	1,2-Dichloroethane (Ethylene dichloride)		
		4655	1,2-Dichloropropane		
		6800	1,3,5-Trichlorobenzene		
		5215	1,3,5-Trimethylbenzene		
		4615	1,3-Dichlorobenzene		
		4660	1,3-Dichloropropane		
		4620	1,4-Dichlorobenzene		
		4480	1-Chlorobutane		
		4510	1-Chlorohexane		
		4665	2,2-Dichloropropane		
		4410	2-Butanone (Methyl ethyl ketone, MEK)		
		4500	2-Chloroethyl vinyl ether		
		4535	2-Chlorotoluene		
		4860	2-Hexanone (MBK)		
		5020	2-Nitropropane		
		4536	4-Bromofluorobenzene		
		4540	4-Chlorotoluene		
		4910	4-Isopropyltoluene (p-Cymene)		
		4995	4-Methyl-2-pentanone (MIBK)		
		4315	Acetone		
		4325	Acrolein (Propenal)		
		4340	Acrylonitrile		
		4355	Allyl chloride (3-Chloropropene)		
		4375	Benzene		
		4385	Bromobenzene		
		4390	Bromochloromethane		
		4395	Bromodichloromethane		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		4397	Bromoethane (Ethyl Bromide)		
		4400	Bromoform		
		4450	Carbon disulfide		
		4455	Carbon tetrachloride		
		4470	Chloroacetonitrile		
		4475	Chlorobenzene		
		4575	Chlorodibromomethane		
		4485	Chloroethane (Ethyl chloride)		
		4505	Chloroform		
		4705	cis & trans-1,2-Dichloroethene		
		4645	cis-1,2-Dichloroethylene		
		4680	cis-1,3-Dichloropropene		
		4600	cis-1,4-Dichloro-2-butene		
		4555	Cyclohexane		
		4595	Dibromomethane (Methylene bromide)		
		4625	Dichlorodifluoromethane (Freon-12)		
		4725	Diethyl ether		
		9375	Di-isopropylether (DIPE)		
		4810	Ethyl methacrylate		
		4765	Ethylbenzene		
		4770	Ethyl-t-butylether (ETBE) (2-Ethoxy-2-methylpropane)		
		4835	Hexachlorobutadiene		
		4840	Hexachloroethane		
		4870	Iodomethane (Methyl iodide)		
		4900	Isopropylbenzene (Cumene)		
		5240	m+p-xylene		
		4925	Methacrylonitrile		
		4940	Methyl acetate		
		4945	Methyl acrylate		
		4950	Methyl bromide (Bromomethane)		
		4960	Methyl chloride (Chloromethane)		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		4990	Methyl methacrylate		
		5000	Methyl tert-butyl ether (MTBE)		
		4965	Methylcyclohexane		
		4975	Methylene chloride (Dichloromethane)		
		5245	m-Xylene		
		5005	Naphthalene		
		4435	n-Butylbenzene		
		5015	Nitrobenzene		
		5090	n-Propylbenzene		
		5250	o-Xylene		
		5035	Pentachloroethane		
		5080	Propionitrile (Ethyl cyanide)		
		5255	p-Xylene		
		4440	sec-Butylbenzene		
		5100	Styrene		
		4370	T-amylmethylether (TAME)		
		4420	tert-Butyl alcohol		
		4445	tert-Butylbenzene		
		5115	Tetrachloroethylene (Perchloroethylene)		
		5120	Tetrahydrofuran (THF)		
		5140	Toluene		
		5205	Total trihalomethanes		
		4700	trans-1,2-Dichloroethylene		
		4685	trans-1,3-Dichloropropylene		
		4605	trans-1,4-Dichloro-2-butene		
		5170	Trichloroethene (Trichloroethylene)		
		5175	Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)		
		5225	Vinyl acetate		
		5235	Vinyl chloride		
		5260	Xylene (total)		
	EPA 524.3			10089302	EPA Method 524.3

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		4570	1,2-Dibromo-3-chloropropane (DBCP)		
		4585	1,2-Dibromoethane (EDB, Ethylene dibromide)		
	EPA 524.4 1.0			10089335	Measurment of Purgeable Organic Compounds in Water by Gas Chromatography/Mass Spectrometry Using Nitrogen Purge Gas
		5105	1,1,1,2-Tetrachloroethane		
		5160	1,1,1-Trichloroethane		
		5110	1,1,2,2-Tetrachloroethane		
		5165	1,1,2-Trichloroethane		
		4630	1,1-Dichloroethane		
		4640	1,1-Dichloroethylene		
		4670	1,1-Dichloropropene		
		5150	1,2,3-Trichlorobenzene		
		5180	1,2,3-Trichloropropane		
		5155	1,2,4-Trichlorobenzene		
		5210	1,2,4-Trimethylbenzene		
		4610	1,2-Dichlorobenzene		
		4635	1,2-Dichloroethane (Ethylene dichloride)		
		4655	1,2-Dichloropropane		
		9318	1,3-Butadiene		
		4615	1,3-Dichlorobenzene		
		4660	1,3-Dichloropropane		
		4620	1,4-Dichlorobenzene		
		4477	1-Chloro-1,2,2-trifluoroethane (Freon 133)		
		4480	1-Chlorobutane		
		4535	2-Chlorotoluene		
		4540	4-Chlorotoluene		
		4910	4-Isopropyltoluene (p-Cymene)		
		4355	Allyl chloride (3-Chloropropene)		
		4375	Benzene		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		4385	Bromobenzene		
		4390	Bromochloromethane		
		4395	Bromodichloromethane		
		4400	Bromoform		
		4450	Carbon disulfide		
		4455	Carbon tetrachloride		
		4475	Chlorobenzene		
		4575	Chlorodibromomethane		
		4505	Chloroform		
		4705	cis & trans-1,2-Dichloroethene		
		4645	cis-1,2-Dichloroethylene		
		4680	cis-1,3-Dichloropropene		
		4595	Dibromomethane (Methylene bromide)		
		4625	Dichlorodifluoromethane (Freon-12)		
		4725	Diethyl ether		
		9375	Di-isopropylether (DIPE)		
		4810	Ethyl methacrylate		
		4765	Ethylbenzene		
		4770	Ethyl-t-butylether (ETBE) (2-Ethoxy-2-methylpropane)		
		4835	Hexachlorobutadiene		
		4840	Hexachloroethane		
		4870	Iodomethane (Methyl iodide)		
		4900	Isopropylbenzene (Cumene)		
		4940	Methyl acetate		
		4950	Methyl bromide (Bromomethane)		
		4960	Methyl chloride (Chloromethane)		
		5000	Methyl tert-butyl ether (MTBE)		
		4975	Methylene chloride (Dichloromethane)		
		5245	m-Xylene		
		5005	Naphthalene		
		4435	n-Butylbenzene		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		5090	n-Propylbenzene		
		5250	o-Xylene		
		5035	Pentachloroethane		
		5255	p-Xylene		
		4440	sec-Butylbenzene		
		5100	Styrene		
		4370	T-amylmethylether (TAME)		
		4369	tert-Amyl ethyl ether (TAEE)		
		4420	tert-Butyl alcohol		
		4445	tert-Butylbenzene		
		5115	Tetrachloroethylene (Perchloroethylene)		
		5120	Tetrahydrofuran (THF)		
		4685	trans-1,3-Dichloropropylene		
		5170	Trichloroethene (Trichloroethylene)		
		5175	Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)		
		5235	Vinyl chloride		
	EPA 525.2 2			10090003	Semi-Volatile by SPE extraction and GC/MS
		6185	2,4-Dinitrotoluene (2,4-DNT)		
		6190	2,6-Dinitrotoluene (2,6-DNT)		
		7355	4,4'-DDD		
		7360	4,4'-DDE		
		7365	4,4'-DDT		
		5500	Acenaphthene		
		5505	Acenaphthylene		
		4310	Acetochlor		
		7005	Alachlor		
		7025	Aldrin		
		7110	alpha-BHC (alpha-Hexachlorocyclohexane)		
		7035	Ametryn		
		5555	Anthracene		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		8880	Aroclor-1016 (PCB-1016)		
		8885	Aroclor-1221 (PCB-1221)		
		8890	Aroclor-1232 (PCB-1232)		
		8895	Aroclor-1242 (PCB-1242)		
		8900	Aroclor-1248 (PCB-1248)		
		8905	Aroclor-1254 (PCB-1254)		
		8910	Aroclor-1260 (PCB-1260)		
		7060	Atraton		
		7065	Atrazine		
		5575	Benzo(a)anthracene		
		5580	Benzo(a)pyrene		
		5590	Benzo(g,h,i)perylene		
		5600	Benzo(k)fluoranthene		
		5585	Benzo[b]fluoranthene		
		7115	beta-BHC (beta-Hexachlorocyclohexane)		
		6062	bis(2-Ethylhexyl)adipate		
		7130	Bromacil		
		7160	Butachlor		
		5670	Butyl benzyl phthalate		
		7275	Chloropropham		
		7310	Chlorthalonil (Daconil)		
		5855	Chrysene		
		7240	cis-chlordane (alpha-Chlordane)		
		7340	Cyanazine		
		7105	delta-BHC		
		6065	Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)		
		7410	Diazinon		
		5895	Dibenz(a,h) anthracene		
		7470	Dieldrin		
		6070	Diethyl phthalate		
		6135	Dimethyl phthalate		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		5925	Di-n-butyl phthalate		
		6200	Di-n-octyl phthalate		
		7500	Diphenamid		
		8625	Disulfoton		
		7510	Endosulfan I		
		7515	Endosulfan II		
		7520	Endosulfan sulfate		
		7540	Endrin		
		7530	Endrin aldehyde		
		7535	Endrin ketone		
		7555	EPTC (Eptam, s-ethyl-dipropyl thio carbamate)		
		6265	Fluoranthene		
		6270	Fluorene		
		7120	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)		
		7245	gamma-Chlordane		
		7685	Heptachlor		
		7690	Heptachlor epoxide		
		6275	Hexachlorobenzene		
		6285	Hexachlorocyclopentadiene		
		6315	Indeno(1,2,3-cd) pyrene		
		7810	Methoxychlor		
		7835	Metolachlor		
		7845	Metribuzin		
		7875	Molinate		
		5005	Naphthalene		
		6440	Napropamide		
		9537	Pebulate		
		6605	Pentachlorophenol		
		6615	Phenanthrene		
		8035	Prometon		
		8040	Prometryn		

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		8045	Propachlor (Ramrod)		
		8060	Propazine		
		6665	Pyrene		
		8125	Simazine		
		8130	Simetryn		
		8180	Terbacil		
		8220	Thiobencarb		
		7910	trans-Nonachlor		
		8295	Trifluralin (Treflan)		
	EPA 531.2 1			10091302	Carbamate Pesticides by Post-column Derivitization HPLC/Fluorescence
		7710	3-Hydroxycarbofuran		
		7010	Aldicarb (Temik)		
		7015	Aldicarb sulfone		
		7020	Aldicarb sulfoxide		
		7195	Carbaryl (Sevin)		
		7205	Carbofuran (Furaden)		
		7800	Methiocarb (Mesurol)		
		7805	Methomyl (Lannate)		
		7940	Oxamyl		
		8080	Propoxur (Baygon)		
	EPA 533			10091619	Determination of Per- and Polyfluoroalkyl Substances in Drinking Water by Istope Dilution Anion Exchange Soid Phase Extraction and Liquid Chromotography/Tandem Mass Spectrometry
		9490	11-chloreicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)		
		6948	1H, 1H, 2H, 2H-Perfluorodecanesulfonic acid (8:2 FTS)		
		6946	1H, 1H, 2H, 2H-Perfluorohexanesulfonic acid (4:2 FTS)		
		6947	1H, 1H, 2H, 2H-Perfluorooctanesulfonic acid (6:2 FTS)		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		6951	4,8-Dioxa-3H-perfluorononanoic acid (DONA)		
		6952	9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)		
		9460	Hexafluoropropylene oxide dimer acid (HFPO-DA)		
		6956	Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)		
		6957	Perfluoro(2-ethoxyethane) sulfonic acid (PFEESA)		
		6965	Perfluoro-3-methoxypropanoic acid (PFMPA)		
		6966	Perfluoro-4-methoxybutanoic acid (PFMBA)		
		6918	Perfluorobutane sulfonic acid (PFBS)		
		6915	Perfluorobutanoic acid (PFBA)		
		6905	Perfluorodecanoic acid (PFDA)		
		6903	Perfluorododecanoic acid (PFDoA)		
		9470	Perfluoroheptane sulfonic acid (PFHpS)		
		6908	Perfluoroheptanoic acid (PFHpA)		
		6927	Perfluorohexane sulfonic acid (PFHxS)		
		6913	Perfluorohexanoic acid (PFHxA)		
		6906	Perfluorononanoic acid (PFNA)		
		6931	Perfluorooctane sulfonic acid (PFOS)		
		6912	Perfluorooctanoic acid (PFOA)		
		6934	Perfluoropentane sulfonic acid (PFPeS)		
		6914	Perfluoropentanoic acid (PFPeA)		
		6904	Perfluoroundecanoic acid (PFUnA)		
	EPA 537.1 1.0			10091642	Per- and Polyfluorinated Alkyl Substances in Drinking Water by LC/MS/MS
		9490	11-chloreicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)		
		6951	4,8-Dioxa-3H-perfluorononanoic acid (DONA)		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		6952	9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)		
		9460	Hexafluoropropylene oxide dimer acid (HFPO-DA)		
		4846	N-Ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)		
		4847	N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)		
		6911	Perfluorobutane Sulfonate (PFBS)		
		6918	Perfluorobutane sulfonic acid (PFBS)		
		6905	Perfluorodecanoic acid (PFDA)		
		6903	Perfluorododecanoic acid (PFDoA)		
		6908	Perfluoroheptanoic acid (PFHpA)		
		6927	Perfluorohexane sulfonic acid (PFHxS)		
		6913	Perfluorohexanoic acid (PFHxA)		
		6906	Perfluorononanoic acid (PFNA)		
		6931	Perfluorooctane sulfonic acid (PFOS)		
		6912	Perfluorooctanoic acid (PFOA)		
		6902	Perfluorotetradecanoic acid (PFTDA)		
		9563	Perfluorotridecanoic acid (PFTrDA)		
		6904	Perfluoroundecanoic acid (PFUnA)		
	EPA 547			10092009	Glyphosate by Direct Aqueous Injection by Post-column Derivitization and HPLC/Fluorescence
		9411	Glyphosate		
	EPA 548.1 1			10092805	Endothall by Ion Exchange, Methylation and GC/MS
		7525	Endothall		
	EPA 549.2 1			10093400	Diquat/Paraquat by Liquid/Liquid Extraction and HPLC/UV-VIS
		9390	Diquat		
		9528	Paraquat		
	EPA 551.1 1			10094801	Chlorination Disinfection Byproducts, Liquid/Liquid Extraction and GC/ECD
		5190	1,1,1-Trichloro-2-propanone		
		7450	1,1-Dichloro-2-propanone		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		7140	Bromochloroacetonitrile		
		4460	Chloral hydrate		
		7270	Chloropicrin		
		7420	Dibromoacetonitrile		
		7440	Dichloroacetonitrile		
		8270	Trichloroacetonitrile		
	EPA 552.3 1			10239608	Haloacetic Acid/Dalapon, Microextraction, Derivitization and GC/ECD
		9312	Bromoacetic acid		
		9315	Bromochloroacetic acid		
		8535	Bromodichloroacetic acid(BDCAA)		
		9336	Chloroacetic acid		
		9339	Chlorodibromoacetic acid(CDBAA)		
		9357	Dibromoacetic acid		
		9360	Dichloroacetic acid		
		9414	Total haloacetic acids		
		9639	Tribromoacetic acid (TBAA)		
		9642	Trichloroacetic acid		
	EPA 555 1			10096807	Chlorinated Acids by HPLC/UV-VIS
		8655	2,4,5-T		
		8545	2,4-D		
		8560	2,4-DB		
		8530	Bentazon		
		8605	Dichloroprop (Dichlorprop)		
		8650	Silvex (2,4,5-TP)		
	EPA 632			10108608	Carbamate and Urea Pesticides by Liquid/Liquid Extraction and HPLC/UV-VIS
		7505	Diuron		
	OIA 1677			60031405	Available Cyanide by FIA, Ligand Exchange and Amperometry
		1523	Available Cyanide		
	SM 2120 B 22nd Ed			20039014	Color - Visual Comparison Method
		1521	Apparent Color		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
	SM 2320 B-97 1997			20045607	Alkalinity by Titration Method
		1505	Alkalinity as CaCO3		
	SM 2330 B 20th Ed			20003309	Calcium Carbonate Indices
		1615	Corrosivity		
	SM 2510 B-97 1997			20048606	Conductivity by Probe
		1610	Conductivity		
	SM 2540 C-97 1997			20050402	Total Dissolved Solids Dried at 180C
		1955	Residue-filterable (TDS)		
	SM 4500-Cl G-2000 online			20081612	Chlorine (Residual) by DPD Colorimetric Determination
		1945	Residual free chlorine		
		1940	Total residual chlorine		
	SM 4500-ClO2 D 20th ED			20088806	Chlorine Dioxide by DPD Method
		1590	Chlorine dioxide, res. disinfectant		
	SM 4500-H+ B-2000 online			20105219	pH Value by Electrometric Method .
		1900	pH		
	SM 5310 B-2000			20137819	Total Organic Carbon (TOC) by Combustion Infra-red Method
		1710	Dissolved organic carbon (DOC)		
		2040	Total organic carbon		
	SM 5540 C-2000			20145055	Surfactants - Anionic Surfactants as MBAS
		2025	Surfactants - MBAS		
	Weck EPA 1694 Isotope Dilution 4.0			60009689	WECK Labs - Pharmaceuticals and Personal Care Products by Isotope Dilution HPLC/MS/MS
		5675	Caffeine		

Non-Potable Water

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
	ASTM D7065-06			30032918	Nonylphenol by GC/MS
		6513	4-Nonylphenol		
		9466	4-Nonylphenol diethoxylate		
		6512	4-tert-Octylphenol		
		9301	Bisphenol A		
		9592	Nonyl phenol monoethoxylate		
	ASTM D7511-12			30033024	Standard Test Method for Total Cyanide by Segmented Flow Injection Analysis, In-line Ultraviolet Digestion and Amperometric Detecti
		1645	Total cyanide		
	DoD/DoE QSM Table B-15			90000451	DoD/DoE - PFAS using LC/MS/MS Isotope Dilution or IS Quantification
		9462	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate		
		6951	4,8-Dioxa-3H-perfluorononanoic acid (DONA)		
		9437	4:2 Fluorotelomer sulfonate (4:2FTS)		
		6457	6:2 Fluorotelomersulfonate (6:2FTS)		
		6461	8:2 Fluorotelomersulfonate (8:2FTS)		
		6952	9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)		
		7044	Ammonium Perfluorooctanoate (APFO)		
		9460	Hexafluoropropylene oxide dimer acid (HFPO-DA)		
		9395	N-Ethylperfluorooctane sulfonamide (EtFOSAm)		
		9431	N-Ethylperfluorooctane sulfonamido ethanol (EtFOSE)		
		4846	N-Ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)		
		4847	N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)		
		6949	N-Methylperfluorooctane sulfonamido		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
			ethanol (MeFOSE)		
		9433	N-Methylperfluorooctanesulfonamide (MeFOSA)		
		6911	Perfluorobutane Sulfonate (PFBS)		
		6918	Perfluorobutane sulfonic acid (PFBS)		
		6915	Perfluorobutanoic acid (PFBA)		
		9562	Perfluorodecane Sulfonate (PFDS)		
		6905	Perfluorodecanoic acid (PFDA)		
		6903	Perfluorododecanoic acid (PFDoA)		
		9470	Perfluoroheptane sulfonic acid (PFHpS)		
		6908	Perfluoroheptanoic acid (PFHpA)		
		6901	Perfluorohexadecanoic acid (PFHxDA)		
		6910	Perfluorohexane sulfonate (PFHxS)		
		6927	Perfluorohexane sulfonic acid (PFHxS)		
		6913	Perfluorohexanoic acid (PFHxA)		
		9464	Perfluorononane sulfonate (PFNS)		
		6906	Perfluorononanoic acid (PFNA)		
		6916	Perfluorooctadecanoic acid (PFODA)		
		6917	Perfluorooctane sulfonamide (PFOSAm)		
		6909	Perfluorooctane sulfonate (PFOS)		
		6931	Perfluorooctane sulfonic acid (PFOS)		
		6912	Perfluorooctanoic acid (PFOA)		
		9467	Perfluoropentane Sulfonate (PFPeS)		
		6914	Perfluoropentanoic acid (PFPeA)		
		6902	Perfluorotetradecanoic acid (PFTDA)		
		9563	Perfluorotridecanoic acid (PFTrDA)		
		6904	Perfluoroundecanoic acid (PFUnA)		
	EPA 160.4			10010409	Total Volatile Solids, ignition @ 550 C.
		1970	Residue-volatile		
		2070	Volatile suspended solids		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		4075	Vol. residue, density, water & solids content of coatings		
	EPA 1613B			10120602	Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS
		9516	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)		
		9519	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)		
		9420	1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)		
		9426	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)		
		9423	1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)		
		9471	1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-Hxcdf)		
		9453	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-Hxcdd)		
		9474	1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-Hxcdf)		
		9456	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-Hxcdd)		
		9477	1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-Hxcdf)		
		9459	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-Hxcdd)		
		9543	1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-Pecdf)		
		9540	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-Pecdd)		
		9480	2,3,4,6,7,8-Hexachlorodibenzofuran		
		9549	2,3,4,7,8-Pentachlorodibenzofuran		
		9618	2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD)		
		9612	2,3,7,8-Tetrachlorodibenzofuran		
		9438	Hpcdd, total		
		9444	Hpcdf, total		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		9468	Hxcdd, total		
		9483	Hxcdf, total		
		9555	Pecdd, total		
		9552	Pecdf, total		
		9609	TCDD, total		
		9615	TCDF, total		
	EPA 1625B			10237000	Semivolatile Organic Compounds by Isotope Dilution GC/MS
		6525	n-Nitrosodiethylamine		
		6530	n-Nitrosodimethylamine		
		5025	n-Nitroso-di-n-butylamine		
		6545	n-Nitrosodi-n-propylamine		
		6550	n-Nitrosomethylethylamine		
		6565	n-Nitrosopyrrolidine		
	EPA 1631E			10237204	Mercury in Water by Oxidation, Purge & Trap, and Cold Vapor Atomic Fluorescence
		1095	Mercury		
	EPA 1640			10124400	Trace Elements by Chelation Preconcentration and ICP/MS
		1010	Arsenic		
		1030	Cadmium		
		1055	Copper		
		1075	Lead		
		1105	Nickel		
		1150	Silver		
		1190	Zinc		
	EPA 1664B			10261617	N-Hexane Extractable Material (Oil and Grease) by Extraction and Gravimetry
		1803	n-Hexane Extractable Material (O&G)		
		1860	Oil & Grease		
		2050	Total Petroleum Hydrocarbons (TPH)		
	EPA 1664B (SGT-HEM)			10260628	Silica Gel Treated n-Hexane Extractable Material (Oil & Grease)
		1803	n-Hexane Extractable Material (O&G)		
		1860	Oil & Grease		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		2050	Total Petroleum Hydrocarbons (TPH)		
	EPA 1666A			10128208	Volatile Organic Compounds Specific to the Pharmaceutical Manufacturing Industry by Isotope Dilution Gas Chromatography/Mass Spectrometry
		4995	4-Methyl-2-pentanone (MIBK)		
		4403	Butyl acetate		
		4755	Ethyl acetate		
		4880	Isobutyraldehyde		
		4890	Isopropyl acetate		
		4895	Isopropyl alcohol (2-Propanol, Isopropanol)		
		5240	m+p-xylene		
		4980	Methyl formate		
		4360	n-Amyl acetate		
		4825	n-Heptane		
		4855	n-Hexane		
		5250	o-Xylene		
		5120	Tetrahydrofuran (THF)		
		5260	Xylene (total)		
	EPA 180.1 2			10011800	Turbidity - Nephelometric
		2055	Turbidity		
	EPA 200.7 4.4			10013806	ICP - metals
		1000	Aluminum		
		1005	Antimony		
		1010	Arsenic		
		1015	Barium		
		1020	Beryllium		
		1025	Boron		
		1030	Cadmium		
		1035	Calcium		
		1034	Cerium		
		1040	Chromium		
		1050	Cobalt		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		1055	Copper		
		1760	Hardness (calc.)		
		1070	Iron		
		1075	Lead		
		1080	Lithium		
		1085	Magnesium		
		1090	Manganese		
		1100	Molybdenum		
		1105	Nickel		
		1910	Phosphorus, total		
		1125	Potassium		
		1140	Selenium		
		1990	Silica as SiO2		
		1145	Silicon		
		1150	Silver		
		1155	Sodium		
		1160	Strontium		
		1165	Thallium		
		1175	Tin		
		1180	Titanium		
		1185	Vanadium		
		1190	Zinc		
	EPA 200.8 5.4			10014605	Metals by ICP-MS
		1000	Aluminum		
		1005	Antimony		
		1010	Arsenic		
		1015	Barium		
		1020	Beryllium		
		1023	Bismuth		
		1025	Boron		
		1030	Cadmium		
		1035	Calcium		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		1040	Chromium		
		1050	Cobalt		
		1055	Copper		
		1760	Hardness (calc.)		
		1070	Iron		
		1075	Lead		
		1080	Lithium		
		1085	Magnesium		
		1090	Manganese		
		1100	Molybdenum		
		1105	Nickel		
		1125	Potassium		
		1140	Selenium		
		1150	Silver		
		1155	Sodium		
		1160	Strontium		
		1165	Thallium		
		1170	Thorium		
		1175	Tin		
		1180	Titanium		
		1184	Uranium (mass)		
		1185	Vanadium		
		1190	Zinc		
	EPA 218.6 3.3			10028009	Dissolved Hexavalent Chromium by Ion Chromatography
		1045	Chromium VI		
	EPA 218.7 1			10268414	Determination of Hexavalent Chromium in Drinking Water by Ion Chromatography with Post-column Derivatization and UV-VIS Spectroscopic Determination
		1045	Chromium VI		
	EPA 245.1 3			10036609	Mercury by Cold Vapor Atomic Absorption
		1095	Mercury		
	EPA 300.0 2.1			10053200	Methods for the Determination of Inorganic Substances in Environmental Samples

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		1540	Bromide		
		1575	Chloride		
		1730	Fluoride		
		1810	Nitrate as N		
		1820	Nitrate plus Nitrite as N		
		1840	Nitrite as N		
		2000	Sulfate		
	EPA 300.1 1.0			10275602	Determination of Inorganic Anions in Drinking Water by Ion Chromatography
		1535	Bromate		
		1540	Bromide		
		1570	Chlorate		
		1595	Chlorite		
	EPA 335.4 1.0			10061402	Methods for the Determination of Inorganic Substances in Environmental Samples
		1645	Total cyanide		
	EPA 350.1 2			10063602	Ammonia Nitrogen - Colorimetric, Auto Phenate
		1515	Ammonia as N		
	EPA 351.2 2			10065404	Total Kjeldahl Nitrogen - Block Digest, Phenate
		1795	Total Kjeldahl Nitrogen (TKN)		
		1795	Total Kjeldahl Nitrogen (TKN)		
	EPA 353.2 2			10067604	Nitrate/Nitrite Nitrogen - Automated, Cadmium
		1810	Nitrate as N		
		1820	Nitrate plus Nitrite as N		
		1840	Nitrite as N		
		1825	Total nitrate+nitrite		
	EPA 365.1 2			10070005	Phosphorous - Colorimetric, Automated persulfate
		1870	Orthophosphate as P		
		1910	Phosphorus, total		
	EPA 365.3			10070801	Phosphorous - Colorimetric, two reagent.
		1870	Orthophosphate as P		
		1910	Phosphorus, total		
	EPA 410.4 2			10077404	Chemical Oxygen Demand - Colorimetric, Automated.

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		1565	Chemical oxygen demand		
	EPA 420.4			10080203	Phenolics, Total Recoverable by Semi-Automated Colorimetry
		1905	Total phenolics		
	EPA 6010B			10155609	ICP - AES
		1000	Aluminum		
		1005	Antimony		
		1010	Arsenic		
		1015	Barium		
		1020	Beryllium		
		1025	Boron		
		1030	Cadmium		
		1035	Calcium		
		1040	Chromium		
		1050	Cobalt		
		1055	Copper		
		1760	Hardness (calc.)		
		1070	Iron		
		1075	Lead		
		1080	Lithium		
		1085	Magnesium		
		1090	Manganese		
		1100	Molybdenum		
		1105	Nickel		
		1910	Phosphorus, total		
		1125	Potassium		
		1140	Selenium		
		1990	Silica as SiO2		
		1145	Silicon		
		1150	Silver		
		1155	Sodium		
		1160	Strontium		
		1165	Thallium		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		1175	Tin		
		1180	Titanium		
		1185	Vanadium		
		1190	Zinc		
	EPA 6020			10156000	Inductively Coupled Plasma-Mass Spectrometry
		1000	Aluminum		
		1005	Antimony		
		1010	Arsenic		
		1015	Barium		
		1020	Beryllium		
		1025	Boron		
		1030	Cadmium		
		1035	Calcium		
		1040	Chromium		
		1050	Cobalt		
		1055	Copper		
		1070	Iron		
		1075	Lead		
		1085	Magnesium		
		1090	Manganese		
		1100	Molybdenum		
		1105	Nickel		
		1125	Potassium		
		1140	Selenium		
		1150	Silver		
		1155	Sodium		
		1160	Strontium		
		1165	Thallium		
		1170	Thorium		
		1175	Tin		
		1180	Titanium		
		1184	Uranium (mass)		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		1185	Vanadium		
		1190	Zinc		
		1192	Zirconium		
	EPA 608.3 GC-ECD			10296614	Organochlorine Pesticides and PCBs by GC/ECD
		7355	4,4'-DDD		
		7360	4,4'-DDE		
		7365	4,4'-DDT		
		7005	Alachlor		
		7025	Aldrin		
		7110	alpha-BHC (alpha-Hexachlorocyclohexane)		
		8880	Aroclor-1016 (PCB-1016)		
		8885	Aroclor-1221 (PCB-1221)		
		8890	Aroclor-1232 (PCB-1232)		
		8895	Aroclor-1242 (PCB-1242)		
		8900	Aroclor-1248 (PCB-1248)		
		8905	Aroclor-1254 (PCB-1254)		
		8910	Aroclor-1260 (PCB-1260)		
		8912	Aroclor-1262 (PCB-1262)		
		7115	beta-BHC (beta-Hexachlorocyclohexane)		
		7250	Chlordane (tech.)		
		7310	Chlorthalonil (Daconil)		
		7240	cis-chlordane (alpha-Chlordane)		
		7105	delta-BHC		
		7470	Dieldrin		
		7510	Endosulfan I		
		7515	Endosulfan II		
		7520	Endosulfan sulfate		
		7540	Endrin		
		7530	Endrin aldehyde		
		7120	gamma-BHC (Lindane, gamma-		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
			HexachlorocyclohexanE)		
		7245	gamma-Chlordane		
		7685	Heptachlor		
		7690	Heptachlor epoxide		
		7810	Methoxychlor		
		7870	Mirex		
		8870	PCBs		
		8250	Toxaphene (Chlorinated camphene)		
	EPA 615			10105609	Chlorinated Herbicides by Liquid/Liquid Extraction, Derivitization and GC/ECD
		8655	2,4,5-T		
		8545	2,4-D		
		8560	2,4-DB		
		8595	Dicamba		
		8605	Dichloroprop (Dichlorprop)		
		8620	Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)		
		7775	MCPA		
		7780	MCPP		
		8650	Silvex (2,4,5-TP)		
	EPA 624.1			10298121	Purgeables by GC/MS
		5105	1,1,1,2-Tetrachloroethane		
		5195	1,1,1-Trichloro-2,2,2-trifluoroethane (Freon 113a)		
		5190	1,1,1-Trichloro-2-propanone		
		5160	1,1,1-Trichloroethane		
		5110	1,1,2,2-Tetrachloroethane		
		5185	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		
		5165	1,1,2-Trichloroethane		
		4630	1,1-Dichloroethane		
		4640	1,1-Dichloroethylene		
		4670	1,1-Dichloropropene		

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		5150	1,2,3-Trichlorobenzene		
		5180	1,2,3-Trichloropropane		
		5182	1,2,3-Trimethylbenzene		
		5155	1,2,4-Trichlorobenzene		
		5210	1,2,4-Trimethylbenzene		
		4570	1,2-Dibromo-3-chloropropane (DBCP)		
		4585	1,2-Dibromoethane (EDB, Ethylene dibromide)		
		4695	1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon-114)		
		4610	1,2-Dichlorobenzene		
		4635	1,2-Dichloroethane (Ethylene dichloride)		
		4655	1,2-Dichloropropane		
		6800	1,3,5-Trichlorobenzene		
		5215	1,3,5-Trimethylbenzene		
		9318	1,3-Butadiene		
		4690	1,3-Dichloro-2-propanol		
		4615	1,3-Dichlorobenzene		
		4660	1,3-Dichloropropane		
		4675	1,3-Dichloropropene		
		4620	1,4-Dichlorobenzene		
		5222	2,2-Dichloro-1,1,1-trifluoroethane (Freon 123)		
		4665	2,2-Dichloropropane		
		4668	2,3-Dichloropropene		
		4410	2-Butanone (Methyl ethyl ketone, MEK)		
		4412	2-Chloro-2-methybutane (tert-Amyl chloride)		
		4500	2-Chloroethyl vinyl ether		
		4535	2-Chlorotoluene		
		4860	2-Hexanone (MBK)		
		4540	4-Chlorotoluene		
		4910	4-Isopropyltoluene (p-Cymene)		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		4995	4-Methyl-2-pentanone (MIBK)		
		4315	Acetone		
		4320	Acetonitrile		
		4325	Acrolein (Propenal)		
		4340	Acrylonitrile		
		4375	Benzene		
		4385	Bromobenzene		
		4390	Bromochloromethane		
		4395	Bromodichloromethane		
		4400	Bromoform		
		4450	Carbon disulfide		
		4455	Carbon tetrachloride		
		4475	Chlorobenzene		
		4575	Chlorodibromomethane		
		4505	Chloroform		
		4705	cis & trans-1,2-Dichloroethene		
		4645	cis-1,2-Dichloroethylene		
		4680	cis-1,3-Dichloropropene		
		4595	Dibromomethane (Methylene bromide)		
		4625	Dichlorodifluoromethane (Freon-12)		
		4627	Dichlorofluoromethane (Freon 21)		
		9375	Di-isopropylether (DIPE)		
		4745	Epichlorohydrin (1-Chloro-2,3-epoxypropane)		
		4750	Ethanol		
		4765	Ethylbenzene		
		4770	Ethyl-t-butylether (ETBE) (2-Ethoxy-2-methylpropane)		
		4900	Isopropylbenzene (Cumene)		
		5240	m+p-xylene		
		4950	Methyl bromide (Bromomethane)		
		4960	Methyl chloride (Chloromethane)		
		5000	Methyl tert-butyl ether (MTBE)		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		4975	Methylene chloride (Dichloromethane)		
		5245	m-Xylene		
		5005	Naphthalene		
		4435	n-Butylbenzene		
		5090	n-Propylbenzene		
		5250	o-Xylene		
		4440	sec-Butylbenzene		
		5100	Styrene		
		4370	T-amylmethylether (TAME)		
		4420	tert-Butyl alcohol		
		4445	tert-Butylbenzene		
		5115	Tetrachloroethylene (Perchloroethylene)		
		5120	Tetrahydrofuran (THF)		
		5140	Toluene		
		5205	Total trihalomethanes		
		4700	trans-1,2-Dichloroethylene		
		4685	trans-1,3-Dichloropropylene		
		5170	Trichloroethene (Trichloroethylene)		
		5175	Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)		
		5225	Vinyl acetate		
		5235	Vinyl chloride		
		5260	Xylene (total)		
	EPA 625.1			10300024	Base/Neutrals and Acids by GC/MS
		6703	1,1'-Biphenyl (BZ-0)		
		6705	1,2,3,4-Tetrachlorobenzene		
		5150	1,2,3-Trichlorobenzene		
		6715	1,2,4,5-Tetrachlorobenzene		
		5155	1,2,4-Trichlorobenzene		
		4610	1,2-Dichlorobenzene		
		6155	1,2-Dinitrobenzene		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		6220	1,2-Diphenylhydrazine		
		4615	1,3-Dichlorobenzene		
		6160	1,3-Dinitrobenzene (1,3-DNB)		
		4620	1,4-Dichlorobenzene		
		6165	1,4-Dinitrobenzene		
		4735	1,4-Dioxane (1,4- Diethyleneoxide)		
		5790	1-Chloronaphthalene		
		6380	1-Methylnaphthalene		
		4659	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methylethyl)ether		
		4659	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methylethyl)ether		
		6735	2,3,4,6-Tetrachlorophenol		
		6738	2,3,4-Trichlorophenol		
		6835	2,4,5-Trichlorophenol		
		6840	2,4,6-Trichlorophenol		
		6000	2,4-Dichlorophenol		
		6130	2,4-Dimethylphenol		
		6175	2,4-Dinitrophenol		
		6185	2,4-Dinitrotoluene (2,4-DNT)		
		6005	2,6-Dichlorophenol		
		6190	2,6-Dinitrotoluene (2,6-DNT)		
		5795	2-Chloronaphthalene		
		5800	2-Chlorophenol		
		6360	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)		
		6385	2-Methylnaphthalene		
		6400	2-Methylphenol (o-Cresol)		
		6460	2-Nitroaniline		
		6490	2-Nitrophenol		
		6412	3 & 4 Methylphenol		
		5945	3,3'-Dichlorobenzidine		
		6405	3-Methylphenol (m-Cresol)		

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		6465	3-Nitroaniline		
		7355	4,4'-DDD		
		7360	4,4'-DDE		
		7365	4,4'-DDT		
		5660	4-Bromophenyl phenyl ether (BDE-3)		
		5853	4-Chloro-2-methylphenol		
		5700	4-Chloro-3-methylphenol		
		5745	4-Chloroaniline		
		5805	4-Chlorophenol		
		5825	4-Chlorophenyl phenylether		
		6410	4-Methylphenol (p-Cresol)		
		6470	4-Nitroaniline		
		6500	4-Nitrophenol		
		5500	Acenaphthene		
		5505	Acenaphthylene		
		7025	Aldrin		
		7110	alpha-BHC (alpha-Hexachlorocyclohexane)		
		5545	Aniline		
		5555	Anthracene		
		7065	Atrazine		
		5562	Azobenzene		
		5595	Benzidine		
		5575	Benzo(a)anthracene		
		5580	Benzo(a)pyrene		
		5590	Benzo(g,h,i)perylene		
		9309	Benzo(j)fluoranthene		
		5600	Benzo(k)fluoranthene		
		5585	Benzo[b]fluoranthene		
		5587	Benzofluoranthene		
		5610	Benzoic acid		
		5630	Benzyl alcohol		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		7115	beta-BHC (beta-Hexachlorocyclohexane)		
		5760	bis(2-Chloroethoxy)methane		
		5765	bis(2-Chloroethyl) ether		
		6062	bis(2-Ethylhexyl)adipate		
		5670	Butyl benzyl phthalate		
		7180	Caprolactam		
		5680	Carbazole		
		5855	Chrysene		
		5862	Cresols, Total		
		7105	delta-BHC		
		6065	Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)		
		5895	Dibenz(a,h) anthracene		
		5905	Dibenzofuran		
		7470	Dieldrin		
		6070	Diethyl phthalate		
		6135	Dimethyl phthalate		
		5925	Di-n-butyl phthalate		
		6200	Di-n-octyl phthalate		
		7510	Endosulfan I		
		7520	Endosulfan sulfate		
		7540	Endrin		
		7530	Endrin aldehyde		
		6265	Fluoranthene		
		6270	Fluorene		
		7120	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)		
		7685	Heptachlor		
		7690	Heptachlor epoxide		
		6275	Hexachlorobenzene		
		4835	Hexachlorobutadiene		
		6285	Hexachlorocyclopentadiene		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		4840	Hexachloroethane		
		6315	Indeno(1,2,3-cd) pyrene		
		6320	Isophorone		
		7810	Methoxychlor		
		5005	Naphthalene		
		5015	Nitrobenzene		
		6525	n-Nitrosodiethylamine		
		6530	n-Nitrosodimethylamine		
		5025	n-Nitroso-di-n-butylamine		
		6545	n-Nitrosodi-n-propylamine		
		6535	n-Nitrosodiphenylamine		
		6550	n-Nitrosomethylethylamine		
		6555	n-Nitrosomorpholine		
		6560	n-Nitrosopiperidine		
		6565	n-Nitrosopyrrolidine		
		6590	Pentachlorobenzene		
		6605	Pentachlorophenol		
		6608	Perylene		
		6615	Phenanthrene		
		6625	Phenol		
		6665	Pyrene		
		5095	Pyridine		
		5200	Triethylamine		
	EPA 625.1 SIM			10300035	Base/Neutrals and Acids by GC/MS-SIM
		6703	1,1'-Biphenyl (BZ-0)		
		6705	1,2,3,4-Tetrachlorobenzene		
		6715	1,2,4,5-Tetrachlorobenzene		
		5155	1,2,4-Trichlorobenzene		
		4610	1,2-Dichlorobenzene		
		6155	1,2-Dinitrobenzene		
		6220	1,2-Diphenylhydrazine		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		6885	1,3,5-Trinitrobenzene (1,3,5-TNB)		
		4615	1,3-Dichlorobenzene		
		6160	1,3-Dinitrobenzene (1,3-DNB)		
		4620	1,4-Dichlorobenzene		
		6165	1,4-Dinitrobenzene		
		4735	1,4-Dioxane (1,4- Diethyleneoxide)		
		6420	1,4-Naphthoquinone		
		6630	1,4-Phenylenediamine		
		5790	1-Chloronaphthalene		
		6380	1-Methylnaphthalene		
		9501	1-Methylphenanthrene		
		6425	1-Naphthylamine		
		4659	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methylethyl)ether		
		4659	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methylethyl)ether		
		6735	2,3,4,6-Tetrachlorophenol		
		6738	2,3,4-Trichlorophenol		
		6740	2,3,5,6-Tetrachlorophenol		
		6742	2,3,5-Trichlorophenol		
		6830	2,3,6-Trichlorophenol (4C)		
		9363	2,3-Dichloroaniline		
		5983	2,3-Dichlorophenol		
		6014	2,3-Dinitrotoluene		
		6835	2,4,5-Trichlorophenol		
		6840	2,4,6-Trichlorophenol		
		5880	2,4-Diaminotoluene		
		6000	2,4-Dichlorophenol		
		6130	2,4-Dimethylphenol		
		6175	2,4-Dinitrophenol		
		6185	2,4-Dinitrotoluene (2,4-DNT)		
		5992	2,5-Dichlorophenol		
		6180	2,5-Dinitrophenol		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		6183	2,6-Diaminotoluene		
		6005	2,6-Dichlorophenol		
		6190	2,6-Dinitrotoluene (2,6-DNT)		
		5515	2-Acetylaminofluorene		
		5795	2-Chloronaphthalene		
		5800	2-Chlorophenol		
		6360	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)		
		5145	2-Methylaniline (o-Toluidine)		
		6385	2-Methylnaphthalene		
		6400	2-Methylphenol (o-Cresol)		
		6430	2-Naphthylamine		
		6460	2-Nitroaniline		
		6490	2-Nitrophenol		
		6692	2-Terphenyl		
		6412	3 & 4 Methylphenol		
		5945	3,3'-Dichlorobenzidine		
		6120	3,3'-Dimethylbenzidine		
		6818	3,4,5-Trichlorophenol		
		5997	3,4-Dichlorophenol		
		4742	3-Chlorophenol		
		6355	3-Methylcholanthrene		
		6405	3-Methylphenol (m-Cresol)		
		6465	3-Nitroaniline		
		7355	4,4'-DDD		
		7360	4,4'-DDE		
		7365	4,4'-DDT		
		5540	4-Aminobiphenyl		
		5660	4-Bromophenyl phenyl ether (BDE-3)		
		5853	4-Chloro-2-methylphenol		
		5700	4-Chloro-3-methylphenol		
		5745	4-Chloroaniline		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		5805	4-Chlorophenol		
		5825	4-Chlorophenyl phenylether		
		6105	4-Dimethyl aminoazobenzene		
		6410	4-Methylphenol (p-Cresol)		
		6470	4-Nitroaniline		
		6500	4-Nitrophenol		
		6572	6-Chloro-3-methylphenol		
		6115	7,12-Dimethylbenz(a) anthracene		
		5500	Acenaphthene		
		5505	Acenaphthylene		
		5510	Acetophenone		
		4330	Acrylamide		
		7010	Aldicarb (Temik)		
		7025	Aldrin		
		7110	alpha-BHC (alpha-Hexachlorocyclohexane)		
		6700	alpha-Terpineol		
		5545	Aniline		
		5555	Anthracene		
		7065	Atrazine		
		5562	Azobenzene		
		5565	Benzal chloride		
		5570	Benzaldehyde		
		5595	Benzidine		
		5575	Benzo(a)anthracene		
		5580	Benzo(a)pyrene		
		5590	Benzo(g,h,i)perylene		
		9309	Benzo(j)fluoranthene		
		5600	Benzo(k)fluoranthene		
		5585	Benzo[b]fluoranthene		
		5587	Benzofluoranthene		
		5610	Benzoic acid		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		5630	Benzyl alcohol		
		7115	beta-BHC (beta-Hexachlorocyclohexane)		
		5760	bis(2-Chloroethoxy)methane		
		5765	bis(2-Chloroethyl) ether		
		6062	bis(2-Ethylhexyl)adipate		
		5670	Butyl benzyl phthalate		
		5680	Carbazole		
		7205	Carbofuran (Furaden)		
		7210	Carbofuran phenol		
		7250	Chlordane (tech.)		
		7260	Chlorobenzilate		
		5855	Chrysene		
		7240	cis-chlordane (alpha-Chlordane)		
		8906	Coelution - 3-Chlorophenol + 4-Chlorophenol		
		5862	Cresols, Total		
		7105	delta-BHC		
		6065	Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)		
		7405	Diallate		
		9354	Dibenz(a, h) acridine		
		5900	Dibenz(a, j) acridine		
		5895	Dibenz(a,h) anthracene		
		9348	Dibenzo(a, h) pyrene		
		9351	Dibenzo(a, i) pyrene		
		5890	Dibenzo(a,e) pyrene		
		5905	Dibenzofuran		
		4625	Dichlorodifluoromethane (Freon-12)		
		7470	Dieldrin		
		6070	Diethyl phthalate		
		7475	Dimethoate		
		6135	Dimethyl phthalate		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		5925	Di-n-butyl phthalate		
		6200	Di-n-octyl phthalate		
		8620	Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)		
		6210	Diphenyl ether (Diphenyl Oxide)		
		6205	Diphenylamine		
		8625	Disulfoton		
		7510	Endosulfan I		
		7515	Endosulfan II		
		7520	Endosulfan sulfate		
		7540	Endrin		
		7530	Endrin aldehyde		
		7535	Endrin ketone		
		6260	Ethyl methanesulfonate		
		7580	Famphur		
		6265	Fluoranthene		
		6270	Fluorene		
		7120	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)		
		7245	gamma-Chlordane		
		7650	Garlon (Triclopyr)		
		7685	Heptachlor		
		7690	Heptachlor epoxide		
		6275	Hexachlorobenzene		
		4835	Hexachlorobutadiene		
		6285	Hexachlorocyclopentadiene		
		4840	Hexachloroethane		
		6290	Hexachlorophene		
		6295	Hexachloropropene		
		6312	Indene		
		6315	Indeno(1,2,3-cd) pyrene		
		7725	Isodrin		
		6320	Isophorone		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		6325	Isosafrole		
		7740	Kepone		
		6345	Methapyrilene		
		7810	Methoxychlor		
		4960	Methyl chloride (Chloromethane)		
		6375	Methyl methanesulfonate		
		7825	Methyl parathion (Parathion, methyl)		
		5005	Naphthalene		
		5875	n-Decane		
		6230	n-Docosane		
		6235	n-Dodecane		
		6240	n-Eicosane		
		6300	n-Hexadecane		
		5015	Nitrobenzene		
		6525	n-Nitrosodiethylamine		
		6530	n-Nitrosodimethylamine		
		5025	n-Nitroso-di-n-butylamine		
		6545	n-Nitrosodi-n-propylamine		
		6535	n-Nitrosodiphenylamine		
		6550	n-Nitrosomethylethylamine		
		6560	n-Nitrosopiperidine		
		6565	n-Nitrosopyrrolidine		
		6580	n-Octadecane		
		6745	n-Tetradecane		
		8290	o,o,o-Triethyl phosphorothioate		
		5553	Octachlorostyrene		
		7955	Parathion, ethyl		
		6590	Pentachlorobenzene		
		5035	Pentachloroethane		
		6600	Pentachloronitrobenzene		
		6605	Pentachlorophenol		
		6608	Perylene		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		6610	Phenacetin		
		6615	Phenanthrene		
		6625	Phenol		
		7985	Phorate		
		6640	Phthalic anhydride		
		6650	Pronamide (Kerb)		
		6665	Pyrene		
		5095	Pyridine		
		6685	Safrole		
		8200	Tetrachlorvinphos (Stirophos, Gardona) Z-isomer		
		8235	Thionazin (Zinophos)		
		8250	Toxaphene (Chlorinated camphene)		
		5200	Triethylamine		
	EPA 632			10108608	Carbamate and Urea Pesticides by Liquid/Liquid Extraction and HPLC/UV-VIS
		7505	Diuron		
	EPA 7199			10163005	Determination of Hexavalent Chromium in Drinking Water, Groundwater and Industrial Wastewater Effluents by Ion Chromatography
		1045	Chromium VI		
	EPA 7470A			10165807	Mercury in Liquid Waste by Cold Vapor Atomic Absorption
		1095	Mercury		
	EPA 7471A			10166208	Mercury in Solid Waste by Cold Vapor Atomic Absorption
		1095	Mercury		
	EPA 8015B			10173601	Non-halogenated organics using GC/FID
		9369	Diesel range organics (DRO)		
		4750	Ethanol		
		4785	Ethylene glycol		
		4875	Isobutyl alcohol (2-Methyl-1-propanol)		
		4895	Isopropyl alcohol (2-Propanol, Isopropanol)		
		9488	Jet Fuel		
		9409	Kerosene		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		4930	Methanol		
		9410	Mineral Spirits		
		9499	Motor Oil		
		4425	n-Butyl alcohol (1-Butanol, n-Butanol)		
		5055	n-Propanol		
		6657	Propylene Glycol		
		2050	Total Petroleum Hydrocarbons (TPH)		
	EPA 8081A			10178606	Organochlorine Pesticides by GC/ECD
		8580	2,4'-DDD		
		8585	2,4'-DDE		
		8590	2,4'-DDT		
		7355	4,4'-DDD		
		7360	4,4'-DDE		
		7365	4,4'-DDT		
		7025	Aldrin		
		7110	alpha-BHC (alpha-Hexachlorocyclohexane)		
		7115	beta-BHC (beta-Hexachlorocyclohexane)		
		7250	Chlordane (tech.)		
		7310	Chlorthalonil (Daconil)		
		7240	cis-chlordane (alpha-Chlordane)		
		7925	cis-Nonachlor		
		8550	Dacthal (DCPA)		
		7105	delta-BHC		
		7470	Dieldrin		
		7510	Endosulfan I		
		7515	Endosulfan II		
		7520	Endosulfan sulfate		
		7540	Endrin		
		7530	Endrin aldehyde		
		7535	Endrin ketone		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		7120	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)		
		7245	gamma-Chlordane		
		7685	Heptachlor		
		7690	Heptachlor epoxide		
		7740	Kepone		
		7810	Methoxychlor		
		7870	Mirex		
		3890	Oxychlordane		
		8045	Propachlor (Ramrod)		
		8250	Toxaphene (Chlorinated camphene)		
		7910	trans-Nonachlor		
		8295	Trifluralin (Treflan)		
	EPA 8082			10179007	Polychlorinated Biphenyls (PCBs) by GC/ECD
		8880	Aroclor-1016 (PCB-1016)		
		8885	Aroclor-1221 (PCB-1221)		
		8890	Aroclor-1232 (PCB-1232)		
		8895	Aroclor-1242 (PCB-1242)		
		8900	Aroclor-1248 (PCB-1248)		
		8905	Aroclor-1254 (PCB-1254)		
		8910	Aroclor-1260 (PCB-1260)		
	EPA 8141A			10182000	Organophosphorous Pesticides by GC/NPD
		7075	Azinphos-methyl (Guthion)		
		7125	Bolstar (Sulprofos)		
		7300	Chlorpyrifos		
		7315	Coumaphos		
		7395	Demeton-o		
		7385	Demeton-s		
		7410	Diazinon		
		8610	Dichlorovos (DDVP, Dichlorvos)		
		7475	Dimethoate		
		8625	Disulfoton		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		7565	Ethion		
		7570	Ethoprop		
		7600	Fensulfothion		
		7605	Fenthion		
		7770	Malathion		
		7785	Merphos		
		7825	Methyl parathion (Parathion, methyl)		
		7850	Mevinphos		
		7905	Naled		
		7955	Parathion, ethyl		
		7985	Phorate		
		8110	Ronnel		
		8200	Tetrachlorvinphos (Stirophos, Gardona) Z-isomer		
		8235	Thionazin (Zinophos)		
		8245	Tokuthion (Prothiophos)		
		8275	Trichloronate		
	EPA 8151A			10183207	Chlorinated Herbicides by GC/ECD
		8655	2,4,5-T		
		8545	2,4-D		
		8560	2,4-DB		
		8600	3,5-Dichlorobenzoic acid		
		8505	Acifluorfen		
		8530	Bentazon		
		8550	Dacthal (DCPA)		
		8555	Dalapon		
		8595	Dicamba		
		8605	Dichloroprop (Dichlorprop)		
		8620	Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)		
		7775	MCPA		
		7780	MCPP		
		6605	Pentachlorophenol		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		8645	Picloram		
		8650	Silvex (2,4,5-TP)		
	EPA 8260B			10184802	Volatile Organic Compounds by purge and trap GC/MS
		5105	1,1,1,2-Tetrachloroethane		
		5160	1,1,1-Trichloroethane		
		5110	1,1,2,2-Tetrachloroethane		
		5165	1,1,2-Trichloroethane		
		4630	1,1-Dichloroethane		
		4640	1,1-Dichloroethylene		
		4670	1,1-Dichloropropene		
		5150	1,2,3-Trichlorobenzene		
		5180	1,2,3-Trichloropropane		
		5155	1,2,4-Trichlorobenzene		
		5210	1,2,4-Trimethylbenzene		
		4570	1,2-Dibromo-3-chloropropane (DBCP)		
		4585	1,2-Dibromoethane (EDB, Ethylene dibromide)		
		4610	1,2-Dichlorobenzene		
		4635	1,2-Dichloroethane (Ethylene dichloride)		
		4655	1,2-Dichloropropane		
		5215	1,3,5-Trimethylbenzene		
		4615	1,3-Dichlorobenzene		
		4660	1,3-Dichloropropane		
		4675	1,3-Dichloropropene		
		4620	1,4-Dichlorobenzene		
		4665	2,2-Dichloropropane		
		4410	2-Butanone (Methyl ethyl ketone, MEK)		
		4500	2-Chloroethyl vinyl ether		
		4535	2-Chlorotoluene		
		4860	2-Hexanone (MBK)		
		4540	4-Chlorotoluene		
		4910	4-Isopropyltoluene (p-Cymene)		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		4995	4-Methyl-2-pentanone (MIBK)		
		4315	Acetone		
		4320	Acetonitrile		
		4325	Acrolein (Propenal)		
		4340	Acrylonitrile		
		4355	Allyl chloride (3-Chloropropene)		
		4375	Benzene		
		4385	Bromobenzene		
		4390	Bromochloromethane		
		4395	Bromodichloromethane		
		4397	Bromoethane (Ethyl Bromide)		
		4400	Bromoform		
		4450	Carbon disulfide		
		4455	Carbon tetrachloride		
		4475	Chlorobenzene		
		4575	Chlorodibromomethane		
		4505	Chloroform		
		4525	Chloroprene (2-Chloro-1,3-butadiene)		
		4705	cis & trans-1,2-Dichloroethene		
		4645	cis-1,2-Dichloroethylene		
		4680	cis-1,3-Dichloropropene		
		4595	Dibromomethane (Methylene bromide)		
		4625	Dichlorodifluoromethane (Freon-12)		
		9375	Di-isopropylether (DIPE)		
		4750	Ethanol		
		4755	Ethyl acetate		
		4810	Ethyl methacrylate		
		4765	Ethylbenzene		
		4770	Ethyl-t-butylether (ETBE) (2-Ethoxy-2-methylpropane)		
		4870	Iodomethane (Methyl iodide)		
		4875	Isobutyl alcohol (2-Methyl-1-propanol)		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		4890	Isopropyl acetate		
		4900	Isopropylbenzene (Cumene)		
		5240	m+p-xylene		
		4925	Methacrylonitrile		
		4950	Methyl bromide (Bromomethane)		
		4960	Methyl chloride (Chloromethane)		
		4990	Methyl methacrylate		
		5000	Methyl tert-butyl ether (MTBE)		
		4975	Methylene chloride (Dichloromethane)		
		4360	n-Amyl acetate		
		5005	Naphthalene		
		4435	n-Butylbenzene		
		5090	n-Propylbenzene		
		5250	o-Xylene		
		5035	Pentachloroethane		
		5080	Propionitrile (Ethyl cyanide)		
		4440	sec-Butylbenzene		
		5100	Styrene		
		4370	T-amylmethylether (TAME)		
		4420	tert-Butyl alcohol		
		4445	tert-Butylbenzene		
		5115	Tetrachloroethylene (Perchloroethylene)		
		5140	Toluene		
		4700	trans-1,2-Dichloroethylene		
		4685	trans-1,3-Dichloropropylene		
		4605	trans-1,4-Dichloro-2-butene		
		5170	Trichloroethene (Trichloroethylene)		
		5175	Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)		
		5225	Vinyl acetate		
		5235	Vinyl chloride		
		5260	Xylene (total)		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
	EPA 8270C			10185805	Semivolatile Organic compounds by GC/MS
		6715	1,2,4,5-Tetrachlorobenzene		
		5155	1,2,4-Trichlorobenzene		
		4610	1,2-Dichlorobenzene		
		6220	1,2-Diphenylhydrazine		
		6885	1,3,5-Trinitrobenzene (1,3,5-TNB)		
		4615	1,3-Dichlorobenzene		
		6160	1,3-Dinitrobenzene (1,3-DNB)		
		4620	1,4-Dichlorobenzene		
		6420	1,4-Naphthoquinone		
		6630	1,4-Phenylenediamine		
		6380	1-Methylnaphthalene		
		6425	1-Naphthylamine		
		4659	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methylethyl)ether		
		6735	2,3,4,6-Tetrachlorophenol		
		6835	2,4,5-Trichlorophenol		
		6840	2,4,6-Trichlorophenol		
		6000	2,4-Dichlorophenol		
		6130	2,4-Dimethylphenol		
		6175	2,4-Dinitrophenol		
		6185	2,4-Dinitrotoluene (2,4-DNT)		
		6005	2,6-Dichlorophenol		
		6190	2,6-Dinitrotoluene (2,6-DNT)		
		5515	2-Acetylaminofluorene		
		5795	2-Chloronaphthalene		
		5800	2-Chlorophenol		
		6360	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)		
		6385	2-Methylnaphthalene		
		6400	2-Methylphenol (o-Cresol)		
		6430	2-Naphthylamine		
		6460	2-Nitroaniline		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		6490	2-Nitrophenol		
		5050	2-Picoline (2-Methylpyridine)		
		6412	3 & 4 Methylphenol		
		5945	3,3'-Dichlorobenzidine		
		6120	3,3'-Dimethylbenzidine		
		6355	3-Methylcholanthrene		
		6465	3-Nitroaniline		
		7355	4,4'-DDD		
		7360	4,4'-DDE		
		7365	4,4'-DDT		
		5540	4-Aminobiphenyl		
		5660	4-Bromophenyl phenyl ether (BDE-3)		
		5700	4-Chloro-3-methylphenol		
		5745	4-Chloroaniline		
		5825	4-Chlorophenyl phenylether		
		6470	4-Nitroaniline		
		6500	4-Nitrophenol		
		6510	4-Nitroquinoline 1-oxide		
		6570	5-Nitro-o-toluidine		
		6115	7,12-Dimethylbenz(a) anthracene		
		6125	a-a-Dimethylphenethylamine		
		5500	Acenaphthene		
		5505	Acenaphthylene		
		5510	Acetophenone		
		7025	Aldrin		
		7110	alpha-BHC (alpha-Hexachlorocyclohexane)		
		5535	Aminoazobenzene		
		5545	Aniline		
		5555	Anthracene		
		5560	Aramite		
		5562	Azobenzene		

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		5595	Benzidine		
		5575	Benzo(a)anthracene		
		5580	Benzo(a)pyrene		
		5585	Benzo[b]fluoranthene		
		5610	Benzoic acid		
		5630	Benzyl alcohol		
		7115	beta-BHC (beta-Hexachlorocyclohexane)		
		5760	bis(2-Chloroethoxy)methane		
		5765	bis(2-Chloroethyl) ether		
		5670	Butyl benzyl phthalate		
		5680	Carbazole		
		7260	Chlorobenzilate		
		5855	Chrysene		
		7105	delta-BHC		
		6065	Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)		
		7405	Diallate		
		5895	Dibenz(a,h) anthracene		
		5905	Dibenzofuran		
		7470	Dieldrin		
		6070	Diethyl phthalate		
		7475	Dimethoate		
		6135	Dimethyl phthalate		
		5925	Di-n-butyl phthalate		
		6200	Di-n-octyl phthalate		
		8620	Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)		
		6205	Diphenylamine		
		8625	Disulfoton		
		7510	Endosulfan I		
		7515	Endosulfan II		
		7520	Endosulfan sulfate		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		7540	Endrin		
		7530	Endrin aldehyde		
		6260	Ethyl methanesulfonate		
		7580	Famphur		
		6265	Fluoranthene		
		6270	Fluorene		
		7120	gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)		
		7685	Heptachlor		
		7690	Heptachlor epoxide		
		6275	Hexachlorobenzene		
		4835	Hexachlorobutadiene		
		6285	Hexachlorocyclopentadiene		
		4840	Hexachloroethane		
		6290	Hexachlorophene		
		6295	Hexachloropropene		
		6315	Indeno(1,2,3-cd) pyrene		
		7725	Isodrin		
		6320	Isophorone		
		6325	Isosafrole		
		7740	Kepone		
		6345	Methapyrilene		
		7810	Methoxychlor		
		6375	Methyl methanesulfonate		
		7825	Methyl parathion (Parathion, methyl)		
		5005	Naphthalene		
		5015	Nitrobenzene		
		6525	n-Nitrosodiethylamine		
		6530	n-Nitrosodimethylamine		
		5025	n-Nitroso-di-n-butylamine		
		6545	n-Nitrosodi-n-propylamine		
		6535	n-Nitrosodiphenylamine		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		6550	n-Nitrosomethylethylamine		
		6555	n-Nitrosomorpholine		
		6560	n-Nitrosopiperidine		
		6565	n-Nitrosopyrrolidine		
		8290	o,o,o-Triethyl phosphorothioate		
		7955	Parathion, ethyl		
		6590	Pentachlorobenzene		
		5035	Pentachloroethane		
		6600	Pentachloronitrobenzene		
		6605	Pentachlorophenol		
		6610	Phenacetin		
		6615	Phenanthrene		
		6625	Phenol		
		7985	Phorate		
		6650	Pronamide (Kerb)		
		6665	Pyrene		
		5095	Pyridine		
		6685	Safrole		
		8155	Sulfotepp		
	EPA 8270C SIM			10242407	Semivolatile Organic compounds by GC/MS Selective Ion Monitoring
		6380	1-Methylnaphthalene		
		6385	2-Methylnaphthalene		
		5500	Acenaphthene		
		5505	Acenaphthylene		
		5555	Anthracene		
		5575	Benzo(a)anthracene		
		5580	Benzo(a)pyrene		
		5605	Benzo(e)pyrene		
		5590	Benzo(g,h,i)perylene		
		5600	Benzo(k)fluoranthene		
		5585	Benzo[b]fluoranthene		

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		5855	Chrysene		
		5895	Dibenz(a,h) anthracene		
		6265	Fluoranthene		
		6270	Fluorene		
		6315	Indeno(1,2,3-cd) pyrene		
		5005	Naphthalene		
		6608	Perylene		
		6615	Phenanthrene		
		6665	Pyrene		
	EPA 8315A			10188008	Determination of Carbonyl Compounds by HPLC/UV-VIS
		4300	Acetaldehyde		
		4815	Formaldehyde		
		9525	n-Octaldehyde (Octanal)		
	EPA 8316			10188202	Acrylamide, Acrylonitrile and Acrolein by High Performance Liquid Chromatography (HPLC)
		4330	Acrylamide		
	EPA 8318			10307605	N-Methylcarbamates by HPLC/UV-VIS
		7710	3-Hydroxycarbofuran		
		7010	Aldicarb (Temik)		
		7015	Aldicarb sulfone		
		7195	Carbaryl (Sevin)		
		7205	Carbofuran (Furaden)		
		7800	Methiocarb (Mesurol)		
		7805	Methomyl (Lannate)		
		7940	Oxamyl		
		8080	Propoxur (Baygon)		
	EPA 8321A			10189001	Solvent Extractable non-volatile compounds by HPLC/TS/MS
		8655	2,4,5-T		
		8545	2,4-D		
		8560	2,4-DB		
		7710	3-Hydroxycarbofuran		
		7010	Aldicarb (Temik)		

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		7015	Aldicarb sulfone		
		7020	Aldicarb sulfoxide		
		7130	Bromacil		
		7195	Carbaryl (Sevin)		
		7205	Carbofuran (Furaden)		
		8595	Dicamba		
		8605	Dichloroprop (Dichlorprop)		
		7505	Diuron		
		7765	Linuron (Lorox)		
		7775	MCPA		
		7780	MCPP		
		7800	Methiocarb (Mesurol)		
		7805	Methomyl (Lannate)		
		7940	Oxamyl		
		8080	Propoxur (Baygon)		
		8650	Silvex (2,4,5-TP)		
	EPA 8330A			10190008	Nitroaromatics and Nitramines by High Performance Liquid Chromatography (HPLC)
		6885	1,3,5-Trinitrobenzene (1,3,5-TNB)		
		6160	1,3-Dinitrobenzene (1,3-DNB)		
		9651	2,4,6-Trinitrotoluene (2,4,6-TNT)		
		6185	2,4-Dinitrotoluene (2,4-DNT)		
		6181	2,6-diamino-4-nitrotoluene		
		6190	2,6-Dinitrotoluene (2,6-DNT)		
		9303	2-Amino-4,6-dinitrotoluene (2-am-dnt)		
		9507	2-Nitrotoluene		
		9510	3-Nitrotoluene		
		9513	4-Nitrotoluene		
		6415	Methyl-2,4,6-trinitrophenylnitramine (tetryl)		
		5015	Nitrobenzene		
		9522	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		9432	RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)		
	EPA 9014			10193803	Titrimetric and Manual Spectrophotometric Determinative Methods for Cyanide
		1510	Amenable cyanide		
		1635	Cyanide		
	EPA 9020B			10194408	Total Organic Halides
		2045	Total organic halides (TOX)		
	EPA 9040B			10197203	pH Electrometric Measurement
		1900	pH		
	EPA 9045C			10198400	Soil and Waste pH
		1900	pH		
	OIA 1677			60031405	Available Cyanide by FIA, Ligand Exchange and Amperometry
		1523	Available Cyanide		
	SM 2120 B-2011			20039310	Color - Visual Comparison Method
		1605	Color		
	SM 2320 B-2011 online			20045618	Alkalinity as CaCO3
		1505	Alkalinity as CaCO3		
	SM 2510 B-2011			20048617	Conductivity by Probe
		1610	Conductivity		
	SM 2540 B-2011 2011			20049416	Total Solids Dried at 103 - 105C
		1950	Residue-total		
	SM 2540 C-2011 online			20050413	Residue-filterable (TDS)
		1955	Residue-filterable (TDS)		
	SM 2540 D-2011			20051212	Total Suspended Solids Dried at 103 - 105 C
		1960	Residue-nonfilterable (TSS)		
	SM 2540 E-2011 2011			20051596	Fixed & Volatile Solids Ignited at 550 C
		1947	Residue - Fixed		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
	SM 2540 F-2011			20052215	Settleable Solids
		1965	Residue-settleable		
	SM 4500-Cl G 20th ED			20081203	Residual Chlorine by DPD Colorimetric Determination
		1580	Chlorine		
		1945	Residual free chlorine		
	SM 4500-Cl G-2011 22nd ED			20081623	Chlorine (Residual) by DPD Colorimetric Method
		1940	Total residual chlorine		
	SM 4500-CN G 20th ED			20093203	Cyanide Amenable to Chlorination after Distillation
		1510	Amenable cyanide		
	SM 4500-H+ B-2011			20105220	pH - Electrometric Measurement
		1900	pH		
	SM 4500-O G-2011 22nd ED			20121668	Dissolved Oxygen by Membrane Electrode
		1880	Oxygen, dissolved		
	SM 4500-$S2^{-}$ D-2011 online			20125864	Sulfide by Methylene Blue Method
		2005	Sulfide		
	SM 4500-$SO3^{-}$ B-2011			20130636	Sulfite by Iodometric Method
		2015	Sulfite-SO3		
	SM 5210 B-2011 online			20135266	Biochemical Oxygen Demand (5 days @ 20 C).
		1530	Biochemical oxygen demand		
		1555	Carbonaceous BOD, CBOD		
	SM 5310 B-2011 2011			20137820	TOC by High-Temperature Combustion Method
		1710	Dissolved organic carbon (DOC)		
		2040	Total organic carbon		
	SM 5320 B			20140403	Absorbable Organic Halogen

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
	20th ED				
		4345	Adsorbable organic halogens (AOX)		
		2045	Total organic halides (TOX)		
	SM 5540 C-2011			20145066	Surfactants as MBAS
		2025	Surfactants - MBAS		
	Weck EPA 1694 Isotope Dilution 4.0			60009689	WECK Labs - Pharmaceuticals and Personal Care Products by Isotope Dilution HPLC/MS/MS
		6769	17a-estradiol		
		6771	17a-ethynylestradiol		
		6773	17ß-estradiol		
		4307	Acetominophen		
		9301	Bisphenol A		
		7194	Carbamazepine		
		7375	DEET		
		7086	Diazepam		
		7087	Diclofenac		
		6075	Diethylstilbestrol		
		7253	Estriol		
		7254	Estrone		
		7257	Fluoxetine		
		7258	Gemfibrozil		
		7259	Ibuprofen		
		7719	Iopromide		
		7313	Meprobamate		
		7316	Methadone		
		7269	Naproxen		
		7317	Oxybenzone		
		6911	Perfluorobutane Sulfonate (PFBS)		
		6910	Perfluorohexane sulfonate (PFHxS)		
		6906	Perfluorononanoic acid (PFNA)		
		6909	Perfluorooctane sulfonate (PFOS)		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		6912	Perfluorooctanoic acid (PFOA)		
		7284	Progesterone		
		9585	Salicylic acid		
		7297	Sulfamethoxazole		
		7301	Testosterone		
		7304	Triclosan		
		7307	Trimethoprim		

Solids

	DoD/DoE QSM Table B-15			90000451	DoD/DoE - PFAS using LC/MS/MS Isotope Dilution or IS Quantification
		9462	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate		
		6951	4,8-Dioxa-3H-perfluorononanoic acid (DONA)		
		9437	4:2 Fluorotelomer sulfonate (4:2FTS)		
		6457	6:2 Fluorotelomersulfonate (6:2FTS)		
		6461	8:2 Fluorotelomersulfonate (8:2FTS)		
		6952	9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)		
		9460	Hexafluoropropylene oxide dimer acid (HFPO-DA)		
		9395	N-Ethylperfluorooctane sulfonamide (EtFOSAm)		
		9431	N-Ethylperfluorooctane sulfonamido ethanol (EtFOSE)		
		4846	N-Ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)		
		4847	N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)		
		6949	N-Methylperfluorooctane sulfonamido ethanol (MeFOSE)		
		9433	N-Methylperfluorooctanesulfonamide (MeFOSA)		
		6918	Perfluorobutane sulfonic acid (PFBS)		

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		6915	Perfluorobutanoic acid (PFBA)		
		9562	Perfluorodecane Sulfonate (PFDS)		
		6905	Perfluorodecanoic acid (PFDA)		
		6903	Perfluorododecanoic acid (PFDoA)		
		9470	Perfluoroheptane sulfonic acid (PFHpS)		
		6908	Perfluoroheptanoic acid (PFHpA)		
		6927	Perfluorohexane sulfonic acid (PFHxS)		
		6913	Perfluorohexanoic acid (PFHxA)		
		9464	Perfluorononane sulfonate (PFNS)		
		6906	Perfluorononanoic acid (PFNA)		
		6916	Perfluorooctadecanoic acid (PFODA)		
		6917	Perfluorooctane sulfonamide (PFOSAm)		
		6931	Perfluorooctane sulfonic acid (PFOS)		
		6912	Perfluorooctanoic acid (PFOA)		
		9467	Perfluoropentane Sulfonate (PFPeS)		
		6914	Perfluoropentanoic acid (PFPeA)		
		6902	Perfluorotetradecanoic acid (PFTDA)		
		9563	Perfluorotridecanoic acid (PFTrDA)		
		6904	Perfluoroundecanoic acid (PFUnA)		
	EPA 1010			10116606	Pensky-Martens Closed-Cup Method for Determining Ignitability
		1780	Ignitability		
	EPA 1311			10118806	Toxicity Characteristic Leaching Procedure
		1466	Toxicity Characteristic Leaching Procedure (TCLP)		
	EPA 1312			10119003	Synthetic Precipitation Leaching Procedure
		1460	Synthetic Precipitation Leaching Procedure (SPLP)		
	EPA 350.1 2			10063602	Ammonia Nitrogen - Colorimetric, Auto Phenate
		1515	Ammonia as N		
	EPA 351.2 2			10065404	Total Kjeldahl Nitrogen - Block Digest, Phenate

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		1795	Total Kjeldahl Nitrogen (TKN)		
	EPA 365.3			10070801	Phosphorous - Colorimetric, two reagent.
		1910	Phosphorus, total		
	EPA 6010B			10155609	ICP - AES
		1000	Aluminum		
		1005	Antimony		
		1010	Arsenic		
		1015	Barium		
		1020	Beryllium		
		1025	Boron		
		1030	Cadmium		
		1035	Calcium		
		1040	Chromium		
		1050	Cobalt		
		1055	Copper		
		1070	Iron		
		1075	Lead		
		1080	Lithium		
		1085	Magnesium		
		1090	Manganese		
		1100	Molybdenum		
		1105	Nickel		
		1910	Phosphorus, total		
		1125	Potassium		
		1140	Selenium		
		1990	Silica as SiO2		
		1145	Silicon		
		1150	Silver		
		1155	Sodium		
		1160	Strontium		
		1165	Thallium		
		1175	Tin		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		1180	Titanium		
		1185	Vanadium		
		1190	Zinc		
	EPA 6020			10156204	Inductively Coupled Plasma-Mass Spectrometry
		1000	Aluminum		
		1005	Antimony		
		1010	Arsenic		
		1015	Barium		
		1020	Beryllium		
		1025	Boron		
		1030	Cadmium		
		1035	Calcium		
		1040	Chromium		
		1050	Cobalt		
		1055	Copper		
		1070	Iron		
		1075	Lead		
		1085	Magnesium		
		1090	Manganese		
		1100	Molybdenum		
		1105	Nickel		
		1125	Potassium		
		1140	Selenium		
		1150	Silver		
		1155	Sodium		
		1160	Strontium		
		1165	Thallium		
		1175	Tin		
		1180	Titanium		
		1184	Uranium (mass)		
		1185	Vanadium		
		1190	Zinc		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
	EPA 7199			10163005	Determination of Hexavalent Chromium in Drinking Water, Groundwater and Industrial Wastewater Effluents by Ion Chromatography
		1045	Chromium VI		
	EPA 7470A			10165807	Mercury in Liquid Waste by Cold Vapor Atomic Absorption
		1095	Mercury		
	EPA 7471A			10166208	Mercury in Solid Waste by Cold Vapor Atomic Absorption
		1095	Mercury		
	EPA 8015B			10173601	Non-halogenated organics using GC/FID
		9369	Diesel range organics (DRO)		
		4750	Ethanol		
		4785	Ethylene glycol		
		9488	Jet Fuel		
		9409	Kerosene		
		4930	Methanol		
		9410	Mineral Spirits		
		9499	Motor Oil		
		2050	Total Petroleum Hydrocarbons (TPH)		
	EPA 8081A			10178606	Organochlorine Pesticides by GC/ECD
		8580	2,4'-DDD		
		8585	2,4'-DDE		
		8590	2,4'-DDT		
		7355	4,4'-DDD		
		7360	4,4'-DDE		
		7365	4,4'-DDT		
		7025	Aldrin		
		7115	beta-BHC (beta-Hexachlorocyclohexane)		
		7250	Chlordane (tech.)		
		7310	Chlorthalonil (Daconil)		
		7240	cis-chlordane (alpha-Chlordane)		
		7925	cis-Nonachlor		
		8550	Dacthal (DCPA)		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		7105	delta-BHC		
		7470	Dieldrin		
		7510	Endosulfan I		
		7515	Endosulfan II		
		7520	Endosulfan sulfate		
		7540	Endrin		
		7530	Endrin aldehyde		
		7535	Endrin ketone		
		7120	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)		
		7245	gamma-Chlordane		
		7685	Heptachlor		
		7690	Heptachlor epoxide		
		6275	Hexachlorobenzene		
		6285	Hexachlorocyclopentadiene		
		7740	Kepone		
		7810	Methoxychlor		
		7870	Mirex		
		3890	Oxychlordane		
		8045	Propachlor (Ramrod)		
		8250	Toxaphene (Chlorinated camphene)		
		7910	trans-Nonachlor		
		8295	Trifluralin (Treflan)		
	EPA 8082			10179007	Polychlorinated Biphenyls (PCBs) by GC/ECD
		8880	Aroclor-1016 (PCB-1016)		
		8885	Aroclor-1221 (PCB-1221)		
		8890	Aroclor-1232 (PCB-1232)		
		8895	Aroclor-1242 (PCB-1242)		
		8900	Aroclor-1248 (PCB-1248)		
		8905	Aroclor-1254 (PCB-1254)		
		8910	Aroclor-1260 (PCB-1260)		
	EPA 8141A			10182000	Organophosphorous Pesticides by GC/NPD

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		7005	Alachlor		
		7075	Azinphos-methyl (Guthion)		
		7125	Bolstar (Sulprofos)		
		7300	Chlorpyrifos		
		7315	Coumaphos		
		7395	Demeton-o		
		7385	Demeton-s		
		7410	Diazinon		
		8610	Dichlorovos (DDVP, Dichlorvos)		
		7475	Dimethoate		
		8625	Disulfoton		
		7570	Ethoprop		
		7600	Fensulfothion		
		7605	Fenthion		
		7770	Malathion		
		7785	Merphos		
		7825	Methyl parathion (Parathion, methyl)		
		7845	Metribuzin		
		7850	Mevinphos		
		7905	Naled		
		7955	Parathion, ethyl		
		7960	Pendimethalin\ (Penoxalin)		
		7985	Phorate		
		8110	Ronnel		
		8200	Tetrachlorvinphos (Stirophos, Gardona) Z-isomer		
		8235	Thionazin (Zinophos)		
		8245	Tokuthion (Prothiophos)		
		8275	Trichloronate		
	EPA 8151A			10183207	Chlorinated Herbicides by GC/ECD
		8655	2,4,5-T		
		8545	2,4-D		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		8560	2,4-DB		
		8555	Dalapon		
		8595	Dicamba		
		8605	Dichloroprop (Dichlorprop)		
		8620	Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)		
		7775	MCPA		
		7780	MCPP		
		6605	Pentachlorophenol		
		8645	Picloram		
		8650	Silvex (2,4,5-TP)		
	EPA 8260B			10184802	Volatile Organic Compounds by purge and trap GC/MS
		5105	1,1,1,2-Tetrachloroethane		
		5160	1,1,1-Trichloroethane		
		5110	1,1,2,2-Tetrachloroethane		
		5195	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		
		5165	1,1,2-Trichloroethane		
		4630	1,1-Dichloroethane		
		4640	1,1-Dichloroethylene		
		4670	1,1-Dichloropropene		
		5150	1,2,3-Trichlorobenzene		
		5180	1,2,3-Trichloropropane		
		5155	1,2,4-Trichlorobenzene		
		5210	1,2,4-Trimethylbenzene		
		4570	1,2-Dibromo-3-chloropropane (DBCP)		
		4585	1,2-Dibromoethane (EDB, Ethylene dibromide)		
		4610	1,2-Dichlorobenzene		
		4635	1,2-Dichloroethane (Ethylene dichloride)		
		4655	1,2-Dichloropropane		
		5215	1,3,5-Trimethylbenzene		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		4615	1,3-Dichlorobenzene		
		4660	1,3-Dichloropropane		
		4675	1,3-Dichloropropene		
		4620	1,4-Dichlorobenzene		
		4665	2,2-Dichloropropane		
		4410	2-Butanone (Methyl ethyl ketone, MEK)		
		4500	2-Chloroethyl vinyl ether		
		4535	2-Chlorotoluene		
		4860	2-Hexanone (MBK)		
		4540	4-Chlorotoluene		
		4910	4-Isopropyltoluene (p-Cymene)		
		4995	4-Methyl-2-pentanone (MIBK)		
		4315	Acetone		
		4320	Acetonitrile		
		4325	Acrolein (Propenal)		
		4340	Acrylonitrile		
		4355	Allyl chloride (3-Chloropropene)		
		4375	Benzene		
		4385	Bromobenzene		
		4390	Bromochloromethane		
		4395	Bromodichloromethane		
		4400	Bromoform		
		4450	Carbon disulfide		
		4455	Carbon tetrachloride		
		4475	Chlorobenzene		
		4575	Chlorodibromomethane		
		4485	Chloroethane (Ethyl chloride)		
		4505	Chloroform		
		4525	Chloroprene (2-Chloro-1,3-butadiene)		
		4645	cis-1,2-Dichloroethylene		
		4680	cis-1,3-Dichloropropene		
		4580	Dibromochloropropane		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		4595	Dibromomethane (Methylene bromide)		
		4625	Dichlorodifluoromethane (Freon-12)		
		9375	Di-isopropylether (DIPE)		
		4745	Epichlorohydrin (1-Chloro-2,3-epoxypropane)		
		4750	Ethanol		
		4755	Ethyl acetate		
		4810	Ethyl methacrylate		
		4765	Ethylbenzene		
		4770	Ethyl-t-butylether (ETBE) (2-Ethoxy-2-methylpropane)		
		9408	Gasoline range organics (GRO)		
		4835	Hexachlorobutadiene		
		4870	Iodomethane (Methyl iodide)		
		4875	Isobutyl alcohol (2-Methyl-1-propanol)		
		4890	Isopropyl acetate		
		4900	Isopropylbenzene (Cumene)		
		5240	m+p-xylene		
		4925	Methacrylonitrile		
		4950	Methyl bromide (Bromomethane)		
		4960	Methyl chloride (Chloromethane)		
		5000	Methyl tert-butyl ether (MTBE)		
		4975	Methylene chloride (Dichloromethane)		
		4360	n-Amyl acetate		
		5005	Naphthalene		
		4435	n-Butylbenzene		
		5090	n-Propylbenzene		
		5250	o-Xylene		
		5035	Pentachloroethane		
		5080	Propionitrile (Ethyl cyanide)		
		4440	sec-Butylbenzene		
		5100	Styrene		
		4370	T-amylmethylether (TAME)		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		4420	tert-Butyl alcohol		
		4445	tert-Butylbenzene		
		5115	Tetrachloroethylene (Perchloroethylene)		
		5140	Toluene		
		4027	Total BTEX		
		4700	trans-1,2-Dichloroethylene		
		4685	trans-1,3-Dichloropropylene		
		4605	trans-1,4-Dichloro-2-butene		
		5170	Trichloroethene (Trichloroethylene)		
		5175	Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)		
		5225	Vinyl acetate		
		5235	Vinyl chloride		
		5260	Xylene (total)		
	EPA 8270C			10185805	Semivolatile Organic compounds by GC/MS
		6715	1,2,4,5-Tetrachlorobenzene		
		5155	1,2,4-Trichlorobenzene		
		4610	1,2-Dichlorobenzene		
		6220	1,2-Diphenylhydrazine		
		6885	1,3,5-Trinitrobenzene (1,3,5-TNB)		
		4615	1,3-Dichlorobenzene		
		6160	1,3-Dinitrobenzene (1,3-DNB)		
		4620	1,4-Dichlorobenzene		
		6165	1,4-Dinitrobenzene		
		6420	1,4-Naphthoquinone		
		6630	1,4-Phenylenediamine		
		6380	1-Methylnaphthalene		
		6425	1-Naphthylamine		
		4659	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methylethyl)ether		
		6735	2,3,4,6-Tetrachlorophenol		
		6835	2,4,5-Trichlorophenol		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		6840	2,4,6-Trichlorophenol		
		6000	2,4-Dichlorophenol		
		6130	2,4-Dimethylphenol		
		6175	2,4-Dinitrophenol		
		6185	2,4-Dinitrotoluene (2,4-DNT)		
		5515	2-Acetylaminofluorene		
		5795	2-Chloronaphthalene		
		5800	2-Chlorophenol		
		6360	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)		
		6385	2-Methylnaphthalene		
		6400	2-Methylphenol (o-Cresol)		
		6430	2-Naphthylamine		
		6460	2-Nitroaniline		
		6490	2-Nitrophenol		
		5050	2-Picoline (2-Methylpyridine)		
		6412	3 & 4 Methylphenol		
		5945	3,3'-Dichlorobenzidine		
		6120	3,3'-Dimethylbenzidine		
		6355	3-Methylcholanthrene		
		6465	3-Nitroaniline		
		7355	4,4'-DDD		
		7360	4,4'-DDE		
		7365	4,4'-DDT		
		5540	4-Aminobiphenyl		
		5660	4-Bromophenyl phenyl ether (BDE-3)		
		5700	4-Chloro-3-methylphenol		
		5745	4-Chloroaniline		
		5825	4-Chlorophenyl phenylether		
		6470	4-Nitroaniline		
		6500	4-Nitrophenol		
		6510	4-Nitroquinoline 1-oxide		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		6570	5-Nitro-o-toluidine		
		6115	7,12-Dimethylbenz(a) anthracene		
		6125	a-a-Dimethylphenethylamine		
		5500	Acenaphthene		
		5505	Acenaphthylene		
		5510	Acetophenone		
		7025	Aldrin		
		7110	alpha-BHC (alpha-Hexachlorocyclohexane)		
		5535	Aminoazobenzene		
		5545	Aniline		
		5555	Anthracene		
		5560	Aramite		
		5562	Azobenzene		
		5595	Benzidine		
		5575	Benzo(a)anthracene		
		5580	Benzo(a)pyrene		
		5590	Benzo(g,h,i)perylene		
		5600	Benzo(k)fluoranthene		
		5585	Benzo[b]fluoranthene		
		5610	Benzoic acid		
		5630	Benzyl alcohol		
		7115	beta-BHC (beta-Hexachlorocyclohexane)		
		5760	bis(2-Chloroethoxy)methane		
		5765	bis(2-Chloroethyl) ether		
		5670	Butyl benzyl phthalate		
		5680	Carbazole		
		7260	Chlorobenzilate		
		5855	Chrysene		
		7240	cis-chlordane (alpha-Chlordane)		
		7105	delta-BHC		
		7405	Diallate		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		5895	Dibenz(a,h) anthracene		
		5905	Dibenzofuran		
		7470	Dieldrin		
		6070	Diethyl phthalate		
		7475	Dimethoate		
		6135	Dimethyl phthalate		
		5925	Di-n-butyl phthalate		
		6200	Di-n-octyl phthalate		
		8620	Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)		
		6205	Diphenylamine		
		8625	Disulfoton		
		7510	Endosulfan I		
		7515	Endosulfan II		
		7520	Endosulfan sulfate		
		7540	Endrin		
		7530	Endrin aldehyde		
		7535	Endrin ketone		
		6260	Ethyl methanesulfonate		
		7580	Famphur		
		6265	Fluoranthene		
		6270	Fluorene		
		7120	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)		
		7245	gamma-Chlordane		
		7685	Heptachlor		
		7690	Heptachlor epoxide		
		6275	Hexachlorobenzene		
		4835	Hexachlorobutadiene		
		6285	Hexachlorocyclopentadiene		
		4840	Hexachloroethane		
		6295	Hexachloropropene		
		6315	Indeno(1,2,3-cd) pyrene		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		7725	Isodrin		
		6320	Isophorone		
		6325	Isosafrole		
		7740	Kepone		
		6345	Methapyrilene		
		7810	Methoxychlor		
		6375	Methyl methanesulfonate		
		7825	Methyl parathion (Parathion, methyl)		
		5005	Naphthalene		
		5015	Nitrobenzene		
		6525	n-Nitrosodiethylamine		
		6530	n-Nitrosodimethylamine		
		5025	n-Nitroso-di-n-butylamine		
		6545	n-Nitrosodi-n-propylamine		
		6535	n-Nitrosodiphenylamine		
		6550	n-Nitrosomethylethylamine		
		6555	n-Nitrosomorpholine		
		6560	n-Nitrosopiperidine		
		6565	n-Nitrosopyrrolidine		
		8290	o,o,o-Triethyl phosphorothioate		
		7955	Parathion, ethyl		
		6590	Pentachlorobenzene		
		5035	Pentachloroethane		
		6600	Pentachloronitrobenzene		
		6605	Pentachlorophenol		
		6610	Phenacetin		
		6615	Phenanthrene		
		6625	Phenol		
		7985	Phorate		
		6650	Pronamide (Kerb)		
		6665	Pyrene		
		5095	Pyridine		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		6685	Safrole		
		8155	Sulfotepp		
	EPA 8270C SIM			10242407	Semivolatile Organic compounds by GC/MS Selective Ion Monitoring
		4735	1,4-Dioxane (1,4- Diethyleneoxide)		
		6380	1-Methylnaphthalene		
		6385	2-Methylnaphthalene		
		5500	Acenaphthene		
		5505	Acenaphthylene		
		5555	Anthracene		
		5575	Benzo(a)anthracene		
		5580	Benzo(a)pyrene		
		5605	Benzo(e)pyrene		
		5590	Benzo(g,h,i)perylene		
		5600	Benzo(k)fluoranthene		
		5585	Benzo[b]fluoranthene		
		5855	Chrysene		
		5895	Dibenz(a,h) anthracene		
		6265	Fluoranthene		
		6270	Fluorene		
		6315	Indeno(1,2,3-cd) pyrene		
		5005	Naphthalene		
		6608	Perylene		
		6615	Phenanthrene		
		6665	Pyrene		
	EPA 8315A			10188008	Determination of Carbonyl Compounds by HPLC/UV-VIS
		4300	Acetaldehyde		
		4815	Formaldehyde		
		9525	n-Octaldehyde (Octanal)		
	EPA 8316			10188202	Acrylamide, Acrylonitrile and Acrolein by High Performance Liquid Chromatography (HPLC)
		4330	Acrylamide		

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
	EPA 8318			10307605	N-Methylcarbamates by HPLC/UV-VIS
		7710	3-Hydroxycarbofuran		
		7010	Aldicarb (Temik)		
		7015	Aldicarb sulfone		
		7195	Carbaryl (Sevin)		
		7205	Carbofuran (Furaden)		
		7800	Methiocarb (Mesurol)		
		7805	Methomyl (Lannate)		
		7940	Oxamyl		
		8080	Propoxur (Baygon)		
	EPA 8330A			10190008	Nitroaromatics and Nitramines by High Performance Liquid Chromatography (HPLC)
		6885	1,3,5-Trinitrobenzene (1,3,5-TNB)		
		6160	1,3-Dinitrobenzene (1,3-DNB)		
		9651	2,4,6-Trinitrotoluene (2,4,6-TNT)		
		6185	2,4-Dinitrotoluene (2,4-DNT)		
		6190	2,6-Dinitrotoluene (2,6-DNT)		
		9303	2-Amino-4,6-dinitrotoluene (2-am-dnt)		
		9507	2-Nitrotoluene		
		9510	3-Nitrotoluene		
		9306	4-Amino-2,6-dinitrotoluene (4-am-dnt)		
		9513	4-Nitrotoluene		
		6415	Methyl-2,4,6-trinitrophenylnitramine (tetryl)		
		5015	Nitrobenzene		
		9522	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		
		9432	RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)		
	EPA 9014 Update V			10193836	Titrimetric and Manual Spectrophotometric Determinative Methods for Cyanide
		1510	Amenable cyanide		
		1635	Cyanide		
	EPA 9020B			10194408	Total Organic Halides

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Matrix	Reference	Analyte Code	Analyte	Method Code	Description
		2045	Total organic halides (TOX)		
	EPA 9023			10195003	Extractable Organic Halides (EOX) in Solids
		1720	Extractable organics halides (EOX)		
	EPA 9034			10196006	Titrimetric Procedure for Acid-Soluble and Acid-Insoluble Sulfides
		2005	Sulfide		
	EPA 9040B			10197203	pH Electrometric Measurement
		1900	pH		
	EPA 9045C			10198400	Soil and Waste pH
		1900	pH		
	EPA 9056			10199209	Determination of Inorganic Anions by Ion Chromatography
		1540	Bromide		
		1575	Chloride		
		1730	Fluoride		
		1805	Nitrate		
		1835	Nitrite		
		2000	Sulfate		
		1825	Total nitrate+nitrite		
	EPA 9060A			10244823	Total Organic Carbon
		2040	Total organic carbon		