Via Email to losangeles@waterboards.ca.gov

August 15, 2023
In reply refer to SHEA-116574

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

Subject: Second Quarter 2023 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 April 1 through June 30, 2023 (Second Quarter 2023). 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.

SECOND QUARTER 2023 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 Second Quarter 2023. Table I summarizes the Second Quarter 2023 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 Second Quarter 2023 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 Second Quarter 2023 activities at the stormwater treatment system (SWTS) at Outfall 011.
- **Stormwater Treatment System at Outfall 018 Activities:** This section summarizes the Second Quarter 2023 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 Second Quarter 2023 as well as activities associated with NASA, DOE, the Stormwater Expert Panel (Expert Panel), NASA and Boeing BMP Monitoring-related activities, and Other BMP Activities. Table II summarizes typical BMP-related

activities that occur at outfalls every quarter. Table III summarizes specific SWPPP/BMP activities completed during the Second Quarter 2023 by location. Table IV summarizes activities completed in coordination with the Expert Panel during the Second Quarter 2023.

- **Bioassessment Monitoring**: This section discusses the bioassessment review required by the NPDES Permit.
- **Figure 1** shows the stormwater collection and conveyance system, the Bell Creek Receiving Water sampling location (RSW-001, Outfall 001), 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 Second Quarter 2023.
- **Appendix B** tabulates waste shipments during the Second Quarter 2023.
- **Appendix C** presents chemical analytical results from the Second Quarter 2023 stormwater and/or receiving water sample discharge monitoring in tabular form by sampling 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 Second Quarter 2023 Bioassessment Sampling Report.
- **Appendix H** presents the observations of the receiving water monitoring program required by the NPDES Permit and includes the Arroyo Simi, Bell Creek, and Dayton Canyon Creek surveys.

DISCHARGE AND SAMPLE COLLECTION SUMMARY

The Santa Susana Site had one qualifying rain event during the Second Quarter 2023 that measured greater than 0.1 inch of rainfall within a 24-hour period and was preceded by at least 72 hours of dry weather (Appendix A). Automated flow-weighted composite samplers (autosamplers) were set in preparation for all rain events. The qualifying rain event produced stormwater discharges. Stormwater samples were collected at Outfalls 001, 002, 011, and 018 in the rain event and two stormwater treatment system discharge events this quarter. 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 off-site receiving water sample was collected at the Arroyo Simi location (RSW-002, Frontier Park; see Figure 2). The annual sediment sample was also collected at the Arroyo Simi-Frontier Park location.

Table I summarizes the Second Quarter 2023 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 Second Quarter 2023

Date	Outfall/Location	Sample Frequency	Sample Type
4/3 – 4/4/2023	Outfall 011	Quarterly, Routine	Grab, Composite
4/4 – 4/5/2023	Outfall 001 and RSW-001	Quarterly, Routine	Grab, Composite
5/4 – 5/5/2023*	Outfall 002	Quarterly, Routine	Grab, Composite
5/9/2023	Arroyo Simi Receiving Water (RSW-002, Frontier Park)	Quarterly Surface Water	Grab
5/9/2023	Arroyo Simi Receiving Water (RSW-002, Frontier Park)	Annual Sediment	Grab
6/5 – 6/7/2023	Outfall 018	Quarterly, Routine	Grab, Composite
6/6 – 6/7/2023	Outfall 002	Routine	Grab, Composite

Notes:
Routine = 1 per discharge event.

*_Delay in Grab Sampling_
The start of the rain event began on the morning of May 1 at 2AM and totaled 0.13 inches. It did not start to rain again until 10PM on May 3. As such, the grab sample at Outfall 002 was collected on May 4 after an additional 0.60 inches of rain between 10PM and 2AM. This 72-hour delay in sampling was due to the failure of the data logger at the Area I weather station, resulting in incorrect rainfall values of 0.00 inches being displayed. Rain forecasts from the National Oceanic and Atmospheric Administration at the time called for a 35% chance of 0.09 inches of rain for May 2 through 3. This forecast, along with only misting conditions (no rain on the ground the morning of May 1) suggested that no rain event had likely occurred, but that additional rain was possible in the coming days. Staff planned to mobilize on May 4 given the rain forecast. The equipment error was discovered on the morning of May 4, at which time the grab sample at Outfall 002 was collected. The faulty equipment was replaced at the Area I weather station and the data from the on-site 436 weather station, located approximately 350 feet NE from the Area I weather station, was used in Appendix A.

Outfall 002 was not significantly affected by the limited amount of total rainfall on May 1 (0.13 inches): the flow rate was approximately 103 gallons per minute (gpm) immediately prior to the start of the rain, approximately 108 gpm during the bulk of the rain on May 1, and approximately 101 gpm after the rain had passed on May 1. The flow rate after the additional rain of 0.60 inches on May 3-4 was approximately 122 gpm. As such, Boeing believes that, although not collected during the first safe hour of the rain event, the sample collected on May 4 was representative of this storm event, and possibly a better time to collect the sample.

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 Second Quarter 2023 except when reporting limits were above the minimum levels (generally because of matrix interference). In cases where the NPDES Permit limit was less 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.

SECOND QUARTER 2023 SUMMARY OF EXCEEDANCES AND/OR NON-COMPLIANCE

As summarized in Appendix D, the Second Quarter 2023 exceedances of Daily Maximum benchmarks, Daily Maximum Permit limits, Receiving Water limits, or other non-compliance included:

- 4,4-DDE at Arroyo Simi – Frontier Park (RSW-002) in the annual sediment sample; and
- Sulfate at Outfall 002.

Arroyo Simi – Frontier Park (RSW-002)

Pesticides

In the annual sediment sample collected on May 9, 2023, from Arroyo Simi – Frontier Park (RSW-002), an off-site location approximately 4 miles downstream of Outfall 009, the pesticide 4,4-DDE was detected at 0.011 micrograms per gram (µg/g), which is above the sample maximum receiving water sediment limit of 0.0014 µg/g. Northern Outfalls 003 through 007, 009 and 010 are the only Santa Susana Site Outfalls that contribute surface water flow to Arroyo Simi, and 4,4-DDE has never been detected in stormwater samples collected from these Outfalls. Therefore, Boeing believes that the 4,4-DDE detected in May 2023 is likely from the industrial sites, commercial sites, and/or residential properties adjacent to Arroyo Simi upgradient of the sampling location.

Outfall 002

Sulfate

On May 5, 2023, a stormwater sample was collected from Outfall 002. Sulfate was detected at 380 milligrams per liter (mg/L), slightly above its Daily Maximum Benchmark of 300 mg/L.

The Expert Panel recommended that sulfate be reviewed at SWTS 018 after sulfate was detected above the Daily Maximum Benchmark in the First Quarter 2019 at Outfall 002 (Geosyntec and the Expert Panel, 2020). SWTS 018 influent at Silvernale Pond was measured and detected at 150 mg/L in January 2023, and again at 89 mg/L in June 2023. Sulfate was measured at various points throughout SWTS 018 during its operation in the Second Quarter 2023, with detections in analytical samples up to 140 mg/L in June 2023 and field readings that remained fairly consistent throughout the treatment process. SWTS018 was not operating at the time this sample was collected and was not a source.

Since the SWTS was ruled out as the source, Boeing sampled background location EPSW002BG01 in order to discover other potential sources of sulfate. This location is in a tributary to Outfall 002 and is not influenced by the SWTS. In addition, there are no known industrial use sources that contribute to EPSW002BG01. Sulfate was detected in a stormwater sample from EPSW002BG01 in March 2023 above the Daily Maximum Benchmark at 490 mg/L (Figure 1). Previous samples at this location have ranged from 2.5 to 620 mg/L.

Sulfate is known to be naturally elevated in groundwater in the southwestern portion of the site. Therefore, Boeing believes this sulfate exceedance is from naturally occurring sources, and possibly influenced by finer grained lithologic units and seeps in the area. Sulfate is being further evaluated by the Groundwater Expert Panel and the Stormwater Expert Panel and is expected to be addressed in the 2023 Stormwater Expert Panel Annual Report.

STORMWATER TREATMENT SYSTEM AT OUTFALL 011 ACTIVITIES

The SWTS located near R-1 Pond (SWTS 011) discharges through Outfall 011. In addition to maintenance of electrical systems, painting, and improving safety, the following activities were completed in the Second Quarter 2023:

- Drained the system and performed seasonal shutdown of the polymer system.
- Transferred the remaining solids from the Mixer and Weir Tank for processing.
- Drained and cleaned the potassium permanganate ($KMnO_4$) tank and chemical lines.
- Installed a new air diaphragm pump for the Weir Tank.
- Installed mooring brackets for the pumps on the Weir Tank.
- Removed and installed a new wafer valve on the discharge side of P-105.

SWTS 011 operated one time during the Second Quarter 2023. Operational data are summarized below.

Operational Event:

- SWTS 011 operated from April 3 through 6, 2023, and discharged for approximately 61 hours.
- The total amount of water treated and discharged from R-1 Pond was 2,619,400 gallons.

The solids generated by operation of SWTS 011 during the First and Second Quarter were approximately 40 cubic yards of sediment.

STORMWATER TREATMENT SYSTEM AT OUTFALL 018 ACTIVITIES

The SWTS located at Silvernale Pond (SWTS 018) discharges through Outfall 018. In addition to maintenance of electrical systems, painting, and improving safety, the following activities were completed in the Second Quarter 2023:

- Replaced the belts for the air compressors.
- Installed blind flanges to isolate a granulated activated carbon (GAC) tank with a leak.
- Installed a camlock fitting on the suction side of the pump in order to flush through the pump.
- Installed a new mixer for the $KMnO_4$ tank.
- Changed the peristaltic pump tubes for the sodium hydroxide (NaOH) and $KMnO_4$ pumps to ChemBox 1 and 3.
- Installed a new LED light for Silvernale Gravel Lot.
- Drained and cleaned the $KMnO_4$ tank and chemical lines.
- Drained the system and performed seasonal shutdown of the polymer system.
- Replaced the air line operating the shower on the cone of the Screw Press.
- Reprogrammed the minimal shutoff speed on the polymer pump for the Screw Press.
- Pressure washed the screw on the Screw Press.
- Removed the Plate Settler pump and installed a new pump.
- Installed new air diaphragm pumps on Weir Tanks 1 and 2.
- Removed and installed a new wafer valve on the discharge side of P-106.
- Trenched behind the Weir Tanks to the gravel lot in preparation to install dedicated high-density polyethylene (HDPe) lines for transferring solids to and from the holding tanks located in the gravel lot.

SWTS 018 operated one time during the Second Quarter 2023. Operational data are summarized below.

<u>Operational Event:</u>

- SWTS 018 operated from June 5 through 8, 2023, and discharged for approximately 60 hours.
- The total amount of water treated and discharged from Silvernale Pond was 4,306,500 gallons.

The solids generated by operation of SWTS 018 during the First and Second Quarter were approximately 260 cubic yards of sediment.

STORMWATER POLLUTION PREVENTION PLAN/BEST MANAGEMENT PRACTICE ACTIVITIES

Boeing-Related Activities

Boeing implemented BMP activities in compliance with the Site-wide SWPPP (Haley & Aldrich, 2022) 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 (if equipped).	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 Second Quarter 2023.
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 additional activities completed during the Second Quarter 2023 by outfall or BMP location.

TABLE III: Additional Second Quarter 2023 SWPPP/BMP Activities

Outfall, Watershed, BMP, or Other Location	SWPPP/BMP Activities During Second Quarter 2023
001	– Repaired the roadway. – Replaced the Autosampler pump tubing.
002	– Repaired the roadway. – Replaced the Autosampler pump tubing. – Removed rock and debris from the sample box.
003, 004, 005, 006, 007, 008	– Repaired the roadways.
010	– Removed the flex hose connecting the tanks at the top of Outfall 010 and fabricated and fused a HDPe line connecting the tanks to the tanks at the top of the Helipad.
011	– Repaired the roadway. – Replaced the Autosampler pump tubing. – Repaired the Autosampler strainer. – Relocated the float switches for the conveyance pump and the Charles King pump. – Removed the propeller flowmeter and installed an electronic flowmeter.
018	– Replaced the Autosampler pump tubing.
408 Yard	– Removed sediment from the swale at the base of the 407 Yard.
R-2A Pond	– Performed weed abatement along the conveyance pump and from the surge tank to the discharge point at Silvernale Pond.
Sage Ranch	– Installed fiber rolls along the perimeter of the wood chipping area.

In addition to Site-wide SWPPP-related activities, specific BMP projects included NASA, DOE, and Expert Panel-related activities. These are discussed in more detail below.

NASA-Related Activities

NASA continued to inspect and maintain demolition BMPs and stormwater activities covered by the Construction SWPPP for the Bravo area in accordance with the Construction General Permit (CGP; NASA, 2021). During the Second Quarter 2023, NASA maintained fiber rolls as perimeter and linear sediment controls in areas where previous construction activities were completed.

DOE-Related Activities

DOE reported no BMP-related activities during the Second Quarter 2023.

Expert Panel-Related Activities

The BMP activities discussed below were performed, commenced, or completed during the Second Quarter 2023 in coordination with the Expert Panel.

TABLE IV: Expert Panel-Related Second Quarter 2023 Activities

Outfall, Watershed, BMP, or Other Location	Activities During Second Quarter 2023
Culvert Modifications (CM)	– Performed BMP Inspections.
NASA Expendable Launch Vehicle (ELV) Area BMPs	– Performed BMP Inspections.
Well 13 Road	– Performed BMP Inspections.
B-1 Area	– Performed BMP Inspections.
Upper Parking Lot Media Filter	– Performed BMP Inspections.
Former Building 1436 Detention Bioswales	– Performed BMP Inspections.
Lower Lot (Sedimentation Basin and Biofilter)	– Performed BMP Inspections. – Approximately 71,600 gallons of stormwater were pumped from the cistern to the sedimentation basin during the Second Quarter 2023.
Administration Area Inlet Filters	– Performed BMP Inspections.
Former Shooting Range	– Performed BMP Inspections, upgrades, and repairs in accordance with the SWPPP for Former Shooting Range Remedial Action (Stantec, 2022).
Northern Drainage BMPs	– Performed BMP Inspections.
NASA and Boeing BMP Monitoring-Related Activities	– No BMP performance monitoring samples were collected in the Second Quarter 2023.

Other BMP Activities

BMP observations and maintenance inspections were conducted in conformance with the Site-wide SWPPP (Haley & Aldrich, 2022) at and around the former test stands Alfa and Bravo and former Advanced Propulsion Test Facility (APTF).

BIOASSESSMENT MONITORING

A bioassessment review was conducted at the Santa Susana Site on May 25, 2023, to evaluate water quality conditions in the tributary to Arroyo Simi downstream of Outfall 006 and the tributary to the Los Angeles River downstream of Outfall 001 in accordance with NPDES Permit requirements. The methods, procedures, and results of the bioassessment are reported in the Bioassessment Monitoring Report included in Appendix G.

REASONABLE POTENTIAL ANALYSIS

Stormwater discharges from the Santa Susana Site occurred at Outfalls 001, 002, 011, and 018 during the Second Quarter 2023. Analytical results from this quarter were added to the Reasonable Potential Analysis (RPA) dataset for constituents not already regulated under the current NPDES Permit (Appendix F).

Outfall 001 4,4-DDD

On April 5, 2023, 4,4-DDD was detected in a stormwater sample collected from Outfall 001 at 0.0079 micrograms per liter (µg/L). 4,4-DDD has never been detected in previous stormwater samples collected at the Santa Susana Site. The sample was subsequently reanalyzed by the analytical laboratory and 4,4-DDD was not detected. Boeing believes the reanalyzed result demonstrates that further testing is not necessary to determine if the RPA was in fact triggered for 4,4-DDD at Outfall 001.

CONCLUSIONS

For the reasons discussed above, Boeing believes the sulfate exceedance at Outfall 002 is attributable to background sources. The Expert Panel is reviewing the data collected and will make BMP and monitoring recommendations that will be communicated in the Expert Panel's 2023 Annual Report.

Boeing also believes the 4,4-DDE exceedance at Arroyo Simi – Frontier Park (RSW-002) is due to upgradient sources not attributable to the Santa Susana Site.

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.

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 August 2023 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 – Second Quarter 2023 Rainfall Data Summary
Appendix B – Second Quarter 2023 Waste Shipment Summary Tables
Appendix C – Second Quarter 2023 Discharge Monitoring Data Summary Tables
Appendix D – Second Quarter 2023 NPDES Permit Limit Exceedances and/or Non-Compliance
Appendix E – Second Quarter 2023 Analytical Laboratory Reports, Chain of Custody Forms, and Validation Reports
Appendix F – Second Quarter 2023 Reasonable Potential Analysis Tables
Appendix G – Second Quarter 2023 Bioassessment Sampling Report
Appendix H – Second Quarter 2023 Receiving Water Surveys

c: Los Angeles Regional Water Quality Control Board; Attn: Mr. Duong H. Trinh
Los Angeles Regional Water Quality Control Board; Attn: Ms. Bronwyn Kelly

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.

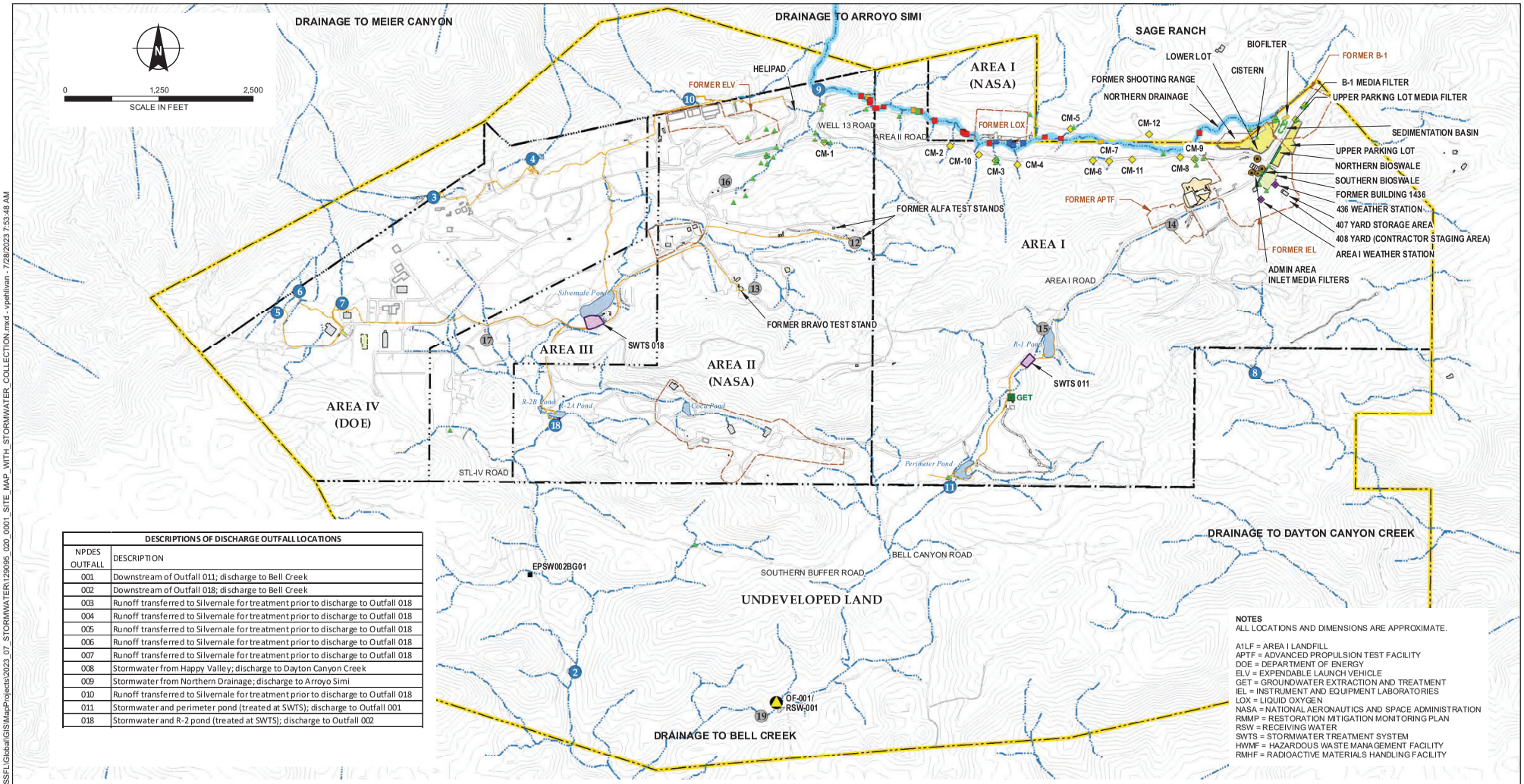
2. Geosyntec and the Expert Panel, 2020. Santa Susana Field Laboratory Site-wide Stormwater Annual Report, 2019/20 Reporting Year, Ventura County, California (NPDES No. CA0001309, CI No.6027). 31 October.

3. Haley & Aldrich, Inc., 2022. Stormwater Pollution and Prevention Plan (Version 9 for Compliance with 2015 NPDES Permit). 16 December.

4. 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.

5. Stantec Consulting Services, Inc., 2022. Stormwater Pollution Prevention Plan for Former Shooting Range Remedial Action, Santa Susana Field Laboratory, Ventura County, California, August.

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 001
- SLOPE DRAIN DISCHARGE POINT TO NORTHERN DRAINAGE
- CULVERT MODIFICATION (CM-12)
- ADMINISTRATION AREA DRAIN INLETS
- BMP MONITORING LOCATION
- PREVIOUS BMP PERFORMANCE MONITORING LOCATION
- WEATHER STATION
- 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

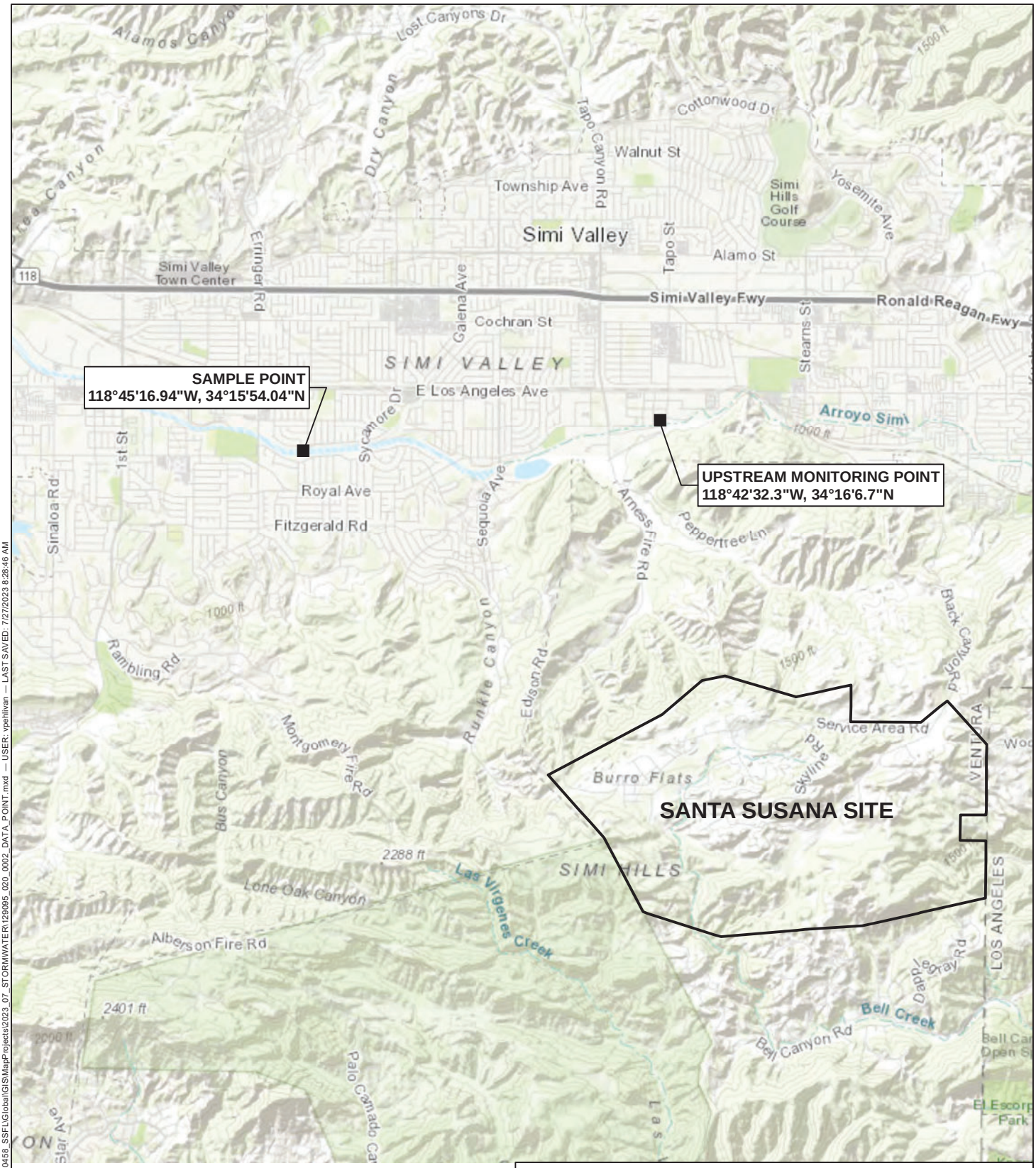
NPDES PERMIT COMPLIANCE SECOND QUARTER 2023
DISCHARGE MONITORING REPORT
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

SITE MAP WITH STORMWATER COLLECTION AND CONVEYANCE SYSTEM AND SITE FEATURES

AUGUST 2023

FIGURE 1

G:\S:\haleyaldrich\share\sdg_common\40458_SSFL\Global\GIS\MapProjects\2023_07_STORMWATER\129095_020_0001_SITE_MAP_WITH_STORMWATER_COLLECTION.mxd - ypethivan - 7/28/2023 7:53:48 AM



NOTES

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

2. THE UPSTREAM MONITORING 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 SECOND QUARTER 2023
DISCHARGE MONITORING REPORT
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

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

AUGUST 2023

FIGURE 2

GIS FILE PATH: \\haleyaldrich\shared\sdg_common\140458_SSFL\Global\GIS\MapProjects\2023_07_STORMWATER\129095_020_0002_DATA_POINT.mxd — USER: vpehlivan — LAST SAVED: 7/27/2023 8:28:46 AM

APPENDIX A
Second Quarter 2023 Rainfall Data Summary

TABLE A
DAILY RAINFALL SUMMARY

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Station: AREA 1
Parameter: Inches of Rain
Month/Year: April 2023

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	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
	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	0.01	0.01	0.01	0.00	0.00	0.03
F	13	0.01	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	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.05
	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
	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
																							Monthly Total		0.08

Flags: d = Off-line part of hour. Invalid hour due to calibration (April 6). For the off-line event, the rain gauge at Sage Ranch reported no measurable rainfall on April 6 during hour 0600-0700.

TABLE A
DAILY RAINFALL SUMMARY

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Station: AREA 1
Parameter: Inches of Rain
Month/Year: May 2023

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	0.03	0.02	0.04	0.03	0.00	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	0.13
	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	0.09	0.16	0.25
	4	0.13	0.22	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	0.35
	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	0.00	0.00	0.00	0.00	0.00	0.00	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	d	0.00
H	23	0.00	0.01	0.01	0.01	0.01	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	0.05
	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	0.78

Note: Rainfall data from the 436 weather station located in Area I was used for May 1 through May 4 due to datalogger failure at the Area I weather station during those dates.

Flags: d = Off-line part of hour, invalid hour due to communication error (May 22). For the off-line event, the rain gauge at Sage Ranch reported no measurable rainfall on May 22 during hour 2300-2400.

TABLE A
DAILY RAINFALL SUMMARY

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Station: AREA 1
Parameter: Inches of Rain
Month/Year: June 2023

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	0.01	0.01	0.01	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	0.04
	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	0.01	0.03	0.00	0.04
	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	0.01	0.01
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	d	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
	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
																							Monthly Total		0.09

Flags: d = Off-line part of hour, invalid hour due to communication error (June 18). For the off-line event, the rain gauge at Sage Ranch reported no measurable rainfall on June 18 during hour 2300-2400.

APPENDIX B
Second Quarter 2023 Waste Shipment Summary Tables

TABLE B
WASTE SHIPMENT SUMMARY TABLE

SECOND QUARTER 2023
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 (Debris, Oil)	Solid	725	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
UN3082, Hazardous Waste Liquid, N.O.S.	Liquid	4,800	G	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	US Ecology Vernon 5375 South Boyle Avenue Los Angeles, CA 90058
UN3082, Hazardous Waste Liquid, N.O.S. (Trichloroethylene)	Liquid	8,965	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	US Ecology Vernon 5375 South Boyle Avenue Los Angeles, CA 90058
Non RCRA Hazardous Waste Liquids (Iron Reagent)	Liquid	212	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
UN3028, Batteries, Dry, Containing Potassium Hydroxide	Solid	36	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
UN1950 Waste Aerosols, Flammable, N.O.S.	Solid	42	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 309 American Circle El Dorado, AR 71730
Non Hazardous, Non D.O.T. Regulated Material (Soil)	Solid	13,273	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 (Debris)	Solid	25	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 (Water)	Liquid	4,344	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 Hazardous, Non D.O.T. Regulated Material	Solid	90	Y	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Waste Management Antelope Valley LF 1200 W. City Ranch Road Palmdale, CA 93551
UN2922, Corrosive Liquids, Toxic N.O.S. (Sodium Hydroxide, Sodium Cyanide)	Liquid	398	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 (Empty Containers)	Solid	353	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 RCRA Hazardous Waste Solid (Debris, Sulfuric Acid)	Solid	514	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
UN3266, Waste Corrosive Liquid, Basic, Inorganic, N.O.S., (Sodium Hydroxide)	Liquid	3,083	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	Tri-State Motor Transit Co. 17235 N 75th Ave., Suite D175 Glendale, AZ 85308	Clean Harbors Grassy Mountain LLC 3 Miles East 7 Miles North of Knolls Grantsville, UT 84029

TABLE B
WASTE SHIPMENT SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

TYPE OF WASTE	MATRIX	QTY.	UNITS	TRANSPORTER 1	TRANSPORTER 2	DESTINATION
UN3098, Hazardous Waste Liquid, Corrosive, N.O.S., (Sodium Hypchlorite Solutions)	Liquid	57	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 2247 South Highway 71 Kimball, NE 69145
UN3082, Hazardous Waste Liquid, N.O.S., (Methyle Ethyl Ketone)	Liquid	592	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 2247 South Highway 71 Kimball, NE 69145
UN3264, Waste Corrosive Liquid, Acidic, Inorganic, N.O.S., (Hydrochloric Acid, Nitric Acid)	Liquid	49	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Aragonite LLC 11600 North Aptus Road Grantsville, UT 84029
UN3264, Waste Corrosive Liquid, Acidic, Inorganic, N.O.S., (Hydrochloric Acid)	Liquid	9	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Aragonite LLC 11600 North Aptus Road Grantsville, UT 84029
UN3262, Corrosiive Solid, Basic, Inorganice, N.O.S., (Sodium Hydroxide, Potassium Hydroxide)	Solid	279	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
RQ, UN3082, Hazardous Waste Liquid, N.O.S. (Trichloroethylene)	Liquid	20,878	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 2247 South Highway 71 Kimball, NE 69145
RQ, UN3082, Hazardous Waste Liquid, N.O.S. (Trichloroethylene)	Liquid	12,252	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 2247 South Highway 71 Kimball, NE 69145
NA3077, Hazardous Waste Solid, N.O.S. (Trichloroethene, Tetrachloroethylene)	Solid	253	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 2247 South Highway 71 Kimball, NE 69145
Non-RCRA Hazardous Waste Liquids (Potassium Permanganate Residue)	Solid	62	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Aragonite LLC 11600 North Aptus Road Grantsville, UT 84029
Non-RCRA Hazardous Waste Liquids (Polymer)	Liquid	189	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 Waste	Liquid	60,000	G	Southwest Processors, Inc. 4120 Bandini Boulevard Vernon, CA 90058	n/a	Southwest Processors, Inc. 4120 Bandini Boulevard Vernon, CA 90058

TABLE B
WASTE SHIPMENT SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

TYPE OF WASTE	MATRIX	QTY.	UNITS	TRANSPORTER 1	TRANSPORTER 2	DESTINATION
NA3082, Hazardous Waste Liquid, N.O.S. (Water)	Liquid	27,500	G	Ecology Control Industries	n/a	US Ecology Beatty US Hwy 95, 11 Miles South of Beatty Beatty, NV 89003
NA3082, Hazardous Waste Liquid, N.O.S. (Water)	Liquid	110	G	Patriot Environmental Services 508 East E Street Wilmington, CA 90744-6023	n/a	US Ecology Vernon 5375 South Boyle Avenue Los Angeles, CA 90058
NA3082, Hazardous Waste Liquid, N.O.S. (STRAW WATTLES WITH WATER)	Liquid	12	Y	MP Environmental Services	n/a	Waste Management, Inc. - Kettleman HIlls 35251 Old Skyline Road Kettleman City, CA 93239
NA3082, Hazardous Waste Liquid, N.O.S. (Water)	Liquid	9,000	G	Ecology Control Industries	n/a	US Ecology Vernon 5375 South Boyle Avenue Los Angeles, CA 90058
NA3082, Hazardous Waste Liquid, N.O.S. (Sludge)	Liquid	4,000	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
Non-Hazardous Waste, Liquid	Liquid	44,422	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
Second Quarter 2023 Discharge Monitoring Data Summary Tables

APPENDIX C

SECOND QUARTER 2023 DISCHARGE MONITORING DATA SUMMARY TABLES

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Reporting Summary Notes

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- Mass

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- Radionuclides
- Mass

Outfall 018 - Discharge Monitoring Summary Tables
- TCDD TEQ
- Radionuclides
- Mass

REPORTING SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

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 2023.

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.

REPORTING SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
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1	Improper preservation of sample.
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 ( ).
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 (, U) 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.
EB	Equipment blank.
EMPC	Estimated maximum possible concentration.

REPORTING SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

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.
	Estimated value.
	The result is an estimated quantity, but the result may be biased high.
-	The result is an estimated quantity, but the result may be biased low.
, D	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.
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.
Max	Maximum.
MB	Analyte present in the method blank.
MDA/MDC	Minimum detectable activity/minimum detectable concentration.
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.

REPORTING SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

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.
N	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	Octachlorodibenzo-p-dioxin.
OCDF	Octachlorodibenzofuran.
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 re ected the presence or absence of analyte cannot be verified.
(R)	Percent recovery (R) for calibration not within control limits.
RL	Laboratory reporting limit.
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.

REPORTING SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

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.
g/L	Micrograms per liter.
g/g	Micrograms per gram.
g/kg	Micrograms per kilogram.
mhos/cm	Micromhos per centimeter.
U	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.
(3)	Secondary maximum contaminant level.
(4)	The drinking water maximum contaminant level of 3.00E-05 g/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 4.91 lbs./day at OF001, 002, 011, 018 and 3.05 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.

REPORTING SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

(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).
( )	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 annual constituents were analyzed by laboratory due to field and laboratory error.
(q)	2-chlorovinyl ether and endrin aldehyde were submitted to an additional laboratory to achieve minimum levels.
(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)	The grab sample was delayed by an hour due to field error.
(v)	Flowmeter data not available due to automated recorder malfunction. Permit limit maximum was used as the flow value. Visual observations during sampling confirmed that flow was well below permit maximum.
(w)	The grab sample was delayed 72 hours due to weather station communication error.
(x)	Reserved
(y)	As specified on page E-14, footnote 7 of the NPDES permit, Radium-226 and radium-228 analysis must be performed, and combined Radium-226 and Ra-228 activity must be ≤ 5pCi/L. If gross alpha is <5 pCi/L, one can assume Ra-226 activity = gross alpha activity for purposes of meeting the 5 pCi/L limit. As the gross alpha result was less than 5pCi/L for this sample, gross alpha was substituted in the calculation.
(z)	The chronic toxicity test method used for this sample was Ceriodaphnia Dubia Survival and Reproduction Bioassay.

ARROYO SIMI
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				5/9/2023 07:15		
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 < 0.0040	U*
Diazinon	µg/L	0.16	1/Quarter	Grab	ND < 0.0034	U*
Dieldrin	µg/L	0.0002	1/Quarter	Grab	ND < 0.0013	U*
E. coli	mpn/100mL	235	1/Year	ANR	ANR	ANR
pH (Field)	s.u.	6.5-8.5	1/Quarter	Grab	6.51	*
Toxaphene	µg/L	0.0003	1/Quarter	Grab	ND < 0.054	U*
POLLUTANTS WITHOUT LIMITS						
Hardness (as CaCO3)	mg/L	-	1/Quarter	Grab	980	*
Priority Pollutants	NA		1/5 Years	ANR	ANR	ANR
Temperature (Field)	Deg F	-	1/Quarter	Grab	62.2	*
TCDD - Equivalents	µg/L		1/Year	ANR	ANR	ANR
Total Suspended Solids	mg/L	-	1/Year	ANR	ANR	ANR
Water Velocity	ft/sec	-	1/Quarter	Meas	0.1	*

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

ARROYO SIMI, SEDIMENT
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				5/9/2023 07:45		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
POLLUTANTS WITH LIMITS						
4,4'-DDD	µg/g	0.002	1/Year	Grab	ND < 0.00014	U*
4,4'-DDE	µg/g	0.0014	1/Year	Grab	0.0016	*
4,4'-DDT	µg/g	0.0003	1/Year	Grab	ND < 0.00023	U*
Aroclor 1016	µg/g	0.12	1/Year	Grab	ND < 0.0078	U*
Aroclor 1221	µg/g	0.12	1/Year	Grab	ND < 0.0078	U*
Aroclor 1232	µg/g	0.12	1/Year	Grab	ND < 0.0078	U*
Aroclor 1242	µg/g	0.12	1/Year	Grab	ND < 0.0078	U*
Aroclor 1248	µg/g	0.12	1/Year	Grab	ND < 0.0078	U*
Aroclor 1254	µg/g	0.12	1/Year	Grab	ND < 0.0051	U*
Aroclor 1260	µg/g	0.12	1/Year	Grab	ND < 0.0051	U*
Chlordane	µg/g	0.0033	1/Year	Grab	ND < 0.00081	U*
Dieldrin	µg/g	0.0002	1/Year	Grab	ND < 0.00011	U*
Toxaphene	µg/g	0.0006	1/Year	Grab	ND < 0.0031	U*
POLLUTANTS WITHOUT LIMITS						
Bivalve Embryo Toxicity (Mytilus edulis)	% Normal/Alive	-	1/Year	Grab	100	*
Conductivity (Field)	µmhos/cm	-	1/Year	Grab	1,960	*
Dissolved Oxygen (Field)	mg/L	-	1/Year	Grab	4.05	*
Percent Moisture	%	-	1/Year	Grab	32.8	*
pH (Field)	s.u.	-	1/Year	Grab	6.51	*
Sediment Toxicity (Eohaustorius estuarius)	% Survival	-	1/Year	Grab	100	*
Temperature (Field)	Deg F	-	1/Year	Grab	62.2	*
Total Ammonia	mg/kg	-	1/Year	Grab	ND < 62.4	U*
Total Organic Carbon	mg/kg (dry weight)	-	1/Year	Grab	35,000	*
Water Velocity	ft/sec	-	1/Year	Meas	0.1	*
PARTICLE SIZE DISTRIBUTION						
Clay (<0.00391 mm)	%	-	1/Year	Grab	0.84	*
Coarse Sand (0.5 mm to 1 mm)	%	-	1/Year	Grab	48.62	*
Fine Sand (0.125 mm to 0.25 mm)	%	-	1/Year	Grab	5.53	*
Gravel (greater than 2mm)	%	-	1/Year	Grab	6.24	*
Medium Sand (0.25 mm to 0.5 mm)	%	-	1/Year	Grab	25.45	*
Silt (0.00391 mm to 0.0625 mm)	%	-	1/Year	Grab	2.94	*
Total Silt and Clay (0 mm to 0.0626 mm)	%	-	1/Year	Grab	3.77	*
Very Coarse Sand (1 mm to 2 mm)	%	-	1/Year	Grab	8.31	*
Very Fine Sand (0.0625 mm to 0.125 mm)	%	-	1/Year	Grab	2.07	*

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

OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

						4/4/2023 08:35 - 4/5/2023 07:40		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALLSAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow	MGD	117.83	1/Discharge	1/Quarter	-	Meas	0.14298	
CONVENTIONAL POLLUTANTS								
Biochemical Oxygen Demand (BOD)(5-Day 20 deg. C	mg/L	30	1/Discharge	NA	-	Composite	2.5	
Oil & Grease	mg/L	15	1/Discharge	NA	-	Grab	ND 0.50	U
pH (Field)	s.u.	6.5-8.5	1/Discharge	1/Quarter	6.5-8.5	Grab	8.31	
Total Suspended Solids	mg/L	45	1/Discharge	1/Year	-	Composite	ND 2.5	U
PRIORITY POLLUTANTS								
1,1-Dichloroethene	g/L	6.0	1/Discharge	1/5 Years	-	Grab	ND 0.33	U
1,2-Dichloroethane	g/L	0.5	1/Discharge	1/5 Years	-	Grab	ND 0.15	U
2,4,6-Trichlorophenol	g/L	13	1/Discharge	1/5 Years	-	Composite	ND 0.13	U
2,4-Dinitrotoluene	g/L	18	1/Discharge	1/5 Years	-	Composite	ND 0.11	U
alpha-BHC	g/L	0.03	1/Discharge	1/5 Years	-	Composite	ND 0.0012	U
Antimony	g/L	6.0	1/Year	1/5 Years	-	ANR	ANR	ANR
Arsenic	g/L	10.0	1/Year	1/5 Years	-	ANR	ANR	ANR
Beryllium	g/L	4.0	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Ethylhexyl) Phthalate	g/L	4.0	1/Discharge	1/5 Years	-	Composite	ND 3.4	U
Cadmium	g/L	(4.0) 3.1	1/Discharge	1/5 Years	-	Composite	ND 0.13	U
Chromium VI (Hexavalent)	g/L	16	1/Year	1/5 Years	-	ANR	ANR	ANR
Copper	g/L	14	1/Discharge	1/5 Years	-	Composite	2.0	
Cyanide	g/L	8.5	1/Discharge	1/5 Years	-	Composite	ND 2.5	U
Lead	g/L	5.2	1/Discharge	1/5 Years	-	Composite	0.15	(DNQ)
Mercury	g/L	0.1	1/Discharge	1/5 Years	-	Composite	ND 0.12	U
Nickel	g/L	94	1/Year	1/5 Years	-	ANR	ANR	ANR
N-Nitrosodimethylamine	g/L	16	1/Discharge	1/5 Years	-	Composite	ND 0.18	U
Pentachlorophenol	g/L	16.5	1/Discharge	1/5 Years	-	Composite	ND 0.80	U
Selenium	g/L	(5) 8.2	1/Discharge	1/5 Years	-	Composite	2.3[e]	
Silver	g/L	4.1	1/Year	1/5 Years	-	ANR	ANR	ANR
Thallium	g/L	2.0	1/Year	1/5 Years	-	ANR	ANR	ANR
Trichloroethene	g/L	5.0	1/Discharge	1/5 Years	-	Grab	ND 0.17	U
Zinc	g/L	119	1/Discharge	1/5 Years	-	Composite	3.0	(DNQ)
NON-CONVENTIONAL POLLUTANTS								
Ammonia - N	mg/L	10.1	1/Discharge	NA	-	Composite	ND 0.032	U
Barium	mg/L	1.0	1/Year	NA	-	ANR	ANR	ANR
Chloride	mg/L	150	1/Discharge	NA	-	Composite	6.5	
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 0.050	U
Fluoride	mg/L	1.6	1/Year	NA	-	ANR	ANR	ANR
Iron	mg/L	0.3	1/Discharge[f]	NA	-	Composite	0.027	
Manganese	g/L	50	1/Year	NA	-	ANR	ANR	ANR
Nitrate - N	mg/L	8	1/Discharge	NA	-	Composite	0.091	(DNQ)
Nitrate Nitrite as Nitrogen (N)	mg/L	8	1/Discharge	NA	-	Composite	0.091	(DNQ)
Nitrite - N	mg/L	1	1/Discharge	NA	-	Composite	ND 0.043	U
Perchlorate	g/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	39	
Temperature (Field)	Deg F	86	1/Discharge	1/Quarter	-	Grab	49.19	
Total Dissolved Solids	mg/L	950	1/Discharge	NA	-	Composite	190	
REMAINING PRIORITY POLLUTANTS								
1,1,1-Trichloroethane	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.25	U
1,1,2,2-Tetrachloroethane	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.20	U
1,1,2-Trichloroethane	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.17	U
1,1-Dichloroethane	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.39	U
1,2,4-Trichlorobenzene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Dichlorobenzene (VOC)	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.16	U
1,2-Dichlorobenzene (SVOC)	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Dichloropropane	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.17	U
1,2-Diphenylhydrazine/Azobenzene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,3-Dichlorobenzene (VOC)	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.16	U
1,3-Dichlorobenzene (SVOC)	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,4-Dichlorobenzene (VOC)	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.11	U

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OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

						4/4/2023 08:35 - 4/5/2023 07:40		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALLSAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
1,4-Dichlorobenzene (SVOC)	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,4-Dichlorophenol	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,4-Dimethylphenol	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,4-Dinitrophenol	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,6-Dinitrotoluene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Chloroethyl vinyl ether	g/L	-	1/Year	1/5 Years	-	Grab	ND 1.1	U
2-Chloronaphthalene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Chlorophenol	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Methyl-4,6-dinitrophenol	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Nitrophenol	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
3,3 -Dichlorobenzidine	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4,4 -DDD	g/L	-	1/Year	1/Quarter	-	Composite	0.0079	--
4,4 -DDD[(I)]	g/L	-	1/Year	1/Quarter	-	Composite	ND 0.0044	U
4,4 -DDE	g/L	-	1/Year	1/Quarter	-	Composite	ND 0.0019	U
4,4 -DDT	g/L	-	1/Year	1/Quarter	-	Composite	0.0021	(DNQ)
4-Bromophenyl phenyl ether	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4-Chloro-3-methylphenol	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4-Chlorophenyl phenyl ether	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4-Nitrophenol	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acenaphthene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acenaphthylene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acrolein	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 4.6	U
Acrylonitrile	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 1.4	U
Aldrin	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
alpha-Endosulfan	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Anthracene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Aroclor 1016	g/L	-	1/Year	1/Quarter	-	Composite	ND 0.044	U
Aroclor 1221	g/L	-	1/Year	1/Quarter	-	Composite	ND 0.044	U
Aroclor 1232	g/L	-	1/Year	1/Quarter	-	Composite	ND 0.044	U
Aroclor 1242	g/L	-	1/Year	1/Quarter	-	Composite	ND 0.044	U
Aroclor 1248	g/L	-	1/Year	1/Quarter	-	Composite	ND 0.044	U
Aroclor 1254	g/L	-	1/Year	1/Quarter	-	Composite	ND 0.052	U
Aroclor 1260	g/L	-	1/Year	1/Quarter	-	Composite	ND 0.052	U
Benzene	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.28	U
Benzidine	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(a)anthracene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(a)pyrene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(b)fluoranthene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(g,h,i)perylene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(k)fluoranthene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
beta-BHC	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
beta-Endosulfan	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Chloroethoxy) Methane	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Chloroethyl) Ether	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Chloroisopropyl) Ether	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bromoform	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.25	U
Bromomethane (Methyl Bromide)	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.22	U
Butyl benzylphthalate	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Carbon tetrachloride	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.28	U
Chlordane	g/L	-	1/Year	1/Quarter	-	Composite	ND 0.026	U
Chlorobenzene	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.19	U
Chlorodibromomethane	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.15	U
Chloroethane	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.29	U
Chloroform	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.19	U
Chloromethane (Methyl Chloride)	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.30	U
Chromium	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chromium III (Trivalent)	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chrysene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
cis-1,3-Dichloropropene	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.30	U
delta-BHC	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dibenzo(a,h)anthracene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR

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OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

						4/4/2023 08:35 - 4/5/2023 07:40		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALLSAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Dichlorobromomethane	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.19	U
Dieldrin	g/L	-	1/Year	1/Quarter	-	Composite	ND 0.0013	U
Diethyl phthalate	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dimethyl phthalate	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Di-n-butyl phthalate	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Di-n-octyl phthalate	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Endosulfan sulfate	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Endrin	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Endrin aldehyde	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Ethylbenzene	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.25	U
Fluoranthene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Fluorene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
gamma-BHC (Lindane)	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Heptachlor	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Heptachlor epoxide	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachlorobenzene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachlorobutadiene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachlorocyclopentadiene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachloroethane	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Indeno(1,2,3-cd)pyrene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Isophorone	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
m,p- ylenes	g/L	-	1/Year	1/5 Years	-	Grab	ND 0.17	U
Methylene chloride	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.57	U
Naphthalene (VOC)	g/L	-	1/Year	1/5 Years	-	Grab	ND 0.33	U
Naphthalene (SVOC)	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Nitrobenzene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
N-Nitroso-di-n-propylamine	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
N-Nitrosodiphenylamine	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
o- ylene	g/L	-	1/Year	1/5 Years	-	Grab	ND 0.15	U
Phenanthrene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Phenol	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Pyrene	g/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Tetrachloroethene	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.21	U
Toluene	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.23	U
Toxaphene	g/L	-	1/Year	1/Quarter	-	Composite	ND 0.054	U
trans-1,2-Dichloroethene	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.24	U
trans-1,3-Dichloropropene	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.18	U
Trichlorofluoromethane	g/L	-	1/Year	1/5 Years	-	Grab	ND 0.29	U
Vinyl chloride	g/L	-	1/Quarter	1/5 Years	-	Grab	ND 0.47	U
ylenes (Total)	g/L	-	1/Year	1/5 Years	-	Grab	ND 0.17	U

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OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

						4/4/2023 08:35 - 4/5/2023 07:40		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALLSAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS								
1,1,2-Trichloro-1,2,2-trifluoroethane	g/L	-	1/Quarter	NA	-	Grab	ND 0.33	U
1,2-Dichloro-1,1,2-trifluoroethane	g/L	-	1/Year	NA	-	ANR	ANR	ANR
1,4-Dioxane	g/L	-	1/Year	NA	-	ANR	ANR	ANR
Boron	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
cis-1,2-Dichloroethene	g/L	-	1/Year	NA	-	Grab	ND 0.21	U
Cobalt	g/L	-	1/Year	NA	-	ANR	ANR	ANR
Conductivity	µmhos/cm	-	1/Discharge	NA	-	Grab	250	
Cyclohexane	g/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	10.93	
E. Coli	mpn/100mL	-	1/Year	NA	-	ANR	ANR	ANR
Gasoline Range Organics (GRO C4-C12)	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
Hardness (as CaCO3)	mg/L	-	1/Year	1/Quarter	-	Composite	78	
Monomethyl hydrazine	g/L	-	1/Year	NA	-	ANR	ANR	ANR
Total Organic Carbon	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
Turbidity	NTU	-	1/Discharge	NA	-	Composite	0.60	
Vanadium	g/L	-	1/Year	NA	-	ANR	ANR	ANR
ADDITIONAL POLLUTANTS[2]								
Antimony, dissolved	g/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Arsenic, dissolved	g/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Barium, dissolved	mg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Beryllium, dissolved	g/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Boron, dissolved	mg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Cadmium, dissolved	g/L	-	Additional/Discharge	NA	-	Composite	ND 0.13	U
Chromium, dissolved	g/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Cobalt, dissolved	g/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Copper, dissolved	g/L	-	Additional/Discharge	NA	-	Composite	1.8	(DNQ)
Hardness, dissolved (as CaCO3)	mg/L	-	Additional/Year	NA	-	Composite	72	
Human Bacteroides	CEs/100mL	-	Additional/Year	NA	-	ANR	ANR	ANR
Iron, dissolved	mg/L	-	Additional/Discharge[r]	NA	-	Composite	0.008	(DNQ)
Lead, dissolved	g/L	-	Additional/Discharge	NA	-	Composite	ND 0.12	U
Manganese, dissolved	g/L	-	Additional/Discharge	NA	-	ANR	ANR	ANR
Mercury, dissolved	g/L	-	Additional/Discharge	NA	-	Composite	ND 0.12	U
Nickel, dissolved	g/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Selenium, dissolved	g/L	-	Additional/Discharge	NA	-	Composite	ND 0.52	U
Silver, dissolved	g/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Thallium, dissolved	g/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Vanadium, dissolved	g/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Zinc, dissolved	g/L	-	Additional/Discharge	NA	-	Composite	ND 2.8	U

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OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

					4/5/2023 07:40 (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	g/L	2.9E-07	3.2E-06	U (B)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	0.01	0.01	g/L	5.4E-07	3.3E-06	U (B)	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	0.01	0.4	g/L	6.1E-07	ND	U	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	0.1	0.3	g/L	3.6E-07	2.1E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	0.1	0.08	g/L	2.3E-07	8.6E-07	U (B)	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	0.1	0.1	g/L	3.7E-07	6.9E-07	U (B)	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	0.1	0.2	g/L	2.1E-07	5.4E-07	U (B)	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	0.1	0.1	g/L	3.2E-07	ND	U	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	0.1	0.6	g/L	2.7E-07	8.2E-07	U (B)	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1.0	0.9	g/L	2.5E-07	4.9E-07	U (B)	**ND**
1,2,3,7,8-PeCDF	1/Discharge	0.05	0.2	g/L	1.6E-07	7.3E-07	U (B)	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	0.1	0.7	g/L	2.1E-07	3.1E-07	U (B)	**ND**
2,3,4,7,8-PeCDF	1/Discharge	0.5	1.6	g/L	1.9E-07	4.5E-07	U (B)	**ND**
2,3,7,8-TCDD	1/Discharge	1.0	1.0	g/L	2.3E-07	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	0.1	0.8	g/L	4.3E-07	ND	U	**ND**
OCDD	1/Discharge	0.0001	0.01	g/L	5.1E-07	2.5E-05	U (B)	**ND**
OCDF	1/Discharge	0.0001	0.02	g/L	2.7E-07	5.6E-06	U (B)	**ND**

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

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

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OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				4/5/2023 07:40 (Composite)		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS						
Gross Alpha	pCi/L	15	1/Discharge	-0.311 1.49	2.90	U
Gross Beta	pCi/L	50	1/Discharge	1.41 0.679	0.965	
Combined Radium-226 & Radium-228	pCi/L	5.0	1/Discharge	0.701 0.529	NM	U
Strontium-90	pCi/L	8.0	1/Discharge	0.252 0.263	0.428	U
Tritium	pCi/L	20,000	1/Discharge	-66.2 200	365	U
ADDITIONAL POLLUTANTS						
Cesium-137	pCi/L	200	1/Discharge	-0.848 7.27	8.99	U
Uranium	pCi/L	20	1/Discharge	0.209 0.155	0.134	
ADDITIONAL POLLUTANTS WITHOUT LIMITS						
Potassium-40	pCi/L	-	1/Discharge	-23.3 92.5	120	U

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OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				4/4/2023 08:35 - 4/5/2023 07:40		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	0.14298	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	LBS/DAY	29,481	1/Discharge	Composite	3.0	*
Oil & Grease	LBS/DAY	14,741	1/Discharge	Grab	ND	U*
Total Suspended Solids[#]	LBS/DAY	44,222	1/Discharge	Composite	ND	U*
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	ANR	ANR	ANR
Arsenic	LBS/DAY	9.83	1/Year	ANR	ANR	ANR
Beryllium	LBS/DAY	3.93	1/Year	ANR	ANR	ANR
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	ANR	ANR	ANR
Copper	LBS/DAY	13.76	1/Discharge	Composite	0.0024	*
Cyanide	LBS/DAY	8.35	1/Discharge	Composite	ND	U*
Lead	LBS/DAY	5.11	1/Discharge	Composite	0.00018	J (DNQ)*
Mercury	LBS/DAY	0.1	1/Discharge	Composite	ND	U*
Nickel	LBS/DAY	92.4	1/Year	ANR	ANR	ANR
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	0.0027[(e)]	*
Silver	LBS/DAY	4.03	1/Year	ANR	ANR	ANR
TCDD TEQ_NoDNQ[(4)]	LBS/DAY	2.75E-08	1/Discharge	Composite	ND	U*
Thallium	LBS/DAY	1.97	1/Year	ANR	ANR	ANR
Trichloroethene	LBS/DAY	4.91	1/Discharge	Grab	ND	U*
Zinc	LBS/DAY	117	1/Discharge	Composite	0.0036	J (DNQ)*
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	LBS/DAY	9,925.3	1/Discharge	Composite	ND	U*
Barium	LBS/DAY	983	1/Year	ANR	ANR	ANR
Chloride	LBS/DAY	147,405	1/Discharge	Composite	7.8	*
Chlorine, Total Residual (Field)	LBS/DAY	98.3	1/Year	ANR	ANR	ANR
Detergents (as MBAS)	LBS/DAY	491.4	1/Discharge	Composite	ND	U*
Fluoride	LBS/DAY	1,572.3	1/Year	ANR	ANR	ANR
Iron	LBS/DAY	295	1/Discharge[(r)]	Composite	0.032	*
Manganese	LBS/DAY	49.1	1/Year	ANR	ANR	ANR
Nitrate - N	LBS/DAY	7,862	1/Discharge	Composite	0.11	J (DNQ)*
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	7,862	1/Discharge	Composite	0.11	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	47	*
Total Dissolved Solids	LBS/DAY	933,567	1/Discharge	Composite	230	*

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				5/4/2023 07:30[w] - 5/5/2023 07:05		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY[p]**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow	MGD	117.83	1/Discharge	Meas	0.15886	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day 20 deg. C)	mg/L	30	1/Discharge	Composite	2.2	
Oil & Grease	mg/L	15	1/Discharge	Grab	ND 0.50	U
pH (Field)	s.u.	6.5-8.5	1/Discharge	Grab	6.58	
Total Suspended Solids	mg/L	45	1/Discharge	Composite	3.1[c]	
PRIORITY POLLUTANTS						
1,1-Dichloroethene	g/L	6.0	1/Discharge	Grab	ND 0.33	U
1,2-Dichloroethane	g/L	0.5	1/Discharge	Grab	ND 0.15	U
2,4,6-Trichlorophenol	g/L	13	1/Discharge	Composite	ND 0.13	U
2,4-Dinitrotoluene	g/L	18	1/Discharge	Composite	ND 0.11	U
alpha-BHC	g/L	0.03	1/Discharge	Composite	0.0033	
Antimony	g/L	6.0	1/Year	ANR	ANR	ANR
Arsenic	g/L	10.0	1/Year	ANR	ANR	ANR
Beryllium	g/L	4.0	1/Year	ANR	ANR	ANR
Bis (2-Ethylhexyl) Phthalate	g/L	4.0	1/Discharge	Composite	ND 3.4	U
Cadmium	g/L	(4.0) 3.1	1/Discharge	Composite	0.19[b]	(DNQ)
Chromium VI (Hexavalent)	g/L	16	1/Year	ANR	ANR	ANR
Copper	g/L	14	1/Discharge	Composite	1.2	(DNQ)
Cyanide	g/L	8.5	1/Discharge	Composite	ND 2.5	U
Lead	g/L	5.2	1/Discharge	Composite	0.44	(DNQ)
Mercury	g/L	0.1	1/Discharge	Composite	ND 0.12	U
Nickel	g/L	94	1/Year	ANR	ANR	ANR
N-Nitrosodimethylamine	g/L	16	1/Discharge	Composite	ND 0.18	U
Pentachlorophenol	g/L	16.5	1/Discharge	Composite	ND 0.80	U
Selenium	g/L	(5) 8.2	1/Discharge	Composite	0.71[f]	(DNQ)
Silver	g/L	4.1	1/Year	ANR	ANR	ANR
Thallium	g/L	2.0	1/Year	ANR	ANR	ANR
Trichloroethene	g/L	5.0	1/Discharge	Grab	ND 0.17	U
Zinc	g/L	119	1/Discharge	Composite	3.6	(DNQ)
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	mg/L	10.1	1/Discharge	Composite	ND 0.032	U
Barium	mg/L	1.0	1/Year	ANR	ANR	ANR
Chloride	mg/L	150	1/Discharge	Composite	44	
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	0.073	(DNQ)
Fluoride	mg/L	1.6	1/Year	ANR	ANR	ANR
Iron	mg/L	0.3	1/Year	ANR	ANR	ANR
Manganese	g/L	50	1/Year	ANR	ANR	ANR
Nitrate - N	mg/L	8	1/Discharge	Composite	ND 0.020	U
Nitrate Nitrite as Nitrogen (N)	mg/L	8	1/Discharge	Composite	ND 0.020	U
Nitrite - N	mg/L	1	1/Discharge	Composite	ND 0.043	U
Perchlorate	g/L	6.0	1/Discharge	Composite	ND 9.1	U
Settleable Solids	ml/L	0.3	1/Discharge	Grab	ND 0.10	U
Sulfate	mg/L	300	1/Discharge	Composite	380	
Temperature (Field)	Deg F	86	1/Discharge	Grab	53.6	
Total Dissolved Solids	mg/L	950	1/Discharge	Composite	940	
REMAINING PRIORITY POLLUTANTS						
1,1,1-Trichloroethane	g/L	-	1/Quarter	Grab	ND 0.25	U
1,1,2,2-Tetrachloroethane	g/L	-	1/Quarter	Grab	ND 0.20	U
1,1,2-Trichloroethane	g/L	-	1/Quarter	Grab	ND 0.17	U
1,1-Dichloroethane	g/L	-	1/Quarter	Grab	ND 0.39	U
1,2,4-Trichlorobenzene	g/L	-	1/Year	ANR	ANR	ANR
1,2-Dichlorobenzene (VOC)	g/L	-	1/Quarter	Grab	ND 0.16	U
1,2-Dichlorobenzene (SVOC)	g/L	-	1/Year	ANR	ANR	ANR
1,2-Dichloropropane	g/L	-	1/Quarter	Grab	ND 0.17	U
1,2-Diphenylhydrazine/Azobenzene	g/L	-	1/Year	ANR	ANR	ANR
1,3-Dichlorobenzene (VOC)	g/L	-	1/Quarter	Grab	ND 0.16	U

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				5/4/2023 07:30[w] - 5/5/2023 07:05		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY[p]**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
1,3-Dichlorobenzene (SVOC)	g/L	-	1/Year	ANR	ANR	ANR
1,4-Dichlorobenzene (VOC)	g/L	-	1/Quarter	Grab	ND 0.11	U
1,4-Dichlorobenzene (SVOC)	g/L	-	1/Year	ANR	ANR	ANR
2,4-Dichlorophenol	g/L	-	1/Year	ANR	ANR	ANR
2,4-Dimethylphenol	g/L	-	1/Year	ANR	ANR	ANR
2,4-Dinitrophenol	g/L	-	1/Year	ANR	ANR	ANR
2,6-Dinitrotoluene	g/L	-	1/Year	ANR	ANR	ANR
2-Chloroethyl vinyl ether	g/L	-	1/Year	ANR	ANR	ANR
2-Chloronaphthalene	g/L	-	1/Year	ANR	ANR	ANR
2-Chlorophenol	g/L	-	1/Year	ANR	ANR	ANR
2-Methyl-4,6-dinitrophenol	g/L	-	1/Year	ANR	ANR	ANR
2-Nitrophenol	g/L	-	1/Year	ANR	ANR	ANR
3,3-Dichlorobenzidine	g/L	-	1/Year	ANR	ANR	ANR
4,4-DDD	g/L	-	1/Year	Composite	ND 0.0044	U
4,4-DDE	g/L	-	1/Year	Composite	ND 0.0019	U
4,4-DDT	g/L	-	1/Year	Composite	ND 0.0016	U
4-Bromophenyl phenyl ether	g/L	-	1/Year	ANR	ANR	ANR
4-Chloro-3-methylphenol	g/L	-	1/Year	ANR	ANR	ANR
4-Chlorophenyl phenyl ether	g/L	-	1/Year	ANR	ANR	ANR
4-Nitrophenol	g/L	-	1/Year	ANR	ANR	ANR
Acenaphthene	g/L	-	1/Year	ANR	ANR	ANR
Acenaphthylene	g/L	-	1/Year	ANR	ANR	ANR
Acrolein	g/L	-	1/Quarter	Grab	ND 4.6	U
Acrylonitrile	g/L	-	1/Quarter	Grab	ND 1.4	U
Aldrin	g/L	-	1/Year	ANR	ANR	ANR
alpha-Endosulfan	g/L	-	1/Year	ANR	ANR	ANR
Anthracene	g/L	-	1/Year	ANR	ANR	ANR
Aroclor 1016	g/L	-	1/Year	Composite	ND 0.044	U
Aroclor 1221	g/L	-	1/Year	Composite	ND 0.044	U
Aroclor 1232	g/L	-	1/Year	Composite	ND 0.044	U
Aroclor 1242	g/L	-	1/Year	Composite	ND 0.044	U
Aroclor 1248	g/L	-	1/Year	Composite	ND 0.044	U
Aroclor 1254	g/L	-	1/Year	Composite	ND 0.052	U
Aroclor 1260	g/L	-	1/Year	Composite	ND 0.052	U
Benzene	g/L	-	1/Quarter	Grab	ND 0.28	U
Benzidine	g/L	-	1/Year	ANR	ANR	ANR
Benzo(a)anthracene	g/L	-	1/Year	ANR	ANR	ANR
Benzo(a)pyrene	g/L	-	1/Year	ANR	ANR	ANR
Benzo(b)fluoranthene	g/L	-	1/Year	ANR	ANR	ANR
Benzo(g,h,i)perylene	g/L	-	1/Year	ANR	ANR	ANR
Benzo(k)fluoranthene	g/L	-	1/Year	ANR	ANR	ANR
beta-BHC	g/L	-	1/Year	ANR	ANR	ANR
beta-Endosulfan	g/L	-	1/Year	ANR	ANR	ANR
Bis (2-Chloroethoxy) Methane	g/L	-	1/Year	ANR	ANR	ANR
Bis (2-Chloroethyl) Ether	g/L	-	1/Year	ANR	ANR	ANR
Bis (2-Chloroisopropyl) Ether	g/L	-	1/Year	ANR	ANR	ANR
Bromoform	g/L	-	1/Quarter	Grab	ND 0.25	U
Bromomethane (Methyl Bromide)	g/L	-	1/Quarter	Grab	ND 0.22	U
Butyl benzylphthalate	g/L	-	1/Year	ANR	ANR	ANR
Carbon tetrachloride	g/L	-	1/Quarter	Grab	ND 0.28	U
Chlordane	g/L	-	1/Year	Composite	ND 0.026	U
Chlorobenzene	g/L	-	1/Quarter	Grab	ND 0.19	U
Chlorodibromomethane	g/L	-	1/Quarter	Grab	ND 0.15	U
Chloroethane	g/L	-	1/Quarter	Grab	ND 0.29	U
Chloroform	g/L	-	1/Quarter	Grab	ND 0.19	U
Chloromethane (Methyl Chloride)	g/L	-	1/Quarter	Grab	ND 0.30	U
Chromium	g/L	-	1/Year	ANR	ANR	ANR
Chromium III (Trivalent)	g/L	-	1/Year	ANR	ANR	ANR
Chrysene	g/L	-	1/Year	ANR	ANR	ANR

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				5/4/2023 07:30[w] - 5/5/2023 07:05		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY[p]**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
cis-1,3-Dichloropropene	g/L	-	1/Quarter	Grab	ND 0.30	U
delta-BHC	g/L	-	1/Year	ANR	ANR	ANR
Dibenzo(a,h)anthracene	g/L	-	1/Year	ANR	ANR	ANR
Dichlorobromomethane	g/L	-	1/Quarter	Grab	ND 0.19	U
Dieldrin	g/L	-	1/Year	Composite	ND 0.0013	U
Diethyl phthalate	g/L	-	1/Year	ANR	ANR	ANR
Dimethyl phthalate	g/L	-	1/Year	ANR	ANR	ANR
Di-n-butyl phthalate	g/L	-	1/Year	ANR	ANR	ANR
Di-n-octyl phthalate	g/L	-	1/Year	ANR	ANR	ANR
Endosulfan sulfate	g/L	-	1/Year	ANR	ANR	ANR
Endrin	g/L	-	1/Year	ANR	ANR	ANR
Endrin aldehyde	g/L	-	1/Year	ANR	ANR	ANR
Ethylbenzene	g/L	-	1/Quarter	Grab	ND 0.25	U
Fluoranthene	g/L	-	1/Year	ANR	ANR	ANR
Fluorene	g/L	-	1/Year	ANR	ANR	ANR
gamma-BHC (Lindane)	g/L	-	1/Year	ANR	ANR	ANR
Heptachlor	g/L	-	1/Year	ANR	ANR	ANR
Heptachlor epoxide	g/L	-	1/Year	ANR	ANR	ANR
Hexachlorobenzene	g/L	-	1/Year	ANR	ANR	ANR
Hexachlorobutadiene	g/L	-	1/Year	ANR	ANR	ANR
Hexachlorocyclopentadiene	g/L	-	1/Year	ANR	ANR	ANR
Hexachloroethane	g/L	-	1/Year	ANR	ANR	ANR
Indeno(1,2,3-cd)pyrene	g/L	-	1/Year	ANR	ANR	ANR
Isophorone	g/L	-	1/Year	ANR	ANR	ANR
m,p- ylenes	g/L	-	1/Year	Grab	ND 0.17	U
Methylene chloride	g/L	-	1/Quarter	Grab	ND 0.57	U
Naphthalene (VOC)	g/L	-	1/Year	Grab	ND 0.33	U
Naphthalene (SVOC)	g/L	-	1/Year	ANR	ANR	ANR
Nitrobenzene	g/L	-	1/Year	ANR	ANR	ANR
N-Nitroso-di-n-propylamine	g/L	-	1/Year	ANR	ANR	ANR
N-Nitrosodiphenylamine	g/L	-	1/Year	ANR	ANR	ANR
o- ylene	g/L	-	1/Year	Grab	ND 0.15	U
Phenanthrene	g/L	-	1/Year	ANR	ANR	ANR
Phenol	g/L	-	1/Year	ANR	ANR	ANR
Pyrene	g/L	-	1/Year	ANR	ANR	ANR
Tetrachloroethene	g/L	-	1/Quarter	Grab	ND 0.21	U
Toluene	g/L	-	1/Quarter	Grab	ND 0.23	U
Toxaphene	g/L	-	1/Year	Composite	ND 0.054	U
trans-1,2-Dichloroethene	g/L	-	1/Quarter	Grab	ND 0.24	U
trans-1,3-Dichloropropene	g/L	-	1/Quarter	Grab	ND 0.18	U
Trichlorofluoromethane	g/L	-	1/Year	Grab	ND 0.29	U
Vinyl chloride	g/L	-	1/Quarter	Grab	ND 0.47	U
ylenes (Total)	g/L	-	1/Year	Grab	ND 0.17	U
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS						
1,1,2-Trichloro-1,2,2-trifluoroethane	g/L	-	1/Quarter	Grab	ND 0.33	U
1,2-Dichloro-1,1,2-trifluoroethane	g/L	-	1/Year	ANR	ANR	ANR
1,4-Dioxane	g/L	-	1/Year	ANR	ANR	ANR
Boron	mg/L	-	1/Year	ANR	ANR	ANR
cis-1,2-Dichloroethene	g/L	-	1/Year	Grab	ND 0.21	U
Cobalt	g/L	-	1/Year	ANR	ANR	ANR
Conductivity	µmhos/cm	-	1/Discharge	Grab	1,300	
Cyclohexane	g/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	6.22	
Gasoline Range Organics (GRO C4-C12)	mg/L	-	1/Year	ANR	ANR	ANR
Hardness (as CaCO3)	mg/L	-	1/Year	Composite	520	
Monomethyl hydrazine	g/L	-	1/Year	ANR	ANR	ANR
Total Organic Carbon	mg/L	-	1/Year	ANR	ANR	ANR
Turbidity	NTU	-	1/Discharge	Composite	2.0	

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				5/4/2023 07:30[w] - 5/5/2023 07:05		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY[p]**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Vanadium	g/L	-	1/Year	ANR	ANR	ANR
ADDITIONAL POLLUTANTS[2]						
Aluminum, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Aluminum, (Total)	g/L	-	Additional/Year	ANR	ANR	ANR
Antimony, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Arsenic, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Barium, dissolved	mg/L	-	Additional/Year	ANR	ANR	ANR
Beryllium, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Boron, dissolved	mg/L	-	Additional/Year	ANR	ANR	ANR
Cadmium, dissolved	g/L	-	Additional/Discharge	Composite	ND 0.13	U
Chromium, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Cobalt, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Copper, dissolved	g/L	-	Additional/Discharge	Composite	0.82	(DNQ)
Hardness, Dissolved (as CaCO3)	mg/L	-	Additional/Year	Composite	490	
Human Bacteroides	CEs/100mL	-	Additional/Year	ANR	ANR	ANR
Iron, dissolved	mg/L	-	Additional/Year	ANR	ANR	ANR
Lead, dissolved	g/L	-	Additional/Discharge	Composite	0.13	(DNQ)
Manganese, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Mercury, dissolved	g/L	-	Additional/Discharge	Composite	ND 0.12	U
Nickel, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Selenium, dissolved	g/L	-	Additional/Discharge	Composite	0.58	(DNQ)
Silver, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Thallium, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Vanadium, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Zinc, dissolved	g/L	-	Additional/Discharge	Composite	ND 2.8	U

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				6/6/2023 07:25 - 6/7/2023 08:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY[p]**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow	MGD	117.83	1/Discharge	Meas	1.5519	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day 20 deg. C)	mg/L	30	1/Discharge	Composite	5.2	
Oil & Grease	mg/L	15	1/Discharge	Grab	0.80	(DNQ)
pH (Field)	s.u.	6.5-8.5	1/Discharge	Grab	7.19	
Total Suspended Solids	mg/L	45	1/Discharge	Composite	1.4[d]	
PRIORITY POLLUTANTS						
1,1-Dichloroethene	g/L	6.0	1/Discharge	Grab	ND 0.67	U
1,2-Dichloroethane	g/L	0.5	1/Discharge	Grab	ND 0.30	U
2,4,6-Trichlorophenol	g/L	13	1/Discharge	Composite	ND 0.13	U
2,4-Dinitrotoluene	g/L	18	1/Discharge	Composite	ND 0.11	U
alpha-BHC	g/L	0.03	1/Discharge	Composite	ND 0.0012	U
Antimony	g/L	6.0	1/Year	ANR	ANR	ANR
Arsenic	g/L	10.0	1/Year	ANR	ANR	ANR
Beryllium	g/L	4.0	1/Year	ANR	ANR	ANR
Bis (2-Ethylhexyl) Phthalate	g/L	4.0	1/Discharge	Composite	ND 3.4	U
Cadmium	g/L	(4.0) 3.1	1/Discharge	Composite	ND 0.13	U
Chromium VI (Hexavalent)	g/L	16	1/Year	ANR	ANR	ANR
Copper	g/L	14	1/Discharge	Composite	0.98	(DNQ)
Cyanide	g/L	8.5	1/Discharge	Composite	ND 2.5	U
Lead	g/L	5.2	1/Discharge	Composite	ND 0.12	U
Mercury	g/L	0.1	1/Discharge	Composite	ND 0.12	U
Nickel	g/L	94	1/Year	ANR	ANR	ANR
N-Nitrosodimethylamine	g/L	16	1/Discharge	Composite	ND 0.18	U
Pentachlorophenol	g/L	16.5	1/Discharge	Composite	ND 0.80	U
Selenium	g/L	(5) 8.2	1/Discharge	Composite	ND 0.52	U
Silver	g/L	4.1	1/Year	ANR	ANR	ANR
Thallium	g/L	2.0	1/Year	ANR	ANR	ANR
Trichloroethene	g/L	5.0	1/Discharge	Grab	0.77	(DNQ)
Zinc	g/L	119	1/Discharge	Composite	3.7	(DNQ)
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	mg/L	10.1	1/Discharge	Composite	0.031	(DNQ)
Barium	mg/L	1.0	1/Year	ANR	ANR	ANR
Chloride	mg/L	150	1/Discharge	Composite	25	
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 0.050	U
Fluoride	mg/L	1.6	1/Year	ANR	ANR	ANR
Iron	mg/L	0.3	1/Year	ANR	ANR	ANR
Manganese	g/L	50	1/Year	ANR	ANR	ANR
Nitrate - N	mg/L	8	1/Discharge	Composite	ND 0.020	U
Nitrate Nitrite as Nitrogen (N)	mg/L	8	1/Discharge	Composite	ND 0.020	U
Nitrite - N	mg/L	1	1/Discharge	Composite	ND 0.043	U
Perchlorate	g/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	120	
Temperature (Field)	Deg F	86	1/Discharge	Grab	62.9	
Total Dissolved Solids	mg/L	950	1/Discharge	Composite	490	
REMAINING PRIORITY POLLUTANTS						
1,1,1-Trichloroethane	g/L	-	1/Quarter	ANR	ANR	ANR
1,1,2,2-Tetrachloroethane	g/L	-	1/Quarter	ANR	ANR	ANR
1,1,2-Trichloroethane	g/L	-	1/Quarter	ANR	ANR	ANR
1,1-Dichloroethane	g/L	-	1/Quarter	ANR	ANR	ANR
1,2,4-Trichlorobenzene	g/L	-	1/Year	ANR	ANR	ANR
1,2-Dichlorobenzene (VOC)	g/L	-	1/Quarter	ANR	ANR	ANR
1,2-Dichlorobenzene (SVOC)	g/L	-	1/Year	ANR	ANR	ANR
1,2-Dichloropropane	g/L	-	1/Quarter	ANR	ANR	ANR
1,2-Diphenylhydrazine/Azobenzene	g/L	-	1/Year	ANR	ANR	ANR
1,3-Dichlorobenzene (VOC)	g/L	-	1/Quarter	ANR	ANR	ANR

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				6/6/2023 07:25 - 6/7/2023 08:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY[p]**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
1,3-Dichlorobenzene (SVOC)	g/L	-	1/Year	ANR	ANR	ANR
1,4-Dichlorobenzene (VOC)	g/L	-	1/Quarter	ANR	ANR	ANR
1,4-Dichlorobenzene (SVOC)	g/L	-	1/Year	ANR	ANR	ANR
2,4-Dichlorophenol	g/L	-	1/Year	ANR	ANR	ANR
2,4-Dimethylphenol	g/L	-	1/Year	ANR	ANR	ANR
2,4-Dinitrophenol	g/L	-	1/Year	ANR	ANR	ANR
2,6-Dinitrotoluene	g/L	-	1/Year	ANR	ANR	ANR
2-Chloroethyl vinyl ether	g/L	-	1/Year	ANR	ANR	ANR
2-Chloronaphthalene	g/L	-	1/Year	ANR	ANR	ANR
2-Chlorophenol	g/L	-	1/Year	ANR	ANR	ANR
2-Methyl-4,6-dinitrophenol	g/L	-	1/Year	ANR	ANR	ANR
2-Nitrophenol	g/L	-	1/Year	ANR	ANR	ANR
3,3 -Dichlorobenzidine	g/L	-	1/Year	ANR	ANR	ANR
4,4 -DDD	g/L	-	1/Year	ANR	ANR	ANR
4,4 -DDE	g/L	-	1/Year	ANR	ANR	ANR
4,4 -DDT	g/L	-	1/Year	ANR	ANR	ANR
4-Bromophenyl phenyl ether	g/L	-	1/Year	ANR	ANR	ANR
4-Chloro-3-methylphenol	g/L	-	1/Year	ANR	ANR	ANR
4-Chlorophenyl phenyl ether	g/L	-	1/Year	ANR	ANR	ANR
4-Nitrophenol	g/L	-	1/Year	ANR	ANR	ANR
Acenaphthene	g/L	-	1/Year	ANR	ANR	ANR
Acenaphthylene	g/L	-	1/Year	ANR	ANR	ANR
Acrolein	g/L	-	1/Quarter	ANR	ANR	ANR
Acrylonitrile	g/L	-	1/Quarter	ANR	ANR	ANR
Aldrin	g/L	-	1/Year	ANR	ANR	ANR
alpha-Endosulfan	g/L	-	1/Year	ANR	ANR	ANR
Anthracene	g/L	-	1/Year	ANR	ANR	ANR
Aroclor 1016	g/L	-	1/Year	ANR	ANR	ANR
Aroclor 1221	g/L	-	1/Year	ANR	ANR	ANR
Aroclor 1232	g/L	-	1/Year	ANR	ANR	ANR
Aroclor 1242	g/L	-	1/Year	ANR	ANR	ANR
Aroclor 1248	g/L	-	1/Year	ANR	ANR	ANR
Aroclor 1254	g/L	-	1/Year	ANR	ANR	ANR
Aroclor 1260	g/L	-	1/Year	ANR	ANR	ANR
Benzene	g/L	-	1/Quarter	ANR	ANR	ANR
Benzidine	g/L	-	1/Year	ANR	ANR	ANR
Benzo(a)anthracene	g/L	-	1/Year	ANR	ANR	ANR
Benzo(a)pyrene	g/L	-	1/Year	ANR	ANR	ANR
Benzo(b)fluoranthene	g/L	-	1/Year	ANR	ANR	ANR
Benzo(g,h,i)perylene	g/L	-	1/Year	ANR	ANR	ANR
Benzo(k)fluoranthene	g/L	-	1/Year	ANR	ANR	ANR
beta-BHC	g/L	-	1/Year	ANR	ANR	ANR
beta-Endosulfan	g/L	-	1/Year	ANR	ANR	ANR
Bis (2-Chloroethoxy) Methane	g/L	-	1/Year	ANR	ANR	ANR
Bis (2-Chloroethyl) Ether	g/L	-	1/Year	ANR	ANR	ANR
Bis (2-Chloroisopropyl) Ether	g/L	-	1/Year	ANR	ANR	ANR
Bromoform	g/L	-	1/Quarter	ANR	ANR	ANR
Bromomethane (Methyl Bromide)	g/L	-	1/Quarter	ANR	ANR	ANR
Butyl benzylphthalate	g/L	-	1/Year	ANR	ANR	ANR
Carbon tetrachloride	g/L	-	1/Quarter	ANR	ANR	ANR
Chlordane	g/L	-	1/Year	ANR	ANR	ANR
Chlorobenzene	g/L	-	1/Quarter	ANR	ANR	ANR
Chlorodibromomethane	g/L	-	1/Quarter	ANR	ANR	ANR
Chloroethane	g/L	-	1/Quarter	ANR	ANR	ANR
Chloroform	g/L	-	1/Quarter	ANR	ANR	ANR
Chloromethane (Methyl Chloride)	g/L	-	1/Quarter	ANR	ANR	ANR
Chromium	g/L	-	1/Year	ANR	ANR	ANR
Chromium III (Trivalent)	g/L	-	1/Year	ANR	ANR	ANR
Chrysene	g/L	-	1/Year	ANR	ANR	ANR

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				6/6/2023 07:25 - 6/7/2023 08:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY[p]**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
cis-1,3-Dichloropropene	g/L	-	1/Quarter	ANR	ANR	ANR
delta-BHC	g/L	-	1/Year	ANR	ANR	ANR
Dibenzo(a,h)anthracene	g/L	-	1/Year	ANR	ANR	ANR
Dichlorobromomethane	g/L	-	1/Quarter	ANR	ANR	ANR
Dieldrin	g/L	-	1/Year	ANR	ANR	ANR
Diethyl phthalate	g/L	-	1/Year	ANR	ANR	ANR
Dimethyl phthalate	g/L	-	1/Year	ANR	ANR	ANR
Di-n-butyl phthalate	g/L	-	1/Year	ANR	ANR	ANR
Di-n-octyl phthalate	g/L	-	1/Year	ANR	ANR	ANR
Endosulfan sulfate	g/L	-	1/Year	ANR	ANR	ANR
Endrin	g/L	-	1/Year	ANR	ANR	ANR
Endrin aldehyde	g/L	-	1/Year	ANR	ANR	ANR
Ethylbenzene	g/L	-	1/Quarter	ANR	ANR	ANR
Fluoranthene	g/L	-	1/Year	ANR	ANR	ANR
Fluorene	g/L	-	1/Year	ANR	ANR	ANR
gamma-BHC (Lindane)	g/L	-	1/Year	ANR	ANR	ANR
Heptachlor	g/L	-	1/Year	ANR	ANR	ANR
Heptachlor epoxide	g/L	-	1/Year	ANR	ANR	ANR
Hexachlorobenzene	g/L	-	1/Year	ANR	ANR	ANR
Hexachlorobutadiene	g/L	-	1/Year	ANR	ANR	ANR
Hexachlorocyclopentadiene	g/L	-	1/Year	ANR	ANR	ANR
Hexachloroethane	g/L	-	1/Year	ANR	ANR	ANR
Indeno(1,2,3-cd)pyrene	g/L	-	1/Year	ANR	ANR	ANR
Isophorone	g/L	-	1/Year	ANR	ANR	ANR
m,p- ylenes	g/L	-	1/Year	ANR	ANR	ANR
Methylene chloride	g/L	-	1/Quarter	ANR	ANR	ANR
Naphthalene (VOC)	g/L	-	1/Year	ANR	ANR	ANR
Naphthalene (SVOC)	g/L	-	1/Year	ANR	ANR	ANR
Nitrobenzene	g/L	-	1/Year	ANR	ANR	ANR
N-Nitroso-di-n-propylamine	g/L	-	1/Year	ANR	ANR	ANR
N-Nitrosodiphenylamine	g/L	-	1/Year	ANR	ANR	ANR
o- ylene	g/L	-	1/Year	ANR	ANR	ANR
Phenanthrene	g/L	-	1/Year	ANR	ANR	ANR
Phenol	g/L	-	1/Year	ANR	ANR	ANR
Pyrene	g/L	-	1/Year	ANR	ANR	ANR
Tetrachloroethene	g/L	-	1/Quarter	ANR	ANR	ANR
Toluene	g/L	-	1/Quarter	ANR	ANR	ANR
Toxaphene	g/L	-	1/Year	ANR	ANR	ANR
trans-1,2-Dichloroethene	g/L	-	1/Quarter	ANR	ANR	ANR
trans-1,3-Dichloropropene	g/L	-	1/Quarter	ANR	ANR	ANR
Trichlorofluoromethane	g/L	-	1/Year	ANR	ANR	ANR
Vinyl chloride	g/L	-	1/Quarter	ANR	ANR	ANR
ylenes (Total)	g/L	-	1/Year	ANR	ANR	ANR
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS						
1,1,2-Trichloro-1,2,2-trifluoroethane	g/L	-	1/Quarter	ANR	ANR	ANR
1,2-Dichloro-1,1,2-trifluoroethane	g/L	-	1/Year	ANR	ANR	ANR
1,4-Dioxane	g/L	-	1/Year	ANR	ANR	ANR
Boron	mg/L	-	1/Year	ANR	ANR	ANR
cis-1,2-Dichloroethene	g/L	-	1/Year	ANR	ANR	ANR
Cobalt	g/L	-	1/Year	ANR	ANR	ANR
Conductivity	µmhos/cm	-	1/Discharge	Grab	730	
Cyclohexane	g/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	15.24	
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	g/L	-	1/Year	ANR	ANR	ANR
Total Organic Carbon	mg/L	-	1/Year	ANR	ANR	ANR
Turbidity	NTU	-	1/Discharge	Composite	0.55	

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				6/6/2023 07:25 - 6/7/2023 08:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY[p]**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Vanadium	g/L	-	1/Year	ANR	ANR	ANR
ADDITIONAL POLLUTANTS[2]						
Aluminum, dissolved	g/L	-	Additional/Year	Composite	19	
Aluminum, (Total)	g/L	-	Additional/Year	Composite	32	
Antimony, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Arsenic, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Barium, dissolved	mg/L	-	Additional/Year	ANR	ANR	ANR
Beryllium, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Boron, dissolved	mg/L	-	Additional/Year	ANR	ANR	ANR
Cadmium, dissolved	g/L	-	Additional/Discharge	Composite	ND 0.13	U
Chromium, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Cobalt, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Copper, dissolved	g/L	-	Additional/Discharge	Composite	ND 0.32	U
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	ANR	ANR	ANR
Lead, dissolved	g/L	-	Additional/Discharge	Composite	ND 0.12	U
Manganese, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Mercury, dissolved	g/L	-	Additional/Discharge	Composite	ND 0.12	U
Nickel, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Selenium, dissolved	g/L	-	Additional/Discharge	Composite	0.71	(DNQ)
Silver, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Thallium, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Vanadium, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Zinc, dissolved	g/L	-	Additional/Discharge	Composite	ND 2.8	U

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

					5/5/2023 07:05 (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	g/L	1.9E-07	2.0E-06	U (B)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	0.01	0.01	g/L	4.7E-07	7.0E-07	U (B)	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	0.01	0.4	g/L	4.9E-07	ND	U	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	0.1	0.3	g/L	3.6E-07	1.8E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	0.1	0.08	g/L	2.6E-07	ND	U	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	0.1	0.1	g/L	3.5E-07	ND	U	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	0.1	0.2	g/L	2.4E-07	ND	U	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	0.1	0.1	g/L	3.5E-07	ND	U	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	0.1	0.6	g/L	2.0E-07	7.0E-07	U (B)	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1.0	0.9	g/L	2.7E-07	ND	U	**ND**
1,2,3,7,8-PeCDF	1/Discharge	0.05	0.2	g/L	1.4E-07	6.0E-07	(DNQ)	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	0.1	0.7	g/L	2.0E-07	ND	U	**ND**
2,3,4,7,8-PeCDF	1/Discharge	0.5	1.6	g/L	1.6E-07	ND	U	**ND**
2,3,7,8-TCDD	1/Discharge	1.0	1.0	g/L	2.0E-07	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	0.1	0.8	g/L	1.2E-07	ND	U	**ND**
OCDD	1/Discharge	0.0001	0.01	g/L	3.2E-07	1.1E-05	U (B)	**ND**
OCDF	1/Discharge	0.0001	0.02	g/L	2.4E-07	8.5E-07	U (B)	**ND**

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

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

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OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
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April 1 through June 30, 2023

					6/7/2023 08:30 (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	g/L	3.2E-07	1.1E-06	U (B)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	0.01	0.01	g/L	2.5E-06	ND	U	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	0.01	0.4	g/L	3.0E-06	ND	U	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	0.1	0.3	g/L	4.5E-07	2.1E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	0.1	0.08	g/L	2.6E-07	ND	U	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	0.1	0.1	g/L	4.4E-07	ND	U	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	0.1	0.2	g/L	2.6E-07	ND	U	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	0.1	0.1	g/L	4.2E-07	ND	U	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	0.1	0.6	g/L	3.2E-07	ND	U	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1.0	0.9	g/L	6.8E-07	ND	U	**ND**
1,2,3,7,8-PeCDF	1/Discharge	0.05	0.2	g/L	2.8E-07	ND	U	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	0.1	0.7	g/L	2.5E-07	ND	U	**ND**
2,3,4,7,8-PeCDF	1/Discharge	0.5	1.6	g/L	3.0E-07	ND	U	**ND**
2,3,7,8-TCDD	1/Discharge	1.0	1.0	g/L	7.2E-07	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	0.1	0.8	g/L	2.4E-07	ND	U	**ND**
OCDD	1/Discharge	0.0001	0.01	g/L	5.3E-07	8.1E-06	U (B)	**ND**
OCDF	1/Discharge	0.0001	0.02	g/L	4.7E-07	1.7E-06	(DNQ)	**ND**

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

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

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DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				5/5/2023 07:05 (Composite)		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS						
Gross Alpha	pCi/L	15	1/Discharge	-0.378 7.94	15.0	U
Gross Beta	pCi/L	50	1/Discharge	10.4 3.70	4.75	
Combined Radium-226 & Radium-228	pCi/L	5.0	1/Discharge	0.73 0.466	NM	U
Strontium-90	pCi/L	8.0	1/Discharge	-0.260 0.326	0.646	U
Tritium	pCi/L	20,000	1/Discharge	-91.0 150	289	U
ADDITIONAL POLLUTANTS						
Cesium-137	pCi/L	200	1/Discharge	4.58 8.94	15.2	U
Uranium	pCi/L	20	1/Discharge	3.71 0.879	0.252	
ADDITIONAL POLLUTANTS WITHOUT LIMITS						
Potassium-40	pCi/L	-	1/Discharge	-38.2 138	184	U

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DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				6/7/2023 08:30 (Composite)		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS						
Gross Alpha	pCi/L	15	1/Discharge	-0.776 3.64	7.18	U
Gross Beta	pCi/L	50	1/Discharge	3.67 1.33	1.69	
Combined Radium-226 & Radium-228	pCi/L	5.0	1/Discharge	0.843 0.431	NM	U
Strontium-90	pCi/L	8.0	1/Discharge	0.00826 0.412	0.738	U
Tritium	pCi/L	20,000	1/Discharge	84.7 164	282	U
ADDITIONAL POLLUTANTS						
Cesium-137	pCi/L	200	1/Discharge	-6.14 16.5	21.6	U
Uranium	pCi/L	20	1/Discharge	2.06 0.460	0.163	
ADDITIONAL POLLUTANTS WITHOUT LIMITS						
Potassium-40	pCi/L	-	1/Discharge	-139 214	336	U

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DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				5/4/2023 07:30[w] - 5/5/2023 07:05		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY[p]**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow	MGD	117.83	1/Discharge	Meas	0.15886	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day 20 deg. C)	LBS/DAY	29,481	1/Discharge	Composite	2.9	
Oil & Grease	LBS/DAY	14,741	1/Discharge	Grab	ND	U
Total Suspended Solids	LBS/DAY	44,222	1/Discharge	Composite	4.1[c]	
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	0.0000044	
Antimony	LBS/DAY	5.9	1/Year	ANR	ANR	ANR
Arsenic	LBS/DAY	9.83	1/Year	ANR	ANR	ANR
Beryllium	LBS/DAY	3.93	1/Year	ANR	ANR	ANR
Bis (2-Ethylhexyl) Phthalate	LBS/DAY	3.93	1/Discharge	Composite	ND	U
Cadmium	LBS/DAY	(3.93) 3.05	1/Discharge	Composite	0.00025[b]	(DNQ)
Chromium VI (Hexavalent)	LBS/DAY	15.72	1/Year	ANR	ANR	ANR
Copper	LBS/DAY	13.76	1/Discharge	Composite	0.0016	(DNQ)
Cyanide	LBS/DAY	8.35	1/Discharge	Composite	ND	U
Lead	LBS/DAY	5.11	1/Discharge	Composite	0.00058	(DNQ)
Mercury	LBS/DAY	0.1	1/Discharge	Composite	ND	U
Nickel	LBS/DAY	92.4	1/Year	ANR	ANR	ANR
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	0.00094[f]	(DNQ)
Silver	LBS/DAY	4.03	1/Year	ANR	ANR	ANR
TCDD TEQ NoDNQ[4]	LBS/DAY	2.75E-08	1/Discharge	Composite	ND	U
Thallium	LBS/DAY	1.97	1/Year	ANR	ANR	ANR
Trichloroethene	LBS/DAY	4.91	1/Discharge	Grab	ND	U
Zinc	LBS/DAY	117	1/Discharge	Composite	0.0048	(DNQ)
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	LBS/DAY	9,925.3	1/Discharge	Composite	ND	U
Barium	LBS/DAY	983	1/Year	ANR	ANR	ANR
Chloride	LBS/DAY	147,405	1/Discharge	Composite	58	
Chlorine, Total Residual (Field)	LBS/DAY	98.3	1/Year	ANR	ANR	ANR
Detergents (as MBAS)	LBS/DAY	491.4	1/Discharge	Composite	0.097	(DNQ)
Fluoride	LBS/DAY	1,572.3	1/Year	ANR	ANR	ANR
Iron	LBS/DAY	295	1/Year	ANR	ANR	ANR
Manganese	LBS/DAY	49.1	1/Year	ANR	ANR	ANR
Nitrate - N	LBS/DAY	7,862	1/Discharge	Composite	ND	U
Nitrate Nitrite as Nitrogen (N)	LBS/DAY	7,862	1/Discharge	Composite	ND	U
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	500	
Total Dissolved Solids	LBS/DAY	933,567	1/Discharge	Composite	1,200	

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THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				6/6/2023 07:25 - 6/7/2023 08:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY[(p)]**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow	MGD	117.83	1/Discharge	Meas	1.5519	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day 20 deg. C)	LBS/DAY	29,481	1/Discharge	Composite	67	
Oil & Grease	LBS/DAY	14,741	1/Discharge	Grab	10	(DNQ)
Total Suspended Solids	LBS/DAY	44,222	1/Discharge	Composite	18[(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	ANR	ANR	ANR
Arsenic	LBS/DAY	9.83	1/Year	ANR	ANR	ANR
Beryllium	LBS/DAY	3.93	1/Year	ANR	ANR	ANR
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	ANR	ANR	ANR
Copper	LBS/DAY	13.76	1/Discharge	Composite	0.013	(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	ANR	ANR	ANR
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	ANR	ANR	ANR
TCDD TEQ NoDNQ[(4)]	LBS/DAY	2.75E-08	1/Discharge	Composite	ND	U
Thallium	LBS/DAY	1.97	1/Year	ANR	ANR	ANR
Trichloroethene	LBS/DAY	4.91	1/Discharge	Grab	0.01	(DNQ)
Zinc	LBS/DAY	117	1/Discharge	Composite	0.048	(DNQ)
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	LBS/DAY	9,925.3	1/Discharge	Composite	0.40	(DNQ)
Barium	LBS/DAY	983	1/Year	ANR	ANR	ANR
Chloride	LBS/DAY	147,405	1/Discharge	Composite	320	
Chlorine, Total Residual (Field)	LBS/DAY	98.3	1/Year	ANR	ANR	ANR
Detergents (as MBAS)	LBS/DAY	491.4	1/Discharge	Composite	ND	U
Fluoride	LBS/DAY	1,572.3	1/Year	ANR	ANR	ANR
Iron	LBS/DAY	295	1/Year	ANR	ANR	ANR
Manganese	LBS/DAY	49.1	1/Year	ANR	ANR	ANR
Nitrate - N	LBS/DAY	7,862	1/Discharge	Composite	ND	U
Nitrate Nitrite as Nitrogen (N)	LBS/DAY	7,862	1/Discharge	Composite	ND	U
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	1,600	
Total Dissolved Solids	LBS/DAY	933,567	1/Discharge	Composite	6,300	

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OUTFALL 011
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				4/3/2023 11:30 - 4/5/2023 07:10		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY[p]**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow	MGD	117.83	1/Discharge	Meas	1.0332	
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day 20 deg. C)	mg/L	30	1/Discharge	Composite	ND 1.0	U
Oil & Grease	mg/L	15	1/Discharge	Grab	ND 0.50	U
pH (Field)	s.u.	6.5-8.5	1/Discharge	Grab	8.47	
Total Suspended Solids	mg/L	45	1/Discharge	Composite	0.90[d]	(DNQ)
PRIORITY POLLUTANTS						
1,1-Dichloroethene	g/L	6.0	1/Discharge	Grab	ND 0.33	U
1,2-Dichloroethane	g/L	0.5	1/Discharge	Grab	ND 0.15	U
2,4,6-Trichlorophenol	g/L	13	1/Discharge	Composite	ND 0.13	U
2,4-Dinitrotoluene	g/L	18	1/Discharge	Composite	ND 0.11	U
alpha-BHC	g/L	0.03	1/Discharge	Composite	ND 0.0012	U
Antimony	g/L	6.0	1/Year	ANR	ANR	ANR
Arsenic	g/L	10.0	1/Year	ANR	ANR	ANR
Beryllium	g/L	4.0	1/Year	ANR	ANR	ANR
Bis (2-Ethylhexyl) Phthalate	g/L	4.0	1/Discharge	Composite	ND 3.4	U
Cadmium	g/L	(4.0) 3.1	1/Discharge	Composite	ND 0.13	U
Chromium VI (Hexavalent)	g/L	16	1/Year	ANR	ANR	ANR
Copper	g/L	14	1/Discharge	Composite	2.1	
Cyanide	g/L	8.5	1/Discharge	Composite	ND 2.5	U
Lead	g/L	5.2	1/Discharge	Composite	ND 0.12	U
Mercury	g/L	0.1	1/Discharge	Composite	ND 0.12	U
Nickel	g/L	94	1/Year	ANR	ANR	ANR
N-Nitrosodimethylamine	g/L	16	1/Discharge	Composite	ND 0.18	U
Pentachlorophenol	g/L	16.5	1/Discharge	Composite	ND 0.80	U
Selenium	g/L	(5) 8.2	1/Discharge	Composite	1.1[e]	(DNQ)
Silver	g/L	4.1	1/Year	ANR	ANR	ANR
Thallium	g/L	2.0	1/Year	ANR	ANR	ANR
Trichloroethene	g/L	5.0	1/Discharge	Grab	ND 0.17	U
Zinc	g/L	119	1/Discharge	Composite	ND 2.8	U
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	mg/L	10.1	1/Discharge	Composite	ND 0.032	U
Barium	mg/L	1.0	1/Year	ANR	ANR	ANR
Chloride	mg/L	150	1/Discharge	Composite	7.0	
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	0.057	(DNQ)
Fluoride	mg/L	1.6	1/Year	ANR	ANR	ANR
Iron	mg/L	0.3	1/Discharge[r]	Composite	0.008	(DNQ)
Manganese	g/L	50	1/Discharge[r]	Composite	7.2	
Nitrate - N	mg/L	8	1/Discharge	Composite	0.12	
Nitrate Nitrite as Nitrogen (N)	mg/L	8	1/Discharge	Composite	0.12	
Nitrite - N	mg/L	1	1/Discharge	Composite	ND 0.043	U
Perchlorate	g/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	41	
Temperature (Field)	Deg F	86	1/Discharge	Grab	13.8	
Total Dissolved Solids	mg/L	950	1/Discharge	Composite	180	
REMAINING PRIORITY POLLUTANTS						
1,1,1-Trichloroethane	g/L	-	1/Quarter	Grab	ND 0.25	U
1,1,2,2-Tetrachloroethane	g/L	-	1/Quarter	Grab	ND 0.20	U
1,1,2-Trichloroethane	g/L	-	1/Quarter	Grab	ND 0.17	U
1,1-Dichloroethane	g/L	-	1/Quarter	Grab	ND 0.39	U
1,2,4-Trichlorobenzene	g/L	-	1/Year	ANR	ANR	ANR
1,2-Dichlorobenzene (VOC)	g/L	-	1/Quarter	Grab	ND 0.16	U
1,2-Dichlorobenzene (SVOC)	g/L	-	1/Year	ANR	ANR	ANR
1,2-Dichloropropane	g/L	-	1/Quarter	Grab	ND 0.17	U
1,2-Diphenylhydrazine/Azobenzene	g/L	-	1/Year	ANR	ANR	ANR
1,3-Dichlorobenzene (VOC)	g/L	-	1/Quarter	Grab	ND 0.16	U

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THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				4/3/2023 11:30 - 4/5/2023 07:10		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY[(p)]**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
1,3-Dichlorobenzene (SVOC)	g/L	-	1/Year	ANR	ANR	ANR
1,4-Dichlorobenzene (VOC)	g/L	-	1/Quarter	Grab	ND 0.11	U
1,4-Dichlorobenzene (SVOC)	g/L	-	1/Year	ANR	ANR	ANR
2,4-Dichlorophenol	g/L	-	1/Year	ANR	ANR	ANR
2,4-Dimethylphenol	g/L	-	1/Year	ANR	ANR	ANR
2,4-Dinitrophenol	g/L	-	1/Year	ANR	ANR	ANR
2,6-Dinitrotoluene	g/L	-	1/Year	ANR	ANR	ANR
2-Chloroethyl vinyl ether	g/L	-	1/Year	Grab	ND 1.1	U
2-Chloronaphthalene	g/L	-	1/Year	ANR	ANR	ANR
2-Chlorophenol	g/L	-	1/Year	ANR	ANR	ANR
2-Methyl-4,6-dinitrophenol	g/L	-	1/Year	ANR	ANR	ANR
2-Nitrophenol	g/L	-	1/Year	ANR	ANR	ANR
3,3 -Dichlorobenzidine	g/L	-	1/Year	ANR	ANR	ANR
4,4 -DDD	g/L	-	1/Year	Composite	ND 0.0044	U
4,4 -DDE	g/L	-	1/Year	Composite	ND 0.0019	U
4,4 -DDT	g/L	-	1/Year	Composite	ND 0.0016	U
4-Bromophenyl phenyl ether	g/L	-	1/Year	ANR	ANR	ANR
4-Chloro-3-methylphenol	g/L	-	1/Year	ANR	ANR	ANR
4-Chlorophenyl phenyl ether	g/L	-	1/Year	ANR	ANR	ANR
4-Nitrophenol	g/L	-	1/Year	ANR	ANR	ANR
Acenaphthene	g/L	-	1/Year	ANR	ANR	ANR
Acenaphthylene	g/L	-	1/Year	ANR	ANR	ANR
Acrolein	g/L	-	1/Quarter	Grab	ND 4.6	U
Acrylonitrile	g/L	-	1/Quarter	Grab	ND 1.4	U
Aldrin	g/L	-	1/Year	ANR	ANR	ANR
alpha-Endosulfan	g/L	-	1/Year	ANR	ANR	ANR
Anthracene	g/L	-	1/Year	ANR	ANR	ANR
Aroclor 1016	g/L	-	1/Year	Composite	ND 0.044	U
Aroclor 1221	g/L	-	1/Year	Composite	ND 0.044	U
Aroclor 1232	g/L	-	1/Year	Composite	ND 0.044	U
Aroclor 1242	g/L	-	1/Year	Composite	ND 0.044	U
Aroclor 1248	g/L	-	1/Year	Composite	ND 0.044	U
Aroclor 1254	g/L	-	1/Year	Composite	ND 0.052	U
Aroclor 1260	g/L	-	1/Year	Composite	ND 0.052	U
Benzene	g/L	-	1/Quarter	Grab	ND 0.28	U
Benzidine	g/L	-	1/Year	ANR	ANR	ANR
Benzo(a)anthracene	g/L	-	1/Year	ANR	ANR	ANR
Benzo(a)pyrene	g/L	-	1/Year	ANR	ANR	ANR
Benzo(b)fluoranthene	g/L	-	1/Year	ANR	ANR	ANR
Benzo(g,h,i)perylene	g/L	-	1/Year	ANR	ANR	ANR
Benzo(k)fluoranthene	g/L	-	1/Year	ANR	ANR	ANR
beta-BHC	g/L	-	1/Year	ANR	ANR	ANR
beta-Endosulfan	g/L	-	1/Year	ANR	ANR	ANR
Bis (2-Chloroethoxy) Methane	g/L	-	1/Year	ANR	ANR	ANR
Bis (2-Chloroethyl) Ether	g/L	-	1/Year	ANR	ANR	ANR
Bis (2-Chloroisopropyl) Ether	g/L	-	1/Year	ANR	ANR	ANR
Bromoform	g/L	-	1/Quarter	Grab	ND 0.25	U
Bromomethane (Methyl Bromide)	g/L	-	1/Quarter	Grab	ND 0.22	U
Butyl benzylphthalate	g/L	-	1/Year	ANR	ANR	ANR
Carbon tetrachloride	g/L	-	1/Quarter	Grab	ND 0.28	U
Chlordane	g/L	-	1/Year	Composite	ND 0.026	U
Chlorobenzene	g/L	-	1/Quarter	Grab	ND 0.19	U
Chlorodibromomethane	g/L	-	1/Quarter	Grab	ND 0.15	U
Chloroethane	g/L	-	1/Quarter	Grab	ND 0.29	U
Chloroform	g/L	-	1/Quarter	Grab	ND 0.19	U
Chloromethane (Methyl Chloride)	g/L	-	1/Quarter	Grab	ND 0.30	U
Chromium	g/L	-	1/Year	ANR	ANR	ANR
Chromium III (Trivalent)	g/L	-	1/Year	ANR	ANR	ANR
Chrysene	g/L	-	1/Year	ANR	ANR	ANR

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THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				4/3/2023 11:30 - 4/5/2023 07:10		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY[(p)]**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
cis-1,3-Dichloropropene	g/L	-	1/Quarter	Grab	ND 0.30	U
delta-BHC	g/L	-	1/Year	ANR	ANR	ANR
Dibenzo(a,h)anthracene	g/L	-	1/Year	ANR	ANR	ANR
Dichlorobromomethane	g/L	-	1/Quarter	Grab	ND 0.19	U
Dieldrin	g/L	-	1/Year	Composite	ND 0.0013	U
Diethyl phthalate	g/L	-	1/Year	ANR	ANR	ANR
Dimethyl phthalate	g/L	-	1/Year	ANR	ANR	ANR
Di-n-butyl phthalate	g/L	-	1/Year	ANR	ANR	ANR
Di-n-octyl phthalate	g/L	-	1/Year	ANR	ANR	ANR
Endosulfan sulfate	g/L	-	1/Year	ANR	ANR	ANR
Endrin	g/L	-	1/Year	ANR	ANR	ANR
Endrin aldehyde	g/L	-	1/Year	ANR	ANR	ANR
Ethylbenzene	g/L	-	1/Quarter	Grab	ND 0.25	U
Fluoranthene	g/L	-	1/Year	ANR	ANR	ANR
Fluorene	g/L	-	1/Year	ANR	ANR	ANR
gamma-BHC (Lindane)	g/L	-	1/Year	ANR	ANR	ANR
Heptachlor	g/L	-	1/Year	ANR	ANR	ANR
Heptachlor epoxide	g/L	-	1/Year	ANR	ANR	ANR
Hexachlorobenzene	g/L	-	1/Year	ANR	ANR	ANR
Hexachlorobutadiene	g/L	-	1/Year	ANR	ANR	ANR
Hexachlorocyclopentadiene	g/L	-	1/Year	ANR	ANR	ANR
Hexachloroethane	g/L	-	1/Year	ANR	ANR	ANR
Indeno(1,2,3-cd)pyrene	g/L	-	1/Year	ANR	ANR	ANR
Isophorone	g/L	-	1/Year	ANR	ANR	ANR
m,p- ylenes	g/L	-	1/Year	Grab	ND 0.17	U
Methylene chloride	g/L	-	1/Quarter	Grab	ND 0.57	U
Naphthalene (VOC)	g/L	-	1/Year	Grab	ND 0.33	U
Naphthalene (SVOC)	g/L	-	1/Year	ANR	ANR	ANR
Nitrobenzene	g/L	-	1/Year	ANR	ANR	ANR
N-Nitroso-di-n-propylamine	g/L	-	1/Year	ANR	ANR	ANR
N-Nitrosodiphenylamine	g/L	-	1/Year	ANR	ANR	ANR
o- ylene	g/L	-	1/Year	Grab	ND 0.15	U
Phenanthrene	g/L	-	1/Year	ANR	ANR	ANR
Phenol	g/L	-	1/Year	ANR	ANR	ANR
Pyrene	g/L	-	1/Year	ANR	ANR	ANR
Tetrachloroethene	g/L	-	1/Quarter	Grab	ND 0.21	U
Toluene	g/L	-	1/Quarter	Grab	ND 0.23	U
Toxaphene	g/L	-	1/Year	Composite	ND 0.054	U
trans-1,2-Dichloroethene	g/L	-	1/Quarter	Grab	ND 0.24	U
trans-1,3-Dichloropropene	g/L	-	1/Quarter	Grab	ND 0.18	U
Trichlorofluoromethane	g/L	-	1/Year	Grab	ND 0.29	U
Vinyl chloride	g/L	-	1/Quarter	Grab	ND 0.47	U
ylenes (Total)	g/L	-	1/Year	Grab	ND 0.17	U
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS						
1,1,2-Trichloro-1,2,2-trifluoroethane	g/L	-	1/Quarter	Grab	ND 0.33	U
1,2-Dichloro-1,1,2-trifluoroethane	g/L	-	1/Year	ANR	ANR	ANR
1,4-Dioxane	g/L	-	1/Year	ANR	ANR	ANR
Boron	mg/L	-	1/Year	ANR	ANR	ANR
cis-1,2-Dichloroethene	g/L	-	1/Year	Grab	ND 0.21	U
Cobalt	g/L	-	1/Year	ANR	ANR	ANR
Conductivity	µmhos/cm	-	1/Discharge	Grab	250	
Cyclohexane	g/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	14.07	
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	Composite	73	
Monomethyl hydrazine	g/L	-	1/Year	ANR	ANR	ANR
Total Organic Carbon	mg/L	-	1/Year	ANR	ANR	ANR

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April 1 through June 30, 2023

				4/3/2023 11:30 - 4/5/2023 07:10		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY[(p)]**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Turbidity	NTU	-	1/Discharge	Composite	0.35	
Vanadium	g/L	-	1/Year	ANR	ANR	ANR

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NPDES PERMIT CA0001309

April 1 through June 30, 2023

				4/3/2023 11:30 - 4/5/2023 07:10		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY[(p)]**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
ADDITIONAL POLLUTANTS[(2)]						
Antimony, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Arsenic, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Barium, dissolved	mg/L	-	Additional/Year	ANR	ANR	ANR
Beryllium, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Boron, dissolved	mg/L	-	Additional/Year	ANR	ANR	ANR
Cadmium, dissolved	g/L	-	Additional/Discharge	Composite	ND 0.13	U
Chromium, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Cobalt, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Copper, dissolved	g/L	-	Additional/Discharge	Composite	2.1	
Hardness, Dissolved (as CaCO3)	mg/L	-	Additional/Year	Composite	66	
Human Bacteroides	CEs/100mL	-	Additional/Year	ANR	ANR	ANR
Iron, dissolved	mg/L	-	Additional/Discharge[(r)]	Composite	ND 0.0037	U
Lead, dissolved	g/L	-	Additional/Discharge	Composite	ND 0.12	U
Manganese, dissolved	g/L	-	Additional/Discharge[(r)]	Composite	4.7	
Mercury, dissolved	g/L	-	Additional/Discharge	Composite	ND 0.12	U
Nickel, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Selenium, dissolved	g/L	-	Additional/Discharge	Composite	ND 0.52	U
Silver, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Thallium, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Vanadium, dissolved	g/L	-	Additional/Year	ANR	ANR	ANR
Zinc, dissolved	g/L	-	Additional/Discharge	Composite	ND 2.8	U

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					4/5/2023 07:10 (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	g/L	2.7E-07	1.4E-06	U (B)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	0.01	0.01	g/L	4.2E-07	1.6E-06	U (B)	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	0.01	0.4	g/L	4.7E-07	ND	U	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	0.1	0.3	g/L	2.5E-07	2.1E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	0.1	0.08	g/L	1.9E-07	3.9E-07	U (B)	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	0.1	0.1	g/L	2.6E-07	3.4E-07	U (B)	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	0.1	0.2	g/L	1.7E-07	4.1E-07	U (B)	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	0.1	0.1	g/L	2.2E-07	ND	U	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	0.1	0.6	g/L	2.2E-07	6.7E-07	U (B)	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1.0	0.9	g/L	3.0E-07	ND	U	**ND**
1,2,3,7,8-PeCDF	1/Discharge	0.05	0.2	g/L	1.6E-07	6.1E-07	U (B)	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	0.1	0.7	g/L	1.6E-07	3.8E-07	U (B)	**ND**
2,3,4,7,8-PeCDF	1/Discharge	0.5	1.6	g/L	1.9E-07	3.7E-07	U (B)	**ND**
2,3,7,8-TCDD	1/Discharge	1.0	1.0	g/L	2.7E-07	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	0.1	0.8	g/L	4.4E-07	ND	U	**ND**
OCDD	1/Discharge	0.0001	0.01	g/L	4.0E-07	1.5E-05	U (B)	**ND**
OCDF	1/Discharge	0.0001	0.02	g/L	1.8E-07	3.3E-06	U (B)	**ND**

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

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

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THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
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April 1 through June 30, 2023

				4/5/2023 07:10 (Composite)		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS						
Gross Alpha	pCi/L	15	1/Discharge	0.426 1.12	1.99	U
Gross Beta	pCi/L	50	1/Discharge	0.618 0.618	0.992	U
Combined Radium-226 & Radium-228	pCi/L	5.0	1/Discharge	0.605 0.364	NM	U
Strontium-90	pCi/L	8.0	1/Discharge	-0.227 0.237	0.457	U
Tritium	pCi/L	20,000	1/Discharge	51.8 201	333	U
ADDITIONAL POLLUTANTS						
Cesium-137	pCi/L	200	1/Discharge	1.70 6.75	7.96	U
Uranium	pCi/L	20	1/Discharge	0.238 0.177	0.174	
ADDITIONAL POLLUTANTS WITHOUT LIMITS						
Potassium-40	pCi/L	-	1/Discharge	39.3 88.0	91.4	U

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

OUTFALL 011
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				4/3/2023 11:30 - 4/5/2023 07:10		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY[p]**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	1.0332	*
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	7.8[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	ANR	ANR	ANR
Arsenic	LBS/DAY	9.83	1/Year	ANR	ANR	ANR
Beryllium	LBS/DAY	3.93	1/Year	ANR	ANR	ANR
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	ANR	ANR	ANR
Copper	LBS/DAY	13.76	1/Discharge	Composite	0.018	*
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	ANR	ANR	ANR
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	0.0095[e]	J (DNQ*)
Silver	LBS/DAY	4.03	1/Year	ANR	ANR	ANR
TCDD TEQ_NoDNQ[(4)]	LBS/DAY	2.75E-08	1/Discharge	Composite	ND	U*
Thallium	LBS/DAY	1.97	1/Year	ANR	ANR	ANR
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	ND	U*
Barium	LBS/DAY	983	1/Year	ANR	ANR	ANR
Chloride	LBS/DAY	147,405	1/Discharge	Composite	60	*
Chlorine, Total Residual (Field)	LBS/DAY	98.3	1/Year	ANR	ANR	ANR
Detergents (as MBAS)	LBS/DAY	491.4	1/Discharge	Composite	0.49	J (DNQ*)
Fluoride	LBS/DAY	1,572.3	1/Year	ANR	ANR	ANR
Iron	LBS/DAY	295	1/Discharge[r]	Composite	0.07	J (DNQ*)
Manganese	LBS/DAY	49.1	1/Discharge[r]	Composite	0.062	*
Nitrate - N	LBS/DAY	7,862	1/Discharge	Composite	1.0	*
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	7,862	1/Discharge	Composite	1.0	*
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	350	*
Total Dissolved Solids	LBS/DAY	933,567	1/Discharge	Composite	1,600	*

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

OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				6/5/2023 15:15 - 6/7/2023 08:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	1.5349	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	mg/L	30	1/Discharge	Composite	4.4	*
Oil & Grease	mg/L	15	1/Discharge	Grab	ND < 0.51	U*
pH (Field)	s.u.	6.5-8.5	1/Discharge	Grab	7.26	*
Total Suspended Solids[#]	mg/L	45	1/Discharge	Composite	ND < 0.83	U*
PRIORITY POLLUTANTS						
1,1-Dichloroethene	µg/L	6.0	1/Discharge	Grab	ND < 0.67	U*
1,2-Dichloroethane	µg/L	0.5	1/Discharge	Grab	ND < 0.30	U*
2,4,6-Trichlorophenol	µg/L	13	1/Discharge	Composite	ND < 0.13	U*
2,4-Dinitrotoluene	µg/L	18	1/Discharge	Composite	ND < 0.11	U*
alpha-BHC	µg/L	0.03	1/Discharge	Composite	ND < 0.0012	U*
Antimony	µg/L	6.0	1/Year	ANR	ANR	ANR
Arsenic	µg/L	10.0	1/Year	ANR	ANR	ANR
Beryllium	µg/L	4.0	1/Year	ANR	ANR	ANR
Bis (2-Ethylhexyl) Phthalate	µg/L	4.0	1/Discharge	Composite	ND < 3.4	U*
Cadmium	µg/L	(4.0) 3.1	1/Discharge	Composite	ND < 0.13	U*
Chromium VI (Hexavalent)	µg/L	16	1/Year	ANR	ANR	ANR
Copper	µg/L	14	1/Discharge	Composite	ND < 0.32	U*
Cyanide	µg/L	8.5	1/Discharge	Composite	ND < 2.5	U*
Lead	µg/L	5.2	1/Discharge	Composite	ND < 0.12	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 < 0.18	U*
Pentachlorophenol	µg/L	16.5	1/Discharge	Composite	ND < 0.80	U*
Selenium	µg/L	(5) 8.2	1/Discharge	Composite	0.55[(e)]	J (DNQ*)
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 < 0.35	U*
Zinc	µg/L	119	1/Discharge	Composite	ND < 2.8	U*
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	mg/L	10.1	1/Discharge	Composite	0.070	J (DNQ*)
Barium	mg/L	1.0	1/Year	ANR	ANR	ANR
Chloride	mg/L	150	1/Discharge	Composite	25	*
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 < 0.050	U*
Fluoride	mg/L	1.6	1/Year	ANR	ANR	ANR
Iron	mg/L	0.3	1/Year	ANR	ANR	ANR
Manganese	µg/L	50	1/Year	ANR	ANR	ANR
Nitrate - N	mg/L	8	1/Discharge	Composite	ND < 0.020	U*
Nitrate + Nitrite as Nitrogen (N)	mg/L	8	1/Discharge	Composite	ND < 0.020	U*
Nitrite - N	mg/L	1	1/Discharge	Composite	ND < 0.043	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	120	*
Temperature (Field)	Deg F	86	1/Discharge	Grab	68.8	*
Total Dissolved Solids	mg/L	950	1/Discharge	Composite	470	*
REMAINING PRIORITY POLLUTANTS[(p)]						
1,1,1-Trichloroethane	µg/L	-	1/Quarter	Grab	ND < 0.50	U*
1,1,2,2-Tetrachloroethane	µg/L	-	1/Quarter	Grab	ND < 0.40	U*
1,1,2-Trichloroethane	µg/L	-	1/Quarter	Grab	ND < 0.35	U*
1,1-Dichloroethane	µg/L	-	1/Quarter	Grab	ND < 0.79	U*
1,2,4-Trichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Dichlorobenzene (VOC)	µg/L	-	1/Quarter	Grab	ND < 0.33	U*
1,2-Dichlorobenzene (SVOC)	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Dichloropropane	µg/L	-	1/Quarter	Grab	ND < 0.34	U*
1,2-Diphenylhydrazine/Azobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,3-Dichlorobenzene (VOC)	µg/L	-	1/Quarter	Grab	ND < 0.31	U*
1,3-Dichlorobenzene (SVOC)	µg/L	-	1/Year	ANR	ANR	ANR

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OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				6/5/2023 15:15 - 6/7/2023 08:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
1,4-Dichlorobenzene (VOC)	µg/L	-	1/Quarter	Grab	ND < 0.23	U*
1,4-Dichlorobenzene (SVOC)	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	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/Quarter	Grab	ND < 9.3	U*
Acrylonitrile	µg/L	-	1/Quarter	Grab	ND < 2.9	U*
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/Quarter	Grab	ND < 0.56	U*
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/Quarter	Grab	ND < 0.50	U*
Bromomethane (Methyl Bromide)	µg/L	-	1/Quarter	Grab	ND < 0.45	U*
Butyl benzylphthalate	µg/L	-	1/Year	ANR	ANR	ANR
Carbon tetrachloride	µg/L	-	1/Quarter	Grab	ND < 0.55	U*
Chlordane	µg/L	-	1/Year	ANR	ANR	ANR
Chlorobenzene	µg/L	-	1/Quarter	Grab	ND < 0.37	U*
Chlorodibromomethane	µg/L	-	1/Quarter	Grab	ND < 0.31	U*
Chloroethane	µg/L	-	1/Quarter	Grab	ND < 0.57	U*
Chloroform	µg/L	-	1/Quarter	Grab	ND < 0.37	U*
Chloromethane (Methyl Chloride)	µg/L	-	1/Quarter	Grab	ND < 0.61	U*
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/Quarter	Grab	ND < 0.60	U*
delta-BHC	µg/L	-	1/Year	ANR	ANR	ANR
Dibenzo(a,h)anthracene	µg/L	-	1/Year	ANR	ANR	ANR

OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				6/5/2023 15:15 - 6/7/2023 08:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Dichlorobromomethane	µg/L	-	1/Quarter	Grab	ND < 0.38	U*
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/Quarter	Grab	ND < 0.49	U*
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	Grab	ND < 0.33	U*
Methylene chloride	µg/L	-	1/Quarter	Grab	ND < 1.1	U*
Naphthalene (VOC)	µg/L	-	1/Year	Grab	ND < 0.65	U*
Naphthalene (SVOC)	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	Grab	ND < 0.29	U*
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/Quarter	Grab	ND < 0.43	U*
Toluene	µg/L	-	1/Quarter	Grab	ND < 0.47	U*
Toxaphene	µg/L	-	1/Year	ANR	ANR	ANR
trans-1,2-Dichloroethene	µg/L	-	1/Quarter	Grab	ND < 0.48	U*
trans-1,3-Dichloropropene	µg/L	-	1/Quarter	Grab	ND < 0.36	U*
Trichlorofluoromethane	µg/L	-	1/Year	Grab	ND < 0.58	U*
Vinyl chloride	µg/L	-	1/Quarter	Grab	ND < 0.94	U*
Xylenes (Total)	µg/L	-	1/Year	Grab	ND < 0.33	U*
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS						
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	-	1/Quarter	Grab	ND < 0.66	U*
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
cis-1,2-Dichloroethene	µg/L	-	1/Year	Grab	ND < 0.41	U*
Cobalt	µg/L	-	1/Year	ANR	ANR	ANR
Conductivity	µmhos/cm	-	1/Discharge	Grab	740	*
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	8.66	*
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

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OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				6/5/2023 15:15 - 6/7/2023 08:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
ADDITIONAL POLLUTANTS[(2)]						
Aluminum, dissolved	µg/L	-	Additional/Year	Composite	56	*
Aluminum, (Total)	µg/L	-	Additional/Year	Composite	60	*
Antimony, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Arsenic, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
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	0.23	J (DNQ*)
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	ND < 0.32	U*
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	ANR	ANR	ANR
Lead, dissolved	µg/L	-	Additional/Discharge	Composite	0.27	J (DNQ*)
Manganese, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Mercury, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.12	U*
Nickel, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Selenium, dissolved	µg/L	-	Additional/Discharge	Composite	0.96	J (DNQ*)
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 < 2.8	U*

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OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

					6/7/2023 08:00 (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	4.0E-07	1.2E-06	U (B)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	0.01	0.01	µg/L	2.1E-06	ND	U	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	0.01	0.4	µg/L	2.5E-06	ND	U	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	0.1	0.3	µg/L	4.3E-07	1.8E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	0.1	0.08	µg/L	2.5E-07	ND	U	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	0.1	0.1	µg/L	4.3E-07	ND	U	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	0.1	0.2	µg/L	2.4E-07	ND	U	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	0.1	0.1	µg/L	4.1E-07	ND	U	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	0.1	0.6	µg/L	3.0E-07	ND	U	**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	2.7E-07	ND	U	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	0.1	0.7	µg/L	2.3E-07	ND	U	**ND**
2,3,4,7,8-PeCDF	1/Discharge	0.5	1.6	µg/L	2.8E-07	ND	U	**ND**
2,3,7,8-TCDD	1/Discharge	1.0	1.0	µg/L	7.0E-07	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	0.1	0.8	µg/L	2.3E-07	ND	U	**ND**
OCDD	1/Discharge	0.0001	0.01	µg/L	7.3E-07	7.6E-06	U (B)	**ND**
OCDF	1/Discharge	0.0001	0.02	µg/L	5.2E-07	ND	U	**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 018
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				6/7/2023 08:00 (Composite)		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS						
Gross Alpha	pCi/L	15	1/Discharge	-2.83 ± 2.43	5.60	U*
Gross Beta	pCi/L	50	1/Discharge	1.13 ± 0.922	1.44	U*
Combined Radium-226 & Radium-228	pCi/L	5	1/Discharge	0.981 ± 0.643	NM	U*
Strontium-90	pCi/L	8	1/Discharge	0.00401 ± 0.351	0.637	U*
Tritium	pCi/L	20,000	1/Discharge	63.1 ± 163	285	U*
ADDITIONAL POLLUTANTS						
Cesium-137	pCi/L	200	1/Discharge	1.04 ± 10.7	13.7	U*
Uranium	pCi/L	20	1/Discharge	1.98 ± 0.434	0.140	*
ADDITIONAL POLLUTANTS WITHOUT LIMITS						
Potassium-40	pCi/L	-	1/Discharge	-12.7 ± 124	176	U*

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

OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

				6/5/2023 15:15 - 6/7/2023 08:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	1.5349	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	LBS/DAY	29,481	1/Discharge	Composite	56	*
Oil & Grease	LBS/DAY	14,741	1/Discharge	Grab	ND	U*
Total Suspended Solids[#]	LBS/DAY	44,222	1/Discharge	Composite	ND	U*
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	ANR	ANR	ANR
Arsenic	LBS/DAY	9.83	1/Year	ANR	ANR	ANR
Beryllium	LBS/DAY	3.93	1/Year	ANR	ANR	ANR
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	ANR	ANR	ANR
Copper	LBS/DAY	13.76	1/Discharge	Composite	ND	U*
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	ANR	ANR	ANR
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	0.007[(e)]	J (DNQ*)
Silver	LBS/DAY	4.03	1/Year	ANR	ANR	ANR
TCDD TEQ_NoDNQ[(4)]	LBS/DAY	2.75E-08	1/Discharge	Composite	ND	U*
Thallium	LBS/DAY	1.97	1/Year	ANR	ANR	ANR
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	0.90	J (DNQ*)
Barium	LBS/DAY	983	1/Year	ANR	ANR	ANR
Chloride	LBS/DAY	147,405	1/Discharge	Composite	320	*
Chlorine, Total Residual (Field)	LBS/DAY	98.3	1/Year	ANR	ANR	ANR
Detergents (as MBAS)	LBS/DAY	491.4	1/Discharge	Composite	ND	U*
Fluoride	LBS/DAY	1,572.3	1/Year	ANR	ANR	ANR
Iron	LBS/DAY	295	1/Year	ANR	ANR	ANR
Manganese	LBS/DAY	49.1	1/Year	ANR	ANR	ANR
Nitrate - N	LBS/DAY	7,862	1/Discharge	Composite	ND	U*
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	7,862	1/Discharge	Composite	ND	U*
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	1,500	*
Total Dissolved Solids	LBS/DAY	933,567	1/Discharge	Composite	6,000	*

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

APPENDIX D
Second Quarter 2023 NPDES Permit Limit
Exceedances and/or Non-Compliance

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

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

DAILY MAXIMUM BENCHMARK EXCEEDANCES AND/OR NON-COMPLIANCE							
OUTFALL	**SAMPLE DATE**	**SAMPLE TYPE**	**ANALYTE**	**DAILY MAXIMUM BENCHMARK LIMIT**	**RESULT**	**UNITS**	**LABORATORY/ VALIDATION QUALIFIER**
Outfall 002	5/5/2023	Comp	Sulfate	300	380	mg/L	*

RECEIVING WATER SEDIMENT LIMIT EXCEEDANCES							
LOCATION	**SAMPLE DATE**	**SAMPLE TYPE**	**ANALYTE**	**RECEIVING WATER SEDIMENT LIMIT**	**RESULT**	**UNITS**	**LABORATORY/ VALIDATION QUALIFIER**
Arroyo Simi (RSW-002)	5/9/2023	Grab	4,4'-DDE	0.0014	0.0016	µg/g	*

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

APPENDIX E
Second Quarter 2023 Analytical Laboratory Reports, Chain of Custody Forms, and Validation Reports

APPENDIX E

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Number	Outfall/Location	Eurofins Calscience Laboratory Report Number	Sampling Date
1	Arroyo Simi	570-137698-1	May 9, 2023
2	Arroyo Simi	570-137698-2	May 9, 2023
3	Arroyo Simi	570-137698-3	May 9, 2023
4	Arroyo Simi	570-137696-1	May 9, 2023
5	Arroyo Simi	570-137700-1	May 9, 2023
6	Arroyo Simi	570-137700-2	May 9, 2023
7	Outfall 001	570-133560-1	April 4, 2023
8	Outfall 001	570-133757-1	April 5, 2023
9	Outfall 001	570-133757-2	April 5, 2023
10	Outfall 001	570-133757-3	April 5, 2023
11	Outfall 001	570-133757-4	April 5, 2023
12	Outfall 002	570-137212-1	May 4, 2023
13	Outfall 002	570-137456-1	May 5, 2023
14	Outfall 002	570-137456-2	May 5, 2023
15	Outfall 002	570-137456-3	May 5, 2023
16	Outfall 002	570-137456-4	May 5, 2023
17	Outfall 002	570-140562-1	June 6, 2023
18	Outfall 002	570-140746-1	June 7, 2023
19	Outfall 002	570-140746-2	June 7, 2023
20	Outfall 002	570-140746-3	June 7, 2023
21	Outfall 011	570-133559-1	April 3, 2023
22	Outfall 011	570-133752-1	April 5, 2023
23	Outfall 011	570-133752-2	April 5, 2023
24	Outfall 011	570-133752-3	April 5, 2023
25	Outfall 018	570-140560-1	June 5, 2023
26	Outfall 018	570-140737-1	June 7, 2023
27	Outfall 018	570-140737-2	June 7, 2023
28	Outfall 018	570-140737-3	June 7, 2023

Number	Outfall/Location	Data Usability Summary Reports (Validation Reports)	Sampling Date
29	Various	01_2023_NPDES_Q2_608.3	April 5, 2023
30	Various	02_2023_NPDES_Q2_Diox	5 April through 7 June 2023

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

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JOB DESCRIPTION

Boeing NPDES SSFL - Arroyo Sediment
SDG NUMBER Simi-Frontier Park

JOB NUMBER

570-137698-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

myEOL

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

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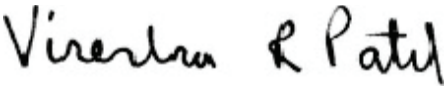

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Authorized for release by
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Definitions/Glossary

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

Job ID: 570-137698-1
SDG: Simi-Frontier Park

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
PI	Primary and confirm results varied by > than 40% RPD

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: 570-137698-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-137698-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 5/22/2023. The report (revision 1) is being revised due to: The client requested NH3 (Total Ammonia) to be reported..

Receipt
The sample was received on 5/9/2023 6:25 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 2.2º 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 3546: The following samples required a mercury clean-up, via EPA Method 3660A, to reduce matrix interferences caused by sulfur: Arroyo_Simi-Sed_20230509 (570-137698-1), (570-137698-A-1 MS) and (570-137698-A-1 MSD). The reagent lot number used was: 3262889.
Method 8081/82_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.
Project/Site: Boeing NPDES SSFL - Arroyo Sediment

Job ID: 570-137698-1
SDG: Simi-Frontier Park

Client Sample ID: Arroyo_Simi-Sed_20230509 — Lab Sample ID: 570-137698-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDE	1.6	PI	1.0	0.14	ug/Kg	1		8081A	Total/NA
Clay (less than 0.00391 mm)	0.84		0.01	0.01	%	1		D4464	Total/NA
Coarse Sand (0.5mm to 1mm)	48.62		0.01	0.01	%	1		D4464	Total/NA
Fine Sand (0.125 to 0.25mm)	5.53		0.01	0.01	%	1		D4464	Total/NA
Gravel (greater than 2 mm)	6.24		0.01	0.01	%	1		D4464	Total/NA
Medium Sand (0.25 to 0.5 mm)	25.45		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	2.94		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	3.77		0.01	0.01	%	1		D4464	Total/NA
Very Coarse Sand (1 to 2mm)	8.31		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	2.07		0.01	0.01	%	1		D4464	Total/NA

This Detection Summary does not include radiochemical test results.

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

Job ID: 570-137698-1
SDG: Simi-Frontier Park

Method: SW846 8081A - Organochlorine Pesticides (GC)

Client Sample ID: Arroyo_Simi-Sed_20230509
Date Collected: 05/09/23 07:45
Date Received: 05/09/23 18:25

Lab Sample ID: 570-137698-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.0	0.14	ug/Kg		05/10/23 11:06	05/17/23 16:41	1
4,4'-DDE	**1.6**	**PI**	1.0	0.14	ug/Kg		05/10/23 11:06	05/17/23 16:41	1
4,4'-DDT	ND		1.0	0.23	ug/Kg		05/10/23 11:06	05/17/23 16:41	1
Chlordane (technical)	ND		5.0	0.81	ug/Kg		05/10/23 11:06	05/17/23 16:41	1
Dieldrin	ND		0.20	0.11	ug/Kg		05/10/23 11:06	05/17/23 16:41	1
Toxaphene	ND		5.0	3.1	ug/Kg		05/10/23 11:06	05/17/23 16:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*76*		*27 - 176*	*05/10/23 11:06*	*05/17/23 16:41*	*1*
Tetrachloro-m-xylene	*53*		*20 - 163*	*05/10/23 11:06*	*05/17/23 16:41*	*1*

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

Job ID: 570-137698-1
SDG: Simi-Frontier Park

Method: SW846 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: Arroyo_Simi-Sed_20230509
Date Collected: 05/09/23 07:45
Date Received: 05/09/23 18:25

Lab Sample ID: 570-137698-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	ND		10	7.8	ug/Kg		05/10/23 11:06	05/16/23 14:06	1
Aroclor-1221	ND		10	7.8	ug/Kg		05/10/23 11:06	05/16/23 14:06	1
Aroclor-1232	ND		10	7.8	ug/Kg		05/10/23 11:06	05/16/23 14:06	1
Aroclor-1242	ND		10	7.8	ug/Kg		05/10/23 11:06	05/16/23 14:06	1
Aroclor-1248	ND		10	7.8	ug/Kg		05/10/23 11:06	05/16/23 14:06	1
Aroclor-1254	ND		10	5.1	ug/Kg		05/10/23 11:06	05/16/23 14:06	1
Aroclor-1260	ND		10	5.1	ug/Kg		05/10/23 11:06	05/16/23 14:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*46*		*20 - 155*	*05/10/23 11:06*	*05/16/23 14:06*	*1*
Tetrachloro-m-xylene (Surr)	*71*		*25 - 126*	*05/10/23 11:06*	*05/16/23 14:06*	*1*

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

Job ID: 570-137698-1
SDG: Simi-Frontier Park

General Chemistry

Client Sample ID: Arroyo_Simi-Sed_20230509
Date Collected: 05/09/23 07:45
Date Received: 05/09/23 18:25

Lab Sample ID: 570-137698-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (SM22 2540G)	**67.2**		0.1	0.1	%			05/16/23 12:16	1
Percent Moisture (SM22 2540G)	**32.8**		0.1	0.1	%			05/16/23 12:16	1
Percent Moisture (SM Moisture - 2540)	**33**		0.10	0.10	%			05/16/23 12:16	1
Percent Solids (SM Moisture - 2540)	**67**		0.10	0.10	%			05/16/23 12:16	1
Ammonia (SM 4500 NH3 C)	ND		100	62.4	mg/Kg		05/12/23 15:51	05/12/23 16:54	1

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

Job ID: 570-137698-1
SDG: Simi-Frontier Park

Method: ASTM D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Client Sample ID: Arroyo_Simi-Sed_20230509
Date Collected: 05/09/23 07:45
Date Received: 05/09/23 18:25

Lab Sample ID: 570-137698-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	0.84		0.01	0.01	%			05/12/23 15:15	1
Coarse Sand (0.5mm to 1mm)	48.62		0.01	0.01	%			05/12/23 15:15	1
Fine Sand (0.125 to 0.25mm)	5.53		0.01	0.01	%			05/12/23 15:15	1
Gravel (greater than 2 mm)	6.24		0.01	0.01	%			05/12/23 15:15	1
Medium Sand (0.25 to 0.5 mm)	25.45		0.01	0.01	%			05/12/23 15:15	1
Silt (0.00391 to 0.0625mm)	2.94		0.01	0.01	%			05/12/23 15:15	1
Total Silt and Clay (0 to 0.0626mm)	3.77		0.01	0.01	%			05/12/23 15:15	1
Very Coarse Sand (1 to 2mm)	8.31		0.01	0.01	%			05/12/23 15:15	1
Very Fine Sand (0.0625 to 0.125 mm)	2.07		0.01	0.01	%			05/12/23 15:15	1

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

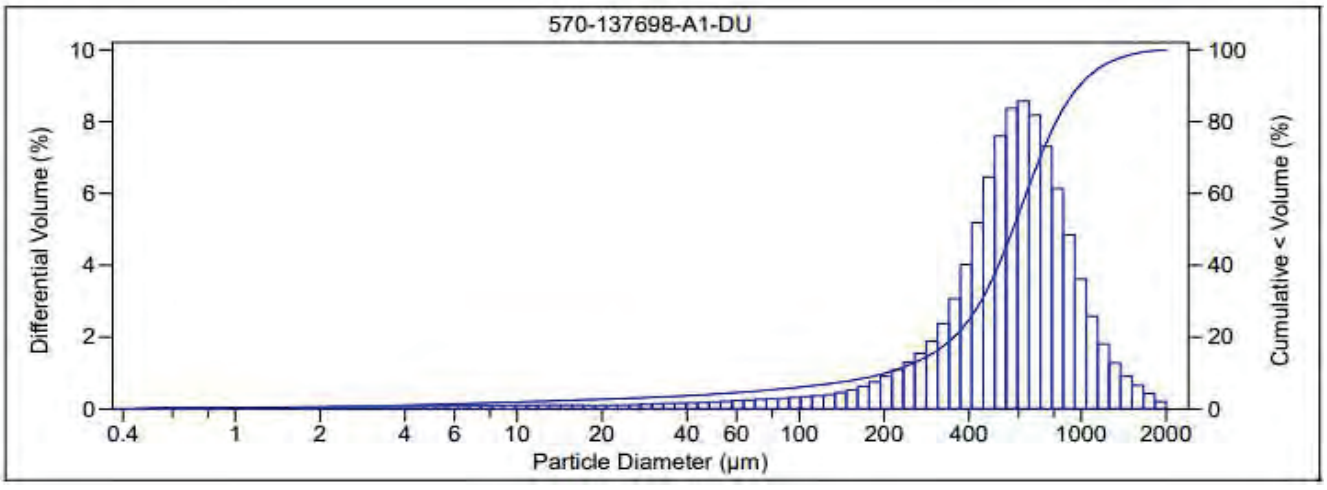
Haley & Aldrich, Inc

Date Sampled:	05/09/23
Date Received:	05/09/23
Work Order No:	570-137698
Date Analyzed:	05/12/23
Method:	ASTM D4464M

Project: Boeing NPDES SSFL - Arroyo Sediment

Sample ID	Depth ft	Description	Mean Grain Size mm
Arroyo_Simi-Sed_20230509		Coarse Sand	0.782

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
6.24	8.90	48.78	24.33	5.22	2.15	3.40	0.97	4.38



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

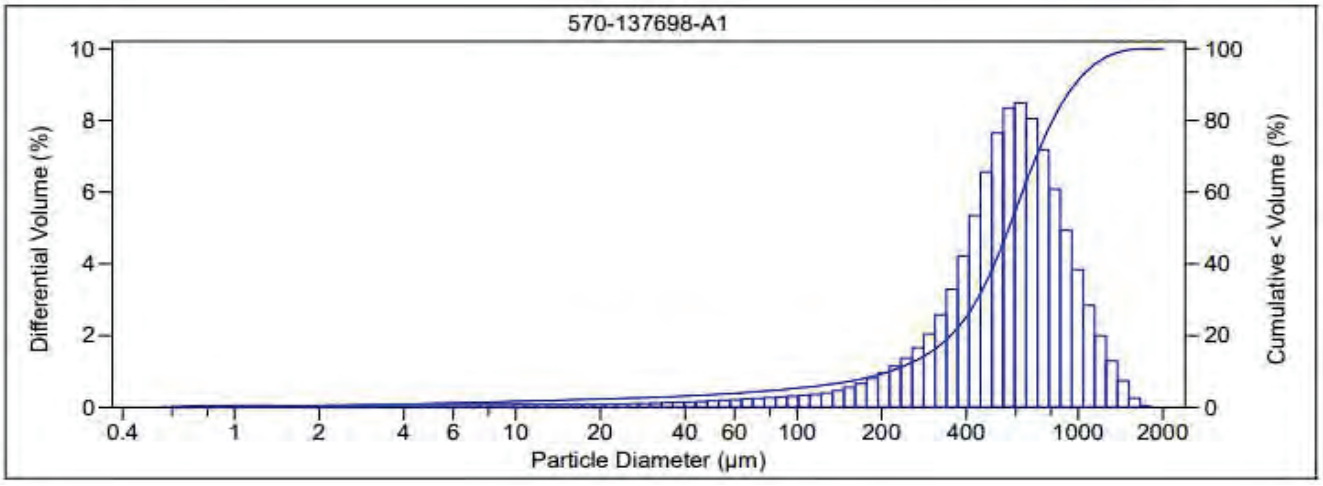
Haley & Aldrich, Inc

Date Sampled:	05/09/23
Date Received:	05/09/23
Work Order No:	570-137698
Date Analyzed:	05/12/23
Method:	ASTM D4464M

Project: Boeing NPDES SSFL - Arroyo Sediment

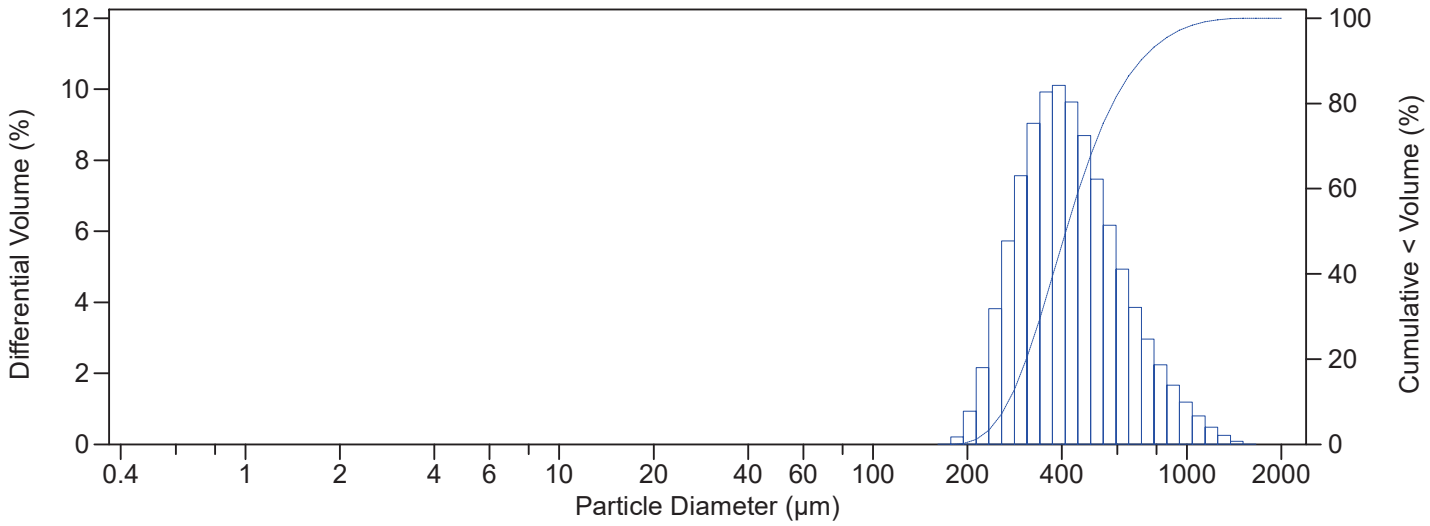
Sample ID	Depth ft	Description	Mean Grain Size mm
Arroyo_Simi-Sed_20230509		Coarse Sand	0.773

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
6.24	8.31	48.62	25.45	5.53	2.07	2.94	0.84	3.77



V 3.0

File name:	C:\LS13320\STD SAND_12 May 2023_15.30.27.$ls		
	STD SAND_12 May 2023_15.30.27.$ls		
File ID:	STD SAND		
Sample ID:	STD SAND		
Operator:	C6FB		
Run number:	3		
	Control Sample		
Comment 1:	ASTM D4464M, LPSA1		
Comment 2:	1986948		
Optical model:	Fraunhofer.rf780d		
Residual:	0.58%		
LS 13 320	Aqueous Liquid Module		
Start time:	15:29 12 May 2023	Run length:	60 seconds
Pump speed:	49		
Obscuration:	9%		
Fluid:	Water		
Software:	6.01	Firmware:	4.00



Volume Statistics (Arithmetic) STD SAND_12 May 2023_15.30.27.$ls

Calculations from 0.375 µm to 2000 µm

Volume:	100%		
Mean:	458.8 µm	S.D.:	190.7 µm
Median:	411.6 µm	Variance:	36360 µm^2
Mean/Median ratio:	1.115	Skewness:	1.528 Right skewed
Mode:	391.0 µm	Kurtosis:	2.995 Leptokurtic

d_{10}: 269.4 µm d_{50}: 411.6 µm d_{90}: 712.2 µm

Folk and Ward Statistics (Phi)

Mean:	1.24	Median:	1.28	Deviation:	0.54
Skewness:	-0.13	Kurtosis:	1.00		

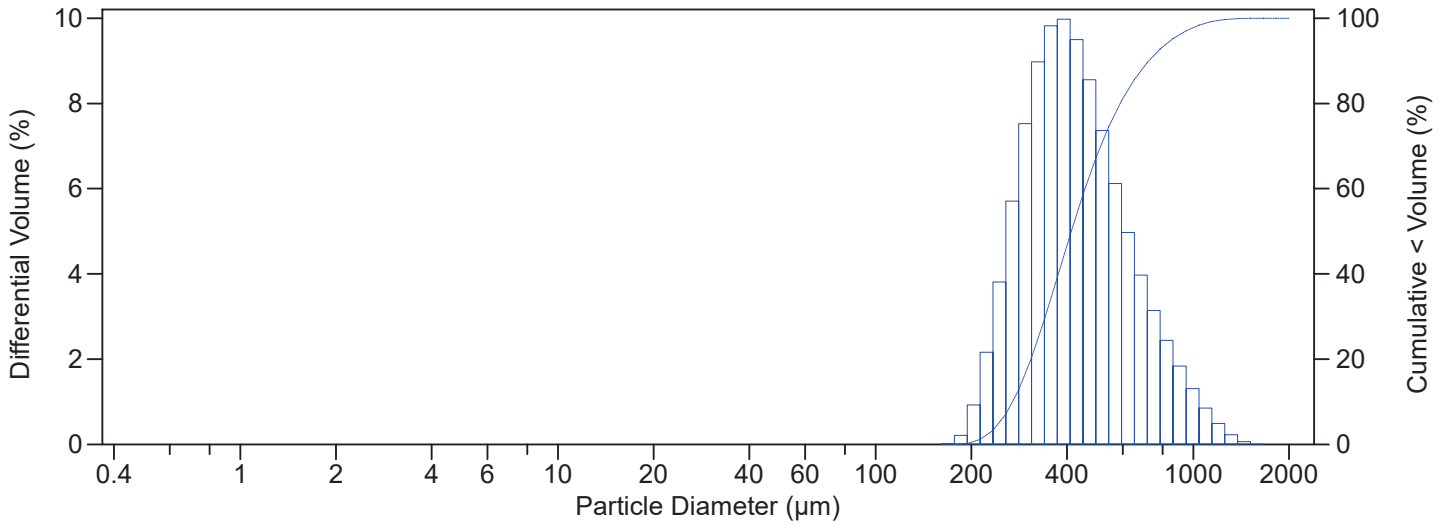
<5%	<16%	<25%	<40%	<50%	<75%	<84%	<95%
244.1 µm	293.4 µm	324.9 µm	375.3 µm	411.6 µm	539.8 µm	624.4 µm	847.1 µm

Particle Diameter µm	STD SAND _12 May 2023_15.30 .27.$ls Volume %
0.04	0
0.4	0
1.95	0
3.91	0
62.5	0
125	5.99
250	62.9
500	29.0
1000	2.18
2000	

STD SAND_12 May 2023_15.30.27.$ls

Channel Diameter (Lower) µm	Diff. Volume %	Channel Diameter (Lower) µm	Diff. Volume %	Channel Diameter (Lower) µm	Diff. Volume %
0.375	0	20.71	0	1143	0.49
0.412	0	22.73	0	1255	0.25
0.452	0	24.95	0	1377	0.091
0.496	0	27.39	0	1512	0.013
0.545	0	30.07	0	1660	0.00031
0.598	0	33.01	0	1822	0
0.657	0	36.24	0	2000	
0.721	0	39.78	0		
0.791	0	43.67	0		
0.869	0	47.94	0		
0.954	0	52.63	0		
1.047	0	57.77	0		
1.149	0	63.42	0		
1.261	0	69.62	0		
1.385	0	76.43	0		
1.520	0	83.90	0		
1.669	0	92.10	0		
1.832	0	101.1	0		
2.011	0	111.0	0		
2.208	0	121.8	0		
2.423	0	133.7	0		
2.660	0	146.8	0		
2.920	0	161.2	0.012		
3.206	0	176.9	0.21		
3.519	0	194.2	0.93		
3.863	0	213.2	2.17		
4.241	0	234.1	3.82		
4.656	0	256.9	5.73		
5.111	0	282.1	7.57		
5.611	0	309.6	9.04		
6.159	0	339.9	9.92		
6.761	0	373.1	10.1		
7.422	0	409.6	9.64		
8.148	0	449.7	8.70		
8.944	0	493.6	7.47		
9.819	0	541.9	6.17		
10.78	0	594.9	4.93		
11.83	0	653.0	3.86		
12.99	0	716.9	2.96		
14.26	0	786.9	2.24		
15.65	0	863.9	1.67		
17.18	0	948.3	1.19		
18.86	0	1041	0.80		

File name:	C:\LS13320\STD SAND_12 May 2023_16.17.28.$ls		
	STD SAND_12 May 2023_16.17.28.$ls		
File ID:	STD SAND		
Sample ID:	STD SAND		
Operator:	C6FB		
Run number:	5		
	Control Sample		
Comment 1:	ASTM D4464M, LPSA1		
Comment 2:	1986948		
Optical model:	Fraunhofer.rf780d		
Residual:	0.59%		
LS 13 320	Aqueous Liquid Module		
Start time:	16:16 12 May 2023	Run length:	60 seconds
Pump speed:	49		
Obscuration:	9%		
Fluid:	Water		
Software:	6.01	Firmware:	4.00



Volume Statistics (Arithmetic) STD SAND_12 May 2023_16.17.28.$ls

Calculations from 0.375 µm to 2000 µm

Volume:	100%		
Mean:	462.0 µm	S.D.:	192.7 µm
Median:	413.3 µm	Variance:	37151 µm^2
Mean/Median ratio:	1.118	Skewness:	1.449 Right skewed
Mode:	391.0 µm	Kurtosis:	2.501 Leptokurtic

d_{10}: 269.6 µm d_{50}: 413.3 µm d_{90}: 725.5 µm

Folk and Ward Statistics (Phi)

Mean:	1.23	Median:	1.27	Deviation:	0.55
Skewness:	-0.14	Kurtosis:	0.99		

<5%	<16%	<25%	<40%	<50%	<75%	<84%	<95%
244.2 µm	293.7 µm	325.3 µm	376.2 µm	413.3 µm	545.8 µm	633.9 µm	857.6 µm

Particle Diameter µm	STD SAND _12 May 2023_16.17 .28.$ls Volume %
0.04	0
0.4	0
1.95	0
3.91	0
62.5	0
125	5.97
250	62.2
500	29.6
1000	2.23
2000	

STD SAND_12 May 2023_16.17.28.$ls

Channel Diameter (Lower) µm	Diff. Volume %	Channel Diameter (Lower) µm	Diff. Volume %	Channel Diameter (Lower) µm	Diff. Volume %
0.375	0	20.71	0	1143	0.49
0.412	0	22.73	0	1255	0.23
0.452	0	24.95	0	1377	0.064
0.496	0	27.39	0	1512	0.0045
0.545	0	30.07	0	1660	0
0.598	0	33.01	0	1822	0
0.657	0	36.24	0	2000	
0.721	0	39.78	0		
0.791	0	43.67	0		
0.869	0	47.94	0		
0.954	0	52.63	0		
1.047	0	57.77	0		
1.149	0	63.42	0		
1.261	0	69.62	0		
1.385	0	76.43	0		
1.520	0	83.90	0		
1.669	0	92.10	0		
1.832	0	101.1	0		
2.011	0	111.0	0		
2.208	0	121.8	0		
2.423	0	133.7	0		
2.660	0	146.8	0		
2.920	0	161.2	0.012		
3.206	0	176.9	0.21		
3.519	0	194.2	0.93		
3.863	0	213.2	2.16		
4.241	0	234.1	3.81		
4.656	0	256.9	5.71		
5.111	0	282.1	7.52		
5.611	0	309.6	8.97		
6.159	0	339.9	9.82		
6.761	0	373.1	9.98		
7.422	0	409.6	9.50		
8.148	0	449.7	8.55		
8.944	0	493.6	7.36		
9.819	0	541.9	6.12		
10.78	0	594.9	4.97		
11.83	0	653.0	3.98		
12.99	0	716.9	3.14		
14.26	0	786.9	2.44		
15.65	0	863.9	1.84		
17.18	0	948.3	1.31		
18.86	0	1041	0.86		

Surrogate Summary

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

Job ID: 570-137698-1
SDG: Simi-Frontier Park

Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCB1	TCX1
Lab Sample ID	Client Sample ID	(27-176)	(20-163)
570-137698-1	Arroyo_Simi-Sed_20230509	76	53
570-137698-1 MS	Arroyo_Simi-Sed_20230509	77	60
570-137698-1 MSD	Arroyo_Simi-Sed_20230509	82	58
LCS 570-327851/2-A	Lab Control Sample	78	77
LCSD 570-327851/3-A	Lab Control Sample Dup	82	77

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)
TCX = Tetrachloro-m-xylene

Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCB2	TCX2
Lab Sample ID	Client Sample ID	(27-176)	(20-163)
MB 570-327851/1-A	Method Blank	83	86

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)
TCX = Tetrachloro-m-xylene

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCB1	TCX1
Lab Sample ID	Client Sample ID	(20-155)	(25-126)
570-137698-1	Arroyo_Simi-Sed_20230509	46	71
570-137698-1 MS	Arroyo_Simi-Sed_20230509	50	73
570-137698-1 MSD	Arroyo_Simi-Sed_20230509	41	64
LCS 570-327851/6-A	Lab Control Sample	67	81
LCSD 570-327851/7-A	Lab Control Sample Dup	70	82
MB 570-327851/1-A	Method Blank	77	87

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)
TCX = Tetrachloro-m-xylene (Surr)

Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 570-327851/1-A
Matrix: Solid
Analysis Batch: 329370

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 327851

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.0	0.14	ug/Kg		05/10/23 11:05	05/16/23 14:39	1
4,4'-DDE	ND		1.0	0.14	ug/Kg		05/10/23 11:05	05/16/23 14:39	1
4,4'-DDT	ND		1.0	0.23	ug/Kg		05/10/23 11:05	05/16/23 14:39	1
Chlordane (technical)	ND		5.0	0.82	ug/Kg		05/10/23 11:05	05/16/23 14:39	1
Dieldrin	ND		0.20	0.11	ug/Kg		05/10/23 11:05	05/16/23 14:39	1
Toxaphene	ND		5.0	3.1	ug/Kg		05/10/23 11:05	05/16/23 14:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*83*		*27 - 176*	*05/10/23 11:05*	*05/16/23 14:39*	*1*
Tetrachloro-m-xylene	*86*		*20 - 163*	*05/10/23 11:05*	*05/16/23 14:39*	*1*

Lab Sample ID: LCS 570-327851/2-A
Matrix: Solid
Analysis Batch: 329370

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 327851

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
4,4'-DDD			5.00	4.80		ug/Kg		96	41 - 140		
4,4'-DDE			5.00	4.77		ug/Kg		95	46 - 132		
4,4'-DDT			5.00	4.91		ug/Kg		98	40 - 136		
cis-Chlordane			5.00	4.78		ug/Kg		96	42 - 128		
Dieldrin			5.00	4.87		ug/Kg		97	40 - 130		
trans-Chlordane			5.00	4.98		ug/Kg		100	20 - 166		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*78*		*27 - 176*
Tetrachloro-m-xylene	*77*		*20 - 163*

Lab Sample ID: LCSD 570-327851/3-A
Matrix: Solid
Analysis Batch: 329370

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 327851

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
4,4'-DDD			5.00	4.98		ug/Kg		100	41 - 140	4	22
4,4'-DDE			5.00	4.99		ug/Kg		100	46 - 132	5	20
4,4'-DDT			5.00	5.10		ug/Kg		102	40 - 136	4	21
cis-Chlordane			5.00	4.96		ug/Kg		99	42 - 128	4	20
Dieldrin			5.00	5.04		ug/Kg		101	40 - 130	3	21
trans-Chlordane			5.00	5.17		ug/Kg		103	20 - 166	4	44

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*82*		*27 - 176*
Tetrachloro-m-xylene	*77*		*20 - 163*

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 570-137698-1 MS
Matrix: Solid
Analysis Batch: 329562

Client Sample ID: Arroyo_Simi-Sed_20230509
Prep Type: Total/NA
Prep Batch: 327851

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
4,4'-DDD	ND		4.92	3.21		ug/Kg		65	13 - 178
4,4'-DDE	1.6	PI	4.92	4.47		ug/Kg		58	10 - 174
4,4'-DDT	ND		4.92	3.13		ug/Kg		64	10 - 169
cis-Chlordane	ND		4.92	3.12		ug/Kg		63	10 - 153
Dieldrin	ND		4.92	3.02		ug/Kg		61	34 - 127
trans-Chlordane	ND		4.92	3.11	PI	ug/Kg		63	17 - 152

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*77*		*27 - 176*
Tetrachloro-m-xylene	*60*		*20 - 163*

Lab Sample ID: 570-137698-1 MSD
Matrix: Solid
Analysis Batch: 329562

Client Sample ID: Arroyo_Simi-Sed_20230509
Prep Type: Total/NA
Prep Batch: 327851

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
4,4'-DDD	ND		5.00	3.90		ug/Kg		78	13 - 178	19	40
4,4'-DDE	1.6	PI	5.00	5.26		ug/Kg		73	10 - 174	16	40
4,4'-DDT	ND		5.00	2.96		ug/Kg		59	10 - 169	6	40
cis-Chlordane	ND		5.00	3.59		ug/Kg		72	10 - 153	14	40
Dieldrin	ND		5.00	3.50		ug/Kg		70	34 - 127	15	40
trans-Chlordane	ND		5.00	3.63	PI	ug/Kg		73	17 - 152	15	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*82*		*27 - 176*
Tetrachloro-m-xylene	*58*		*20 - 163*

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 570-327851/1-A
Matrix: Solid
Analysis Batch: 328823

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 327851

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	ND		10	7.8	ug/Kg		05/10/23 11:05	05/13/23 19:20	1
Aroclor-1221	ND		10	7.8	ug/Kg		05/10/23 11:05	05/13/23 19:20	1
Aroclor-1232	ND		10	7.8	ug/Kg		05/10/23 11:05	05/13/23 19:20	1
Aroclor-1242	ND		10	7.8	ug/Kg		05/10/23 11:05	05/13/23 19:20	1
Aroclor-1248	ND		10	7.8	ug/Kg		05/10/23 11:05	05/13/23 19:20	1
Aroclor-1254	ND		10	5.1	ug/Kg		05/10/23 11:05	05/13/23 19:20	1
Aroclor-1260	ND		10	5.1	ug/Kg		05/10/23 11:05	05/13/23 19:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*77*		*20 - 155*	*05/10/23 11:05*	*05/13/23 19:20*	*1*
Tetrachloro-m-xylene (Surr)	*87*		*25 - 126*	*05/10/23 11:05*	*05/13/23 19:20*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC) (Continued)

Lab Sample ID: LCS 570-327851/6-A
Matrix: Solid
Analysis Batch: 328823

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 327851

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Aroclor-1016			20.0	17.8		ug/Kg		89	50 - 150		
Aroclor-1260			20.0	18.3		ug/Kg		92	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*67*		*20 - 155*
Tetrachloro-m-xylene (Surr)	*81*		*25 - 126*

Lab Sample ID: LCSD 570-327851/7-A
Matrix: Solid
Analysis Batch: 328823

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 327851

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aroclor-1016			20.0	22.7		ug/Kg		113	50 - 150	24	30
Aroclor-1260			20.0	20.0		ug/Kg		100	50 - 150	9	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*70*		*20 - 155*
Tetrachloro-m-xylene (Surr)	*82*		*25 - 126*

Lab Sample ID: 570-137698-1 MS
Matrix: Solid
Analysis Batch: 328985

Client Sample ID: Arroyo_Simi-Sed_20230509
Prep Type: Total/NA
Prep Batch: 327851

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Aroclor-1016	ND		19.3	16.9		ug/Kg		87	20 - 180		
Aroclor-1260	ND		19.3	15.8		ug/Kg		82	20 - 180		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*50*		*20 - 155*
Tetrachloro-m-xylene (Surr)	*73*		*25 - 126*

Lab Sample ID: 570-137698-1 MSD
Matrix: Solid
Analysis Batch: 328823

Client Sample ID: Arroyo_Simi-Sed_20230509
Prep Type: Total/NA
Prep Batch: 327851

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aroclor-1016	ND		19.9	14.2		ug/Kg		72	20 - 180	17	40
Aroclor-1260	ND		19.9	11.2		ug/Kg		56	20 - 180	34	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*41*		*20 - 155*
Tetrachloro-m-xylene (Surr)	*64*		*25 - 126*

Method: 2540G - SM 2540G

Lab Sample ID: 570-137698-1 DU
Matrix: Solid
Analysis Batch: 426131

Client Sample ID: Arroyo_Simi-Sed_20230509
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	67			66.6		%				0.8	20
Percent Moisture	33			33.4		%				2	20

Method: Moisture - 2540 - Percent Moisture

Lab Sample ID: 570-137698-1 DU
Matrix: Solid
Analysis Batch: 426131

Client Sample ID: Arroyo_Simi-Sed_20230509
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	33			33		%				2	20
Percent Solids	67			67		%				0.8	20

Method: SM 4500 NH3 C - Ammonia

Lab Sample ID: MB 570-328609/1-A
Matrix: Solid
Analysis Batch: 328635

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 328609

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		100	62.4	mg/Kg		05/12/23 12:33	05/12/23 13:56	1

Lab Sample ID: LCS 570-328609/2-A
Matrix: Solid
Analysis Batch: 328635

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 328609

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Ammonia			5000	5023		mg/Kg		100	80 - 120		

Lab Sample ID: LCSD 570-328609/3-A
Matrix: Solid
Analysis Batch: 328635

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 328609

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia			5000	4950		mg/Kg		99	80 - 120	1	20

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Lab Sample ID: 570-137698-1 DU
Matrix: Solid
Analysis Batch: 328656

Client Sample ID: Arroyo_Simi-Sed_20230509
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Clay (less than 0.00391 mm)	0.84			0.97		%				14	20
Coarse Sand (0.5mm to 1mm)	48.62			48.78		%				0.3	20
Fine Sand (0.125 to 0.25mm)	5.53			5.22		%				6	20
Gravel (greater than 2 mm)	6.24			6.24		%				0	20
Medium Sand (0.25 to 0.5 mm)	25.45			24.33		%				4	20
Silt (0.00391 to 0.0625mm)	2.94			3.40		%				15	20
Total Silt and Clay (0 to 0.0626mm)	3.77			4.38		%				15	20

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering) (Continued)

Lab Sample ID: 570-137698-1 DU
Matrix: Solid
Analysis Batch: 328656

Client Sample ID: Arroyo_Simi-Sed_20230509
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Very Coarse Sand (1 to 2mm)	8.31			8.90		%				7	20
Very Fine Sand (0.0625 to 0.125 mm)	2.07			2.15		%				4	20

GC Semi VOA

Prep Batch: 327851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137698-1	Arroyo_Simi-Sed_20230509	Total/NA	Solid	3546	
MB 570-327851/1-A	Method Blank	Total/NA	Solid	3546	
LCS 570-327851/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 570-327851/6-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 570-327851/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 570-327851/7-A	Lab Control Sample Dup	Total/NA	Solid	3546	
570-137698-1 MS	Arroyo_Simi-Sed_20230509	Total/NA	Solid	3546	
570-137698-1 MS	Arroyo_Simi-Sed_20230509	Total/NA	Solid	3546	
570-137698-1 MSD	Arroyo_Simi-Sed_20230509	Total/NA	Solid	3546	
570-137698-1 MSD	Arroyo_Simi-Sed_20230509	Total/NA	Solid	3546	

Analysis Batch: 328823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-327851/1-A	Method Blank	Total/NA	Solid	8082	327851
LCS 570-327851/6-A	Lab Control Sample	Total/NA	Solid	8082	327851
LCSD 570-327851/7-A	Lab Control Sample Dup	Total/NA	Solid	8082	327851
570-137698-1 MSD	Arroyo_Simi-Sed_20230509	Total/NA	Solid	8082	327851

Analysis Batch: 328985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137698-1	Arroyo_Simi-Sed_20230509	Total/NA	Solid	8082	327851
570-137698-1 MS	Arroyo_Simi-Sed_20230509	Total/NA	Solid	8082	327851

Analysis Batch: 329370

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-327851/1-A	Method Blank	Total/NA	Solid	8081A	327851
LCS 570-327851/2-A	Lab Control Sample	Total/NA	Solid	8081A	327851
LCSD 570-327851/3-A	Lab Control Sample Dup	Total/NA	Solid	8081A	327851

Analysis Batch: 329562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137698-1	Arroyo_Simi-Sed_20230509	Total/NA	Solid	8081A	327851
570-137698-1 MS	Arroyo_Simi-Sed_20230509	Total/NA	Solid	8081A	327851
570-137698-1 MSD	Arroyo_Simi-Sed_20230509	Total/NA	Solid	8081A	327851

General Chemistry

Prep Batch: 328609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137698-1	Arroyo_Simi-Sed_20230509	Total/NA	Solid	SM 4500 NH3 B	
MB 570-328609/1-A	Method Blank	Total/NA	Solid	SM 4500 NH3 B	
LCS 570-328609/2-A	Lab Control Sample	Total/NA	Solid	SM 4500 NH3 B	
LCSD 570-328609/3-A	Lab Control Sample Dup	Total/NA	Solid	SM 4500 NH3 B	

Analysis Batch: 328635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137698-1	Arroyo_Simi-Sed_20230509	Total/NA	Solid	SM 4500 NH3 C	328609
MB 570-328609/1-A	Method Blank	Total/NA	Solid	SM 4500 NH3 C	328609
LCS 570-328609/2-A	Lab Control Sample	Total/NA	Solid	SM 4500 NH3 C	328609
LCSD 570-328609/3-A	Lab Control Sample Dup	Total/NA	Solid	SM 4500 NH3 C	328609

General Chemistry

Analysis Batch: 426131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137698-1	Arroyo_Simi-Sed_20230509	Total/NA	Solid	2540G	
570-137698-1	Arroyo_Simi-Sed_20230509	Total/NA	Solid	Moisture - 2540	
570-137698-1 DU	Arroyo_Simi-Sed_20230509	Total/NA	Solid	2540G	
570-137698-1 DU	Arroyo_Simi-Sed_20230509	Total/NA	Solid	Moisture - 2540	

Geotechnical

Analysis Batch: 328656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137698-1	Arroyo_Simi-Sed_20230509	Total/NA	Solid	D4464	
LCS 570-328656/3	Lab Control Sample	Total/NA	Solid	D4464	
LCSD 570-328656/5	Lab Control Sample Dup	Total/NA	Solid	D4464	
570-137698-1 DU	Arroyo_Simi-Sed_20230509	Total/NA	Solid	D4464	

Lab Chronicle

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

Job ID: 570-137698-1
SDG: Simi-Frontier Park

Client Sample ID: Arroyo_Simi-Sed_20230509

Date Collected: 05/09/23 07:45
Date Received: 05/09/23 18:25

Lab Sample ID: 570-137698-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			20.07 g	2 mL	327851	05/10/23 11:06	E5RH	EET CAL 4
Total/NA	Analysis	8081A		1	1 mL	1 mL	329562	05/17/23 16:41	UJ3K	EET CAL 4
	Instrument ID: GC54A									
Total/NA	Prep	3546			20.07 g	2 mL	327851	05/10/23 11:06	E5RH	EET CAL 4
Total/NA	Analysis	8082		1	1 mL	1 mL	328985	05/16/23 14:06	OM8W	EET CAL 4
	Instrument ID: GC66									
Total/NA	Analysis	2540G		1			426131	05/16/23 12:16	JL	EET SEA
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Moisture - 2540		1			426131	05/16/23 12:16	JL	EET SEA
	Instrument ID: NOEQUIP									
Total/NA	Prep	SM 4500 NH3 B			0.5 g	200 mL	328609	05/12/23 15:51	LNW3	EET CAL 4
Total/NA	Analysis	SM 4500 NH3 C		1	200 mL	200 mL	328635	05/12/23 16:54	LNW3	EET CAL 4
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			328656	05/12/23 15:15	C6FB	EET CAL 4
	Instrument ID: NOEQUIP									

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

EET SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

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

Job ID: 570-137698-1
SDG: Simi-Frontier Park

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
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Kansas	NELAP	E-10420	07-31-23
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	06-01-23
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

Laboratory: Eurofins Seattle

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	20-004	02-19-25
ANAB	Dept. of Defense ELAP	L2236	01-19-25
ANAB	Dept. of Energy	L2236	01-19-25
ANAB	ISO/IEC 17025	L2236	01-19-25
Arkansas DEQ	State	8801526	05-23-23
California	State	2954	07-07-23
Florida	NELAP	E87575	06-30-23
Louisiana	NELAP	03073	06-30-23
Louisiana (All)	NELAP	03073	06-30-23
Maine	State	WA01273	05-02-24
Montana (UST)	State	NA	04-14-27
New Jersey	NELAP	WA014	06-30-23
New York	NELAP	11662	03-31-24
Oregon	NELAP	4167	07-07-23
US Fish & Wildlife	US Federal Programs	A20571	06-30-23
USDA	US Federal Programs	525-23-4-22573	01-04-26
Washington	State	C788	07-13-23
Wisconsin	State	399133460	08-31-23

Method Summary

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

Job ID: 570-137698-1
SDG: Simi-Frontier Park

Method	Method Description	Protocol	Laboratory
8081A	Organochlorine Pesticides (GC)	SW846	EET CAL 4
8082	Polychlorinated Biphenyls (PCBs) (GC)	SW846	EET CAL 4
2540G	SM 2540G	SM22	EET SEA
Moisture - 2540	Percent Moisture	SM	EET SEA
SM 4500 NH3 C	Ammonia	SM	EET CAL 4
D4464	Particle Size Distribution of Catalytic Material (Laser light scattering)	ASTM	EET CAL 4
3546	Microwave Extraction (Low Level)	SW846	EET CAL 4
SM 4500 NH3 B	Distillation, Ammonia	SM	EET CAL 4

Protocol References:

ASTM = ASTM International

SM = "Standard Methods For The Examination Of Water And Wastewater"

SM22 = Standard Methods For The Examination Of Water And Wastewater, 22nd Edition

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

EET SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Sample Summary

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

Job ID: 570-137698-1
SDG: Simi-Frontier Park

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-137698-1	Arroyo_Simi-Sed_20230509	Solid	05/09/23 07:45	05/09/23 18:25

137698

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

EDBPJ6UX

Client Name/Address: Haley & Aldrich, 5333 Mission Center Rd Suite 300, San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2015 **Annual Sediment Arroyo Simi-Frontier Park**	ANALYSIS REQUIRED	Field Readings	Meter serial #
Eurofins Calscience Irvine Contact: Virendra Patel, 2841 Dow Avenue, Suite 100, Tustin, CA 92780, Tel: 949-260-3218, **ECI Project # 57013187**	Project Manager: Katherine Miller, 520.289.8606, 520.904.6944 (cell)		**Field readings: (Include units)** Time of readings 0700	
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.			pH 6.51 pH unit; Temp 62.7 °C/(F); DO 4.05 mg/L; Conductivity 1960 µmhos/cm; Velocity 0.1 ft/sec	
Sampler: Adrien Mobeka	Field Manager: Mark Dominick, 978.234.5033, 818.599.0702 (cell)		**Field readings QC** Checked by: [signature] Date/Time: 5-9-2023 / 0700	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	A Total Ammonia (SM4500-NH3-D)	A Total Organic Carbon (9060)	A PCBs (SW8082)	A Chlordane, Dieldrin, Toxaphene, 4,4-DDD, 4,4-DDE, 4,4-DDT (SW8081A)	A 48-hour Bivalve Embryo toxicity (Mytilus edulis or Crassostrea gigas) (EPAR-95/136) **ABC Labs in Ventura, CA**	A Chronic 10-day echaustorius estuarius Toxicity (EPA/600/R-94/025) **ABC Labs in Ventura, CA**	A % Moisture (2540G)	A Particle Size Distribution (D422M)	Comments
Arroyo Simi	Arroyo_Simi-Sed_20230509	5/9/2023 / 0745	SE	9 oz Jar	1	None	165	No	X								
			SE	9 oz Jar	1	None	246	No		X							
			SE	9 oz Jar	1	None	280	No			X						
			SE	9 oz Jar	1	None	290	No				X					
			SE	1L wide mouth Plastic	3	None	295	No					X				Deliver to ABC Labs in Ventura, CA
			SE	1L wide mouth Plastic	4	4°C in the Dark	300	No						X			Keep sample in cooler in the dark until delivered to ABC Labs
			SE	9 oz Jar	1	None	305	No							X		
			SE	9 oz Jar	1	None	310	No								X	

Legend: A=Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	5-9-2023 / 1135	H:A	[signature] EC	5/9/23 1135
[signature]	5/9/23 1825	EC	[signature]	5/9/23 1825
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 ce: ___ Store samples for 6 months.

Data Requirements: (Check) No Level ___ All level IV: X

2.0/2.2 SCG

570-137698 Chain of Custody

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-224322.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-137698-1
Address: 5755 8th Street East, ,	Due Date Requested: 5/19/2023			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone: 253-922-2310(Tel)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Sediment	Project #: 57013187			
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, Y - Trizma, 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)	MOISTURE_2540G/ Percent Moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Arroyo_Simi-Sed_20230509 (570-137698-1)	5/9/23	07:45 Pacific		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our 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: 5/10/23 1504	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:

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-224322.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-137698-2
Address: 5755 8th Street East, ,	Due Date Requested: 5/25/2023			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone: 253-922-2310(Tel)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Sediment	Project #: 57013187			
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, Y - Trizma, 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)	9060A_DW/ Standard Soil TOC	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Arroyo_Simi-Sed_20230509 (570-137698-1)	5/9/23	07:45 Pacific		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our 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
Relinquished by:	Date/Time: 5/10/23 1504				
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
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

eurofins
Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-224322.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-137698-1
Address: 5755 8th Street East, ,	Due Date Requested: 5/19/2023			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone: 253-922-2310(Tel)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Sediment	Project #: 57013187			
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, Y - Trizma, 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)	MOISTURE_2540G/ Percent Moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Arroyo_Simi-Sed_20230509 (570-137698-1)	5/9/23	07:45 Pacific		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our 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		5/10/23 1504			5/11/23 1220	
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: 1.1c

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-224322.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-137698-2
Address: 5755 8th Street East, ,	Due Date Requested: 5/25/2023			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone: 253-922-2310(Tel)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Sediment	Project #: 57013187			
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, Y - Trizma, 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)	9060A_DW/ Standard Soil TOC	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Arroyo_Simi-Sed_20230509 (570-137698-1)	5/9/23	07:45 Pacific		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our 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: 5/10/23 1504	Company	Received by:	Date/Time: 5/11/23 1220	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.:	Cooler Temperature(s) °C and Other Remarks: 2.10 1.1c

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-137698-1
SDG Number: Simi-Frontier Park

Login Number: 137698
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: 570-137698-1
SDG Number: Simi-Frontier Park

Login Number: 137698
List Number: 2
Creator: Presley, Kim A

List Source: Eurofins Seattle
List Creation: 05/11/23 12:51 PM

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	IR10=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?	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.	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

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 6/5/2023 8:04:11 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Arroyo Sediment
SDG NUMBER Simi-Frontier Park

JOB NUMBER

570-137698-2

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

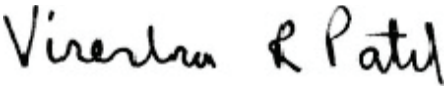
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization



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6/5/2023 8:04:11 AM

Authorized for release by
Virendra Patel, Project Manager I
Virendra.Patel@et.eurofinsus.com
(714)895-5494

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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 Sediment

Job ID: 570-137698-2
SDG: Simi-Frontier Park

Job ID: 570-137698-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-137698-2

Comments
No additional comments.

Receipt
The sample was received on 5/9/2023 6:25 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 2.2º C.

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

Detection Summary

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

Job ID: 570-137698-2
SDG: Simi-Frontier Park

Client Sample ID: Arroyo_Simi-Sed_20230509

Lab Sample ID: 570-137698-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	35000		20000	4500	mg/Kg	5	☼	9060A	Total/NA

This Detection Summary does not include radiochemical test results.

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

Job ID: 570-137698-2
SDG: Simi-Frontier Park

General Chemistry

Client Sample ID: Arroyo_Simi-Sed_20230509
Date Collected: 05/09/23 07:45
Date Received: 05/09/23 18:25

Lab Sample ID: 570-137698-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	35000		20000	4500	mg/Kg	☼		06/01/23 13:13	5

QC Sample Results

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

Job ID: 570-137698-2
SDG: Simi-Frontier Park

Method: 9060A - Organic Carbon, Total (TOC)

Lab Sample ID: MB 280-614689/4
Matrix: Solid
Analysis Batch: 614689

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
☼otal T rganic Carbon	ND		Q000	900	mg/Kg	4		05/31/23 10:53	1

Lab Sample ID: LCS 280-614689/3
Matrix: Solid
Analysis Batch: 614689

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
☼otal T rganic Carbon	5790	5260		mg/Kg	4	91	Q6 - 130

General Chemistry

Analysis Batch: 614689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137698-1	Arroyo_Simi-Sed_20230509	Total/NA	Solid	9060A	
MB 280-614689/4	Method Blank	Total/NA	Solid	9060A	
LCS 280-614689/3	Lab Control Sample	Total/NA	Solid	9060A	

Lab Chronicle

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

Job ID: 570-137698-2
SDG: Simi-Frontier Park

Client Sample ID: Arroyo_Simi-Sed_20230509
Date Collected: 05/09/23 07:45
Date Received: 05/09/23 18:25

Lab Sample ID: 570-137698-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060A		5	19.7 mg	19.7 mg	614689	06/01/23 13:13	KEG	EET DEN
	Instrument ID: WC_SHI6									

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-137698-2
Project/Site: Boeing NPDES SSFL - Arroyo Sediment
SDG: Simi-Frontier Park

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-24
Arizona	State	AZ0713	12-20-24
Arkansas DEQ	State	19-047-0	05-31-23 *
California	State	2513	01-08-24
Connecticut	State	PH-0686	09-30-24
Florida	NELAP	E87667-57	06-30-23
Georgia	State	4025-011	01-08-24
Illinois	NELAP	2000172019-1	04-30-24
Iowa	State	IA#370	12-01-24
Kansas	NELAP	E-10166	04-30-24
Kentucky (WW)	State	KY98047	12-31-23
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-23
Louisiana (All)	NELAP	30785	06-30-23
Minnesota	NELAP	1788752	12-31-23
Nevada	State	CO000262020-1	07-31-23
New Hampshire	NELAP	205319	04-28-24
New Jersey	NELAP	190002	06-30-23
New York	NELAP	59923	03-31-24
North Carolina (WW/SW)	State	358	12-31-23
North Dakota	State	R-034	01-08-24
Oklahoma	NELAP	8614	08-31-23
Oklahoma	State	2018-006	08-31-23
Oregon	NELAP	4025-011	01-10-24
Pennsylvania	NELAP	013	07-31-23
South Carolina	State	72002001	01-08-24
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	09-30-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-20-00065	12-19-25
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-23
Virginia	NELAP	12037	06-14-23
Washington	State	C583-19	08-03-23
West Virginia DEP	State	354	11-30-23
Wisconsin	State	999615430	08-31-23
Wyoming (UST)	A2LA	2907.01	10-31-22 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

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

Job ID: 570-137698-2
SDG: Simi-Frontier Park

Method	Method Description	Protocol	Laboratory
9060A	Organic Carbon, Total (TOC)	SW846	EET DEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: Haley & Aldrich, Inc.
k ro/ectBGite: g oeinN Ek DL G GGP_ - Arroyo GediF ent

Job ID: 570-137698-S
GDm: GiF i-Prontier k arj

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-137698-1	Arroyo2GiF i-Ged2S0S30509	Golid	05B09B53 07:45	05B09B53 18:S5

137698

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

EDBPJ6UX

Client Name/Address: Haley & Aldrich, 5333 Mission Center Rd Suite 300, San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2015 **Annual Sediment Arroyo Simi-Frontier Park**
Eurofins Calscience Irvine Contact: Virendra Patel, 2841 Dow Avenue, Suite 100, Tustin, CA 92780, Tel: 949-260-3218, **ECI Project # 57013187**	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: Adrien Mobeka	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Ammonia (SM4500-NH3-D)	Total Organic Carbon (9060)	PCBs (SW8082)	Chlordane, Dieldrin, Toxaphene, 4,4-DDD, 4,4-DDE, 4,4-DDT (SW8081A)	48-hour Bivalve Embryo toxicity (Mytilus edulis or Crassostrea gigas) (EPAR-95/136) **ABC Labs in Ventura, CA**	Chronic 10-day echaustorius estuarius Toxicity (EPA/600/R-94/025) **ABC Labs in Ventura, CA**	% Moisture (2540G)	Particle Size Distribution (D422M)	Comments
									A	A	A	A	A	A	A	A	
Arroyo Simi	Arroyo_Simi-Sed_20230509	5/9/2023 0745	SE	9 oz Jar	1	None	165	No	X								
			SE	9 oz Jar	1	None	246	No		X							
			SE	9 oz Jar	1	None	280	No			X						
			SE	9 oz Jar	1	None	290	No				X					
			SE	1L wide mouth Plastic	3	None	295	No					X				Deliver to ABC Labs in Ventura, CA
			SE	1L wide mouth Plastic	4	4°C in the Dark	300	No						X			Keep sample in cooler in the dark until delivered to ABC Labs
			SE	9 oz Jar	1	None	305	No							X		
			SE	9 oz Jar	1	None	310	No								X	

Legend: A=Annual

Field Readings	Meter serial #
Field readings: (Include units)	
Time of readings 0700	
pH 6.51 pH unit	
Temp 62.2 °C/(F)	
DO 4.05 mg/L	
Conductivity 1960 µmhos/cm	
Velocity 0.1 ft/sec	
Field readings QC	
Checked by: Mark Dominick	
Date/Time: 5-9-2023 / 0700	

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Mark Dominick	5-9-2023 / 1135	H&A	EC	5/9/23 1135
	5/9/23	1825 EC		5/9/23 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 _ All level IV: X

570-137698 Chain of Custody

2.0/2.2 SCG

2019-2020 Rainy Season
Version 2

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-224322.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-137698-1
Address: 5755 8th Street East, ,	Due Date Requested: 5/19/2023			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone: 253-922-2310(Tel)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Sediment	Project #: 57013187			
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, Y - Trizma, 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)	MOISTURE_2540G/ Percent Moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Arroyo_Simi-Sed_20230509 (570-137698-1)	5/9/23	07:45 Pacific		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our 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:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time: 5/10/23 1504	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
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-224322.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-137698-2
Address: 5755 8th Street East, ,	Due Date Requested: 5/25/2023			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone: 253-922-2310(Tel)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Sediment	Project #: 57013187			
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, Y - Trizma, 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)	9060A_DW/ Standard Soil TOC	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Arroyo_Simi-Sed_20230509 (570-137698-1)	5/9/23	07:45 Pacific		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our 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
	5/10/23 1504				
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 Seattle
5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 580-119895.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-137698-2
Address: 4955 Yarrow Street, ,	Due Date Requested: 6/2/2023			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Sediment	Project #: 57013187			
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
Y - Trizma
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)	9060A/ Solids - TOC	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Arroyo_Simi-Sed_20230509 (570-137698-1)	5/9/23	07:45 Pacific		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon our 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 Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northwest, 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 Northwest, 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:	Company	Received by:	Date/Time:	Company
1		5/16/23 1434	EETN		5-17-23 0820	ETADEN
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: 1.4°C IR14 CF0.1

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

Chain of Custody Record

eurofins Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-224322.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-137698-1
Address: 5755 8th Street East, ,	Due Date Requested: 5/19/2023			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone: 253-922-2310(Tel)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Sediment	Project #: 57013187			
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, Y - Trizma, 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)	MOISTURE_2540G/ Percent Moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Arroyo_Simi-Sed_20230509 (570-137698-1)	5/9/23	07:45 Pacific		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our 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		5/10/23 1504			5/11/23 1220	
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: 4.2 1.1c

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

Chain of Custody Record

eurofins Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-224322.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-137698-2
Address: 5755 8th Street East, ,	Due Date Requested: 5/25/2023			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone: 253-922-2310(Tel)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Sediment	Project #: 57013187			
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, Y - Trizma, 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)	9060A_DW/ Standard Soil TOC	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Arroyo_Simi-Sed_20230509 (570-137698-1)	5/9/23	07:45 Pacific		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our 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:	5/10/23 1504			5/11/23 1220	
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: 2.10 1.1c

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-137698-2
SDG Number: Simi-Frontier Park

Login Number: 137698
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: 570-137698-2
SDG Number: Simi-Frontier Park

Login Number: 137698
List Number: 3
Creator: Held, Wesley

List Source: Eurofins Denver
List Creation: 05/17/23 05:04 PM

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.	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	
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	
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 7/3/2023 2:13:53 PM

JOB DESCRIPTION

Boeing NPDES SSFL - Arroyo Sediment
SDG NUMBER Simi-Frontier Park

JOB NUMBER

570-137698-3

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

Virendra R Patil

Generated
7/3/2023 2:13:53 PM

Authorized for release by
Virendra Patel, Project Manager I
Virendra.Patel@et.eurofinsus.com
(714)895-5494

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Sample Summary 7
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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: 570-137698-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-137698-3

Comments
No additional comments.

Receipt
The sample was received on 5/9/2023 6:25 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 2.2º C.

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

Subcontract Work
Methods 48-hour Bivalve Embryo toxicity Mytilus edulis or Crassostrea gigas, Bioassay-Chronic 10 day eohaustorius: These methods were subcontracted to Aquatic Bioassay & Consulting. The subcontract laboratory certifications are different from that of the facility issuing the final report.

Method Summary

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

Job ID: 570-137698-3
SDG: Simi-Frontier Park

Method	Method Description	Protocol	Laboratory
Subcontract	48-hour Bivalve Embryo toxicity Mytilus edulis or Crassostrea gigas	None	Aquatic
Subcontract	Bioassay-Chronic 10 day eohaustorius	None	Aquatic

Protocol References:

None = None

Laboratory References:

Aquatic = Aquatic Bioassay & Consulting, 29 North Olive Street, Ventura, CA 93001

Sample Summary

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

Job ID: 570-137698-3
SDG: Simi-Frontier Park

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-137698-1	Arroyo_Simi-Sed_20230509	Solid	05/09/23 07:45	05/09/23 18:25

aquatic bioassay & consulting laboratories, inc

June 27, 2023

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

Dear Mr. Patel:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms, EPA/R-95/136.* Results were as follows:

CLIENT:	Eurofins Calscience LLC
SAMPLE I.D.:	Arroyo_Simi-Sed (570-137698-1)
DATE RECEIVED:	5/14/2023
ABC LAB. NO.:	EUR0523.147

CHRONIC MYTILUS SEDIMENT WATER INTERFACE BIOASSAY

NOEC	=	100.00 %
TUc	=	1.00
EC25	=	>100.00 %
EC50	=	>100.00 %

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 27 Jun-23 15:37 (p 1 of 1)
Test Code/ID: EUR0523.147m / 12-2661-9151

Mussel Shell Development Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	16-0378-7583	**Test Type:**	Development-Survival	**Analyst:**	Joe Freas		
Start Date:	16 May-23 13:01	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Water		
Ending Date:	18 May-23 13:01	**Species:**	Mytilus galloprovincialis	**Brine:**			
Test Length:	48h	**Taxon:**	Bivalvia	**Source:**	Carlsbad Aquafarms CA	**Age:**	
Sample ID:	11-3601-0030	**Code:**	EUR0523.147m	**Project:**	Boeing-SSFL NPDES		
Sample Date:	09 May-23 07:45	**Material:**	Sediment	**Source:**	Bioassay Report		
Receipt Date:	14 May-23 10:30	**CAS (PC):**		**Station:**	Arroyo_Simi-Sed_570-137698-1		
Sample Age:	7d 5h	**Client:**	Eurofins Calscience				

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result	S
13-9677-1113	Combined Proportion Norma	Equal Variance t Two-Sample Test	0.9946	100% passed combined proportion normal	1

Test Acceptability

				TAC Limits			
Analysis ID	**Endpoint**	**Attribute**	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
13-9677-1113	Combined Proportion Norma	PMSD	0.01295	<<	0.25	No	Passes Criteria

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	5	0.9632	0.9463	0.9801	0.9462	0.9821	0.0061	0.0136	1.41%	0.00%
100		5	0.9830	0.9783	0.9876	0.9776	0.9865	0.0017	0.0038	0.38%	-2.05%

Combined Proportion Normal Detail — MD5: 138804F2CFDB2F35B62B2831B98192F1

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	0.9462	0.9821	0.9552	0.9686	0.9641
100		0.9821	0.9865	0.9821	0.9865	0.9776

Combined Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	211/223	219/223	213/223	216/223	215/223
100		219/223	220/223	219/223	220/223	218/223

CETIS Analytical Report

Mussel Shell Development Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	13-9677-1113	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv2.1.4
Analyzed:	27 Jun-23 15:36	**Analysis:**	Parametric-Two Sample	**Status Level:**	1
Edit Date:	27 Jun-23 15:35	**MD5 Hash:**	138804F2CFDB2F35B62B2831B98192F1	**Editor ID:**	001-083-753-2
Batch ID:	16-0378-7583	**Test Type:**	Development-Survival	**Analyst:**	Joe Freas
Start Date:	16 May-23 13:01	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Water
Ending Date:	18 May-23 13:01	**Species:**	Mytilus galloprovincialis	**Brine:**	
Test Length:	48h	**Taxon:**	Bivalvia	**Source:**	Carlsbad Aquafarms CA **Age:**
Sample ID:	11-3601-0030	**Code:**	EUR0523.147m	**Project:**	Boeing-SSFL NPDES
Sample Date:	09 May-23 07:45	**Material:**	Sediment	**Source:**	Bioassay Report
Receipt Date:	14 May-23 10:30	**CAS (PC):**		**Station:**	Arroyo_Simi-Sed_570-137698-1
Sample Age:	7d 5h	**Client:**	Eurofins Calscience		

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed combined proportion normal endpoint	1.29%

Equal Variance t Two-Sample Test

Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		100	8	-3.302	1.86	0.03368	CDF	0.9946	Non-Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
PMSD	0.01295	<<	0.25	No	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0089412	0.0089412	1	10.9	0.0108	Significant Effect
Error	0.0065597	0.00082	8			
Total	0.015501		9			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Levene Equality of Variance Test	2.23	11.26	0.1737	Equal Variances
	Mod Levene Equality of Variance Test	3.671	13.75	0.1038	Equal Variances
	Variance Ratio F Test	6.926	23.15	0.0875	Equal Variances
Distribution	Anderson-Darling A2 Test	0.3601	3.878	0.4524	Normal Distribution
	D'Agostino Skewness Test	0.7896	2.576	0.4298	Normal Distribution
	Kolmogorov-Smirnov D Test	0.2014	0.3025	0.3245	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9497	0.7411	0.6654	Normal Distribution

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	0.9632	0.9463	0.9801	0.9641	0.9462	0.9821	0.0061	1.41%	0.00%
100		5	0.9830	0.9783	0.9876	0.9821	0.9776	0.9865	0.0017	0.38%	-2.05%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	1.3810	1.3340	1.4280	1.3800	1.3370	1.4360	0.0169	2.74%	0.00%
100		5	1.4410	1.4230	1.4580	1.4360	1.4200	1.4550	0.0064	1.00%	-4.33%

Combined Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	0.9462	0.9821	0.9552	0.9686	0.9641
100		0.9821	0.9865	0.9821	0.9865	0.9776

Mussel Shell Development Test — Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID:	13-9677-1113	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv2.1.4
Analyzed:	27 Jun-23 15:36	**Analysis:**	Parametric-Two Sample	**Status Level:**	1
Edit Date:	27 Jun-23 15:35	**MD5 Hash:**	138804F2CFDB2F35B62B2831B98192F1	**Editor ID:**	001-083-753-2

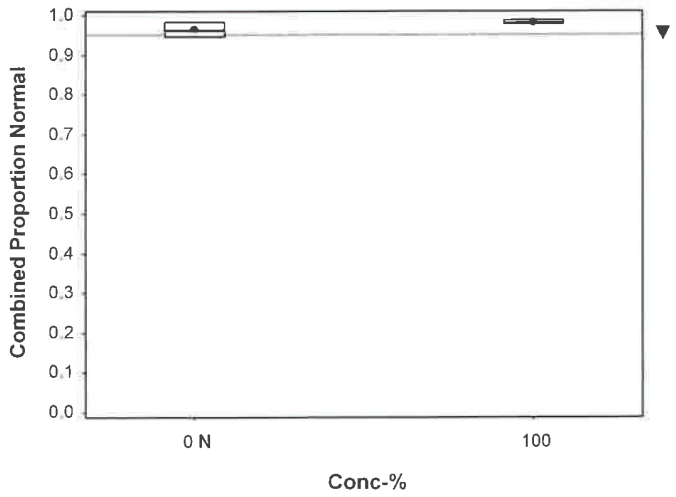
Angular (Corrected) Transformed Detail

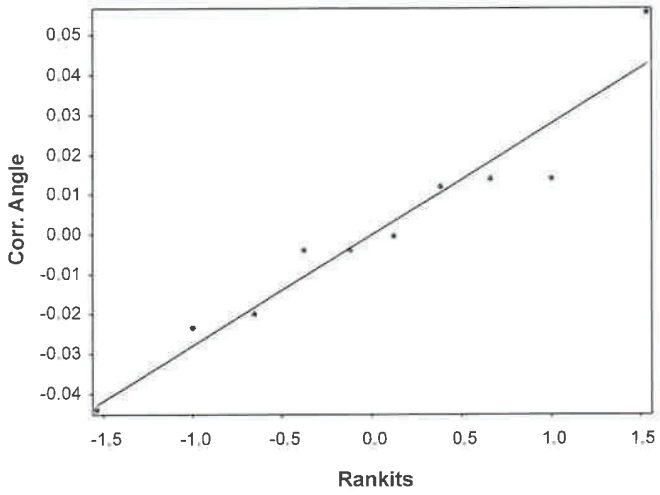
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	1.3370	1.4360	1.3570	1.3930	1.3800
100		1.4360	1.4550	1.4360	1.4550	1.4200

Combined Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	211/223	219/223	213/223	216/223	215/223
100		219/223	220/223	219/223	220/223	218/223

Graphics





CETIS Measurement Report

Mussel Shell Development Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	16-0378-7583	**Test Type:**	Development-Survival	**Analyst:**	Joe Freas		
Start Date:	16 May-23 13:01	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Water		
Ending Date:	18 May-23 13:01	**Species:**	Mytilus galloprovincialis	**Brine:**			
Test Length:	48h	**Taxon:**	Bivalvia	**Source:**	Carlsbad Aquafarms CA	**Age:**	
Sample ID:	11-3601-0030	**Code:**	EUR0523.147m	**Project:**	Boeing-SSFL NPDES		
Sample Date:	09 May-23 07:45	**Material:**	Sediment	**Source:**	Bioassay Report		
Receipt Date:	14 May-23 10:30	**CAS (PC):**		**Station:**	Arroyo_Simi-Sed_570-137698-1		
Sample Age:	7d 5h	**Client:**	Eurofins Calscience				

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	9.7	7.159	12.24	9.5	9.9	0.1414	0.2828	2.92%	0
100		2	9.75	7.844	11.66	9.6	9.9	0.1061	0.2121	2.18%	0
Overall		4	9.725	9.397	10.05	9.5	9.9	0.1031	0.2062	2.12%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	7.9	7.884	7.916	7.9	7.9	0	0	0.00%	0
100		2	7.7	7.698	7.702	7.7	7.7	0	0	0.00%	0
Overall		4	7.8	7.616	7.984	7.7	7.9	0.05774	0.1155	1.48%	0 (0%)

Salinity-ppt

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	34	34	34	34	34	0	0	0.00%	0
100		2	34	34	34	34	34	0	0	0.00%	0
Overall		4	34	34	34	34	34	0	0	0.00%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
100		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
Overall		4	14.85	14.76	14.94	14.8	14.9	0.02887	0.05773	0.39%	0 (0%)

aquatic bioassay & consulting laboratories, inc

June 27, 2023

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

Dear Mr. Patel:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Methods for Assessing the Toxicity of Sediment-associated Contaminants with Estuarine and Marine Amphipods*, EPA/600/R-94/025. Results were as follows:

CLIENT:	Eurofins Calscience LLC
SAMPLE I.D.:	Arroyo_Simi-Sed (570-137698-1)
DATE RECEIVED:	5/14/2023
ABC LAB. NO.:	CSE0523.147

***Eohaustorius estuarius* 10 Day Survival Sediment Bioassay**

Percent Survival = 100.00% Survival

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 27 Jun-23 15:12 (p 1 of 1)
Test Code/ID: EUR0523.147e / 12-2445-3821

Eohaustorius 10-d Survival and Reburial Sediment Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	05-9391-8852	**Test Type:**	Survival-Reburial	**Analyst:**	Joe Freas
Start Date:	16 May-23 12:00	**Protocol:**	EPA/600/R-94/025 (1994)	**Diluent:**	Laboratory Seawater
Ending Date:	26 May-23 12:00	**Species:**	Eohaustorius estuarius	**Brine:**	Not Applicable
Test Length:	10d 0h	**Taxon:**	Malacostraca	**Source:**	Northwestern Aquatic Scien **Age:**
Sample ID:	04-4301-5742	**Code:**	EUR0523.147e	**Project:**	Boring-SSFL NPDES
Sample Date:	09 May-23 07:45	**Material:**	Sediment	**Source:**	Bioassay Report
Receipt Date:	14 May-23 10:30	**CAS (PC):**		**Station:**	Arroyo_Simi-Sed_570-137698-1
Sample Age:	7d 4h	**Client:**	Eurofins Calscience		

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result	S
12-8844-8046	Survival Rate	Wilcoxon Rank Sum Two-Sample Test	1.0000	100% passed survival rate	1

Test Acceptability

				TAC Limits			
Analysis ID	**Endpoint**	**Attribute**	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
12-8844-8046	Survival Rate	Control Resp	1	0.9	<<	Yes	Passes Criteria

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

Survival Rate Detail — MD5: D2BA4081DAD0A69D634823731B2DEACB

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000

Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	20/20	20/20	20/20	20/20	20/20
100		20/20	20/20	20/20	20/20	20/20

CETIS Analytical Report

Eohaustorius 10-d Survival and Reburial Sediment Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	12-8844-8046	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv2.1.4
Analyzed:	27 Jun-23 15:08	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1
Edit Date:	27 Jun-23 15:07	**MD5 Hash:**	D2BA4081DAD0A69D634823731B2DEACB	**Editor ID:**	001-083-753-2
Batch ID:	05-9391-8852	**Test Type:**	Survival-Reburial	**Analyst:**	Joe Freas
Start Date:	16 May-23 12:00	**Protocol:**	EPA/600/R-94/025 (1994)	**Diluent:**	Laboratory Seawater
Ending Date:	26 May-23 12:00	**Species:**	Eohaustorius estuarius	**Brine:**	Not Applicable
Test Length:	10d 0h	**Taxon:**	Malacostraca	**Source:**	Northwestern Aquatic Scien **Age:**
Sample ID:	04-4301-5742	**Code:**	EUR0523.147e	**Project:**	Boring-SSFL NPDES
Sample Date:	09 May-23 07:45	**Material:**	Sediment	**Source:**	Bioassay Report
Receipt Date:	14 May-23 10:30	**CAS (PC):**		**Station:**	Arroyo_Simi-Sed_570-137698-1
Sample Age:	7d 4h	**Client:**	Eurofins Calscience		

Data Transform	Alt Hyp	Comparison Result
Angular (Corrected)	C > T	100% passed survival rate endpoint

Wilcoxon Rank Sum Two-Sample Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		100	8	27.5	---	1	Exact	1.0000	Non-Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	1	0.9	<<	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1			Indeterminate
Error	0	0	8			
Total	0		9			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Variance Ratio F Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test				Indeterminate

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	1.4590	1.4580	1.4590	1.4590	1.4590	1.4590	0.0000	0.00%	0.00%
100		5	1.4590	1.4580	1.4590	1.4590	1.4590	1.4590	0.0000	0.00%	0.00%

Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000

Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	1.4590	1.4590	1.4590	1.4590	1.4590
100		1.4590	1.4590	1.4590	1.4590	1.4590

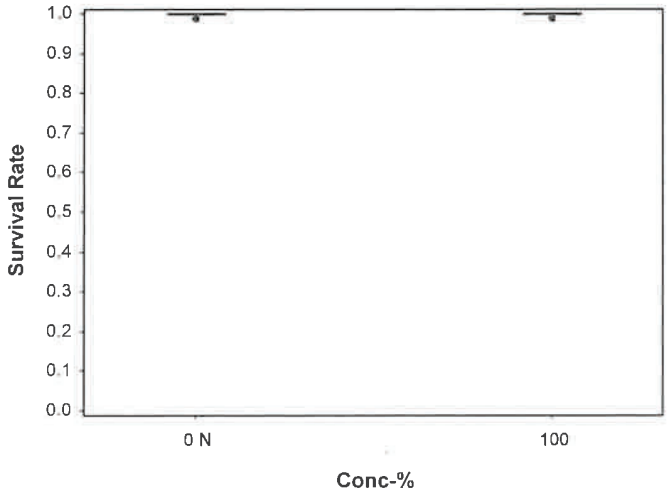
Eohaustorius 10-d Survival and Reburial Sediment Test — **Aquatic Bioassay & Consulting Labs, Inc.**

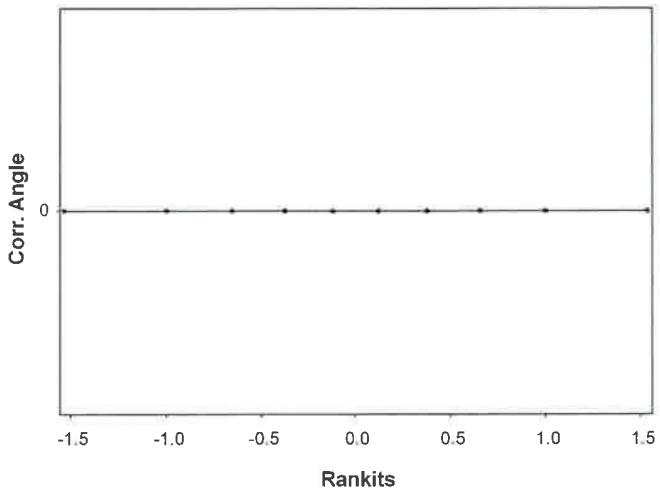
Analysis ID:	12-8844-8046	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv2.1.4
Analyzed:	27 Jun-23 15:08	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1
Edit Date:	27 Jun-23 15:07	**MD5 Hash:**	D2BA4081DAD0A69D634823731B2DEACB	**Editor ID:**	001-083-753-2

Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	20/20	20/20	20/20	20/20	20/20
100		20/20	20/20	20/20	20/20	20/20

Graphics





CETIS Measurement Report

Eohaustorius 10-d Survival and Reburial Sediment Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	05-9391-8852	**Test Type:**	Survival-Reburial	**Analyst:**	Joe Freas
Start Date:	16 May-23 12:00	**Protocol:**	EPA/600/R-94/025 (1994)	**Diluent:**	Laboratory Seawater
Ending Date:	26 May-23 12:00	**Species:**	Eohaustorius estuarius	**Brine:**	Not Applicable
Test Length:	10d 0h	**Taxon:**	Malacostraca	**Source:**	Northwestern Aquatic Scien **Age:**
Sample ID:	04-4301-5742	**Code:**	EUR0523.147e	**Project:**	Boring-SSFL NPDES
Sample Date:	09 May-23 07:45	**Material:**	Sediment	**Source:**	Bioassay Report
Receipt Date:	14 May-23 10:30	**CAS (PC):**		**Station:**	Arroyo_Simi-Sed_570-137698-1
Sample Age:	7d 4h	**Client:**	Eurofins Calscience		

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	10.05	9.415	10.69	10	10.1	0.03536	0.07073	0.70%	0
100		2	10.15	9.515	10.79	10.1	10.2	0.03535	0.0707	0.70%	0
Overall		4	10.1	9.97	10.23	10	10.2	0.04082	0.08165	0.81%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	7.9	7.884	7.916	7.9	7.9	0	0	0.00%	0
100		2	7.7	7.698	7.702	7.7	7.7	0	0	0.00%	0
Overall		4	7.8	7.616	7.984	7.7	7.9	0.05774	0.1155	1.48%	0 (0%)

Salinity-ppt

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	20	20	20	20	20	0	0	0.00%	0
100		2	20	20	20	20	20	0	0	0.00%	0
Overall		4	20	20	20	20	20	0	0	0.00%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
100		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
Overall		4	14.85	14.76	14.94	14.8	14.9	0.02887	0.05773	0.39%	0 (0%)

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-224118.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Aquatic Bioassay		Accreditations Required (See note): State Program - California		Job #: 570-137698-2
Address: 29 North Olive Street,	Due Date Requested: 5/31/2023			
City: Ventura	TAT Requested (days):			
State, Zip: CA, 93001				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Sediment	Project #: 57013187			
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, Y - Trizma, 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 (Bioassay-Chronic 10 day echaustorius)/ Bioassay-Chronic 10 day echaustorius	SUB (48-hour Bivalve Embryo toxicity Mytilus edulis or Crassostrea gigas)/ 48-hour Bivalve Embryo	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Arroyo_Simi_Sed (570-137698-1)	5/9/23	07:45 Pacific		Solid			X	X	7	See Attached Instructions

.147

TEMP = 1.8°C
ADD'D CORRECTION
FINAL = +0.3°C

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our 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:	5/10/23 1014	EC		5/10/23	Aquatic Bioassay
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

aquatic bioassay & consulting laboratories, inc

CHRONIC MYTILUS DEVELOPMENT BIOASSAY

DATE: 5/16/2023

STANDARD TOXICANT: Unionized Ammonia

NOEC = 0.05 mg/l

EC25 = 0.06983 mg/l
EC50 = 0.08887 mg/l

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 27 Jun-23 15:28 (p 1 of 1)
Test Code/ID: MYT051623 / 10-9034-7645

Mussel Shell Development Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	11-5525-4647	**Test Type:**	Development-Survival	**Analyst:**			
Start Date:	16 May-23 13:00	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Seawater		
Ending Date:	18 May-23 13:00	**Species:**	Mytilus galloprovincialis	**Brine:**	Not Applicable		
Test Length:	48h	**Taxon:**	Bivalvia	**Source:**	Carlsbad Aquafarms CA	**Age:**	
Sample ID:	09-9220-4867	**Code:**	MYT051623	**Project:**	REF TOX		
Sample Date:	16 May-23 13:00	**Material:**	Ammonia (Unionized)	**Source:**	Reference Toxicant		
Receipt Date:	16 May-23 13:00	**CAS (PC):**		**Station:**	REF TOX		
Sample Age:	---	**Client:**	Internal Lab				

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	S
16-2403-2835	Combined Proportion Norma	Dunnett Multiple Comparison Test		0.05	0.075	0.06124	2.36%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	mg/L	95% LCL	95% UCL	S
00-3803-8223	Combined Proportion Norma	Linear Interpolation (ICPIN)		EC15	0.0619	0.06003	0.06405	1
				EC20	0.06586	0.06341	0.06879	
				EC25	0.06983	0.06676	0.07352	
				EC40	0.08137	0.07811	0.08387	
				EC50	0.08887	0.08672	0.09068	

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
16-2403-2835	Combined Proportion Norma	PMSD	0.02362	<<	0.25	No	Passes Criteria

Combined Proportion Normal Summary

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	5	0.9444	0.9351	0.9537	0.9372	0.9552	0.0034	0.0075	0.79%	0.00%
0.028		5	0.9444	0.9351	0.9537	0.9372	0.9552	0.0034	0.0075	0.79%	0.00%
0.05		5	0.9480	0.9335	0.9625	0.9372	0.9641	0.0052	0.0117	1.23%	-0.38%
0.075		5	0.6475	0.5904	0.7047	0.5785	0.6996	0.0206	0.0460	7.11%	31.43%
0.097		5	0.3704	0.3453	0.3955	0.3453	0.3946	0.0090	0.0202	5.45%	60.78%
0.119		5	0.0852	0.0588	0.1116	0.0583	0.1121	0.0095	0.0213	24.97%	90.98%

Combined Proportion Normal Detail — MD5: 729D18971FC6AF2FBDE0BC6E16E3A3BC

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	0.9462	0.9372	0.9462	0.9552	0.9372
0.028		0.9462	0.9372	0.9462	0.9552	0.9372
0.05		0.9552	0.9462	0.9372	0.9372	0.9641
0.075		0.6771	0.6457	0.6996	0.6368	0.5785
0.097		0.3946	0.3453	0.3543	0.3812	0.3767
0.119		0.0987	0.0583	0.0852	0.1121	0.0718

Combined Proportion Normal Binomials

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	211/223	209/223	211/223	213/223	209/223
0.028		211/223	209/223	211/223	213/223	209/223
0.05		213/223	211/223	209/223	209/223	215/223
0.075		151/223	144/223	156/223	142/223	129/223
0.097		88/223	77/223	79/223	85/223	84/223
0.119		22/223	13/223	19/223	25/223	16/223

CETIS Analytical Report

Mussel Shell Development Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	16-2403-2835	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv2.1.4
Analyzed:	27 Jun-23 15:28	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1
Edit Date:	27 Jun-23 15:22	**MD5 Hash:**	729D18971FC6AF2FBDE0BC6E16E3A3B	**Editor ID:**	001-083-753-2
Batch ID:	11-5525-4647	**Test Type:**	Development-Survival	**Analyst:**	
Start Date:	16 May-23 13:00	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Seawater
Ending Date:	18 May-23 13:00	**Species:**	Mytilus galloprovincialis	**Brine:**	Not Applicable
Test Length:	48h	**Taxon:**	Bivalvia	**Source:**	Carlsbad Aquafarms CA **Age:**
Sample ID:	09-9220-4867	**Code:**	MYT051623	**Project:**	REF TOX
Sample Date:	16 May-23 13:00	**Material:**	Ammonia (Unionized)	**Source:**	Reference Toxicant
Receipt Date:	16 May-23 13:00	**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Angular (Corrected)	C > T	0.05	0.075	0.06124	---	0.02231	2.36%

Dunnett Multiple Comparison Test

Control	vs	Conc-mg/L	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		0.028	8	0	2.362	0.04527	CDF	0.8333	Non-Significant Effect
		0.05	8	-0.4544	2.362	0.04527	CDF	0.9335	Non-Significant Effect
		0.075*	8	20.74	2.362	0.04527	CDF	<1.0E-05	Significant Effect
		0.097*	8	35.42	2.362	0.04527	CDF	<1.0E-05	Significant Effect
		0.119*	8	54.19	2.362	0.04527	CDF	<1.0E-05	Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
PMSD	0.02362	<<	0.25	No	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	4.79253	0.958506	5	1043	<1.0E-05	Significant Effect
Error	0.0220453	0.0009186	24			
Total	4.81457		29			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	7.203	15.09	0.2060	Equal Variances
	Levene Equality of Variance Test	1.519	3.895	0.2213	Equal Variances
	Mod Levene Equality of Variance Test	2.295	4.248	0.0886	Equal Variances
Distribution	Anderson-Darling A2 Test	0.3543	3.878	0.4664	Normal Distribution
	D'Agostino Kurtosis Test	0.8617	2.576	0.3888	Normal Distribution
	D'Agostino Skewness Test	0.6743	2.576	0.5001	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	1.197	9.21	0.5496	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1052	0.1853	0.5333	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9742	0.9031	0.6594	Normal Distribution

Combined Proportion Normal Summary

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	0.9444	0.9351	0.9537	0.9462	0.9372	0.9552	0.0034	0.79%	0.00%
0.028		5	0.9444	0.9351	0.9537	0.9462	0.9372	0.9552	0.0034	0.79%	0.00%
0.05		5	0.9480	0.9335	0.9625	0.9462	0.9372	0.9641	0.0052	1.23%	-0.38%
0.075		5	0.6475	0.5904	0.7047	0.6457	0.5785	0.6996	0.0206	7.11%	31.43%
0.097		5	0.3704	0.3453	0.3955	0.3767	0.3453	0.3946	0.0090	5.45%	60.78%
0.119		5	0.0852	0.0588	0.1116	0.0852	0.0583	0.1121	0.0095	24.97%	90.98%

Mussel Shell Development Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	16-2403-2835	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv2.1.4
Analyzed:	27 Jun-23 15:28	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1
Edit Date:	27 Jun-23 15:22	**MD5 Hash:**	729D18971FC6AF2FBDE0BC6E16E3A3B	**Editor ID:**	001-083-753-2

Angular (Corrected) Transformed Summary

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	1.3330	1.3130	1.3540	1.3370	1.3180	1.3570	0.0074	1.24%	0.00%
0.028		5	1.3330	1.3130	1.3540	1.3370	1.3180	1.3570	0.0074	1.24%	0.00%
0.05		5	1.3420	1.3080	1.3750	1.3370	1.3180	1.3800	0.0121	2.02%	-0.65%
0.075		5	0.9357	0.8761	0.9953	0.9333	0.8642	0.9907	0.0215	5.13%	29.81%
0.097		5	0.6542	0.6282	0.6802	0.6608	0.6281	0.6792	0.0094	3.20%	50.93%
0.119		5	0.2944	0.2466	0.3423	0.2962	0.2439	0.3414	0.0172	13.09%	77.92%

Combined Proportion Normal Detail

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	0.9462	0.9372	0.9462	0.9552	0.9372
0.028		0.9462	0.9372	0.9462	0.9552	0.9372
0.05		0.9552	0.9462	0.9372	0.9372	0.9641
0.075		0.6771	0.6457	0.6996	0.6368	0.5785
0.097		0.3946	0.3453	0.3543	0.3812	0.3767
0.119		0.0987	0.0583	0.0852	0.1121	0.0718

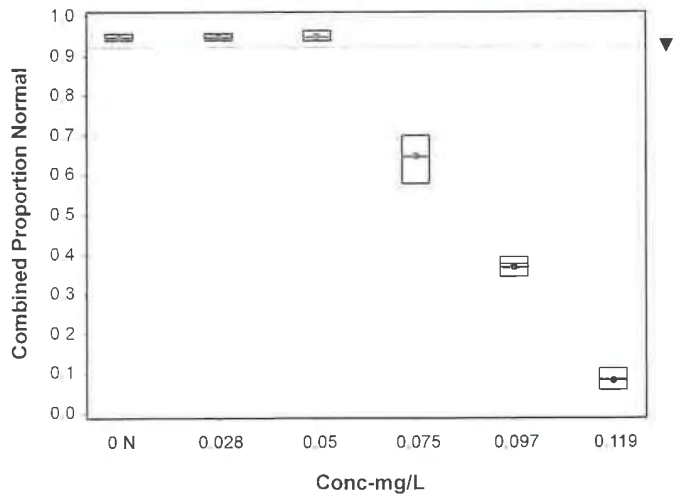
Angular (Corrected) Transformed Detail

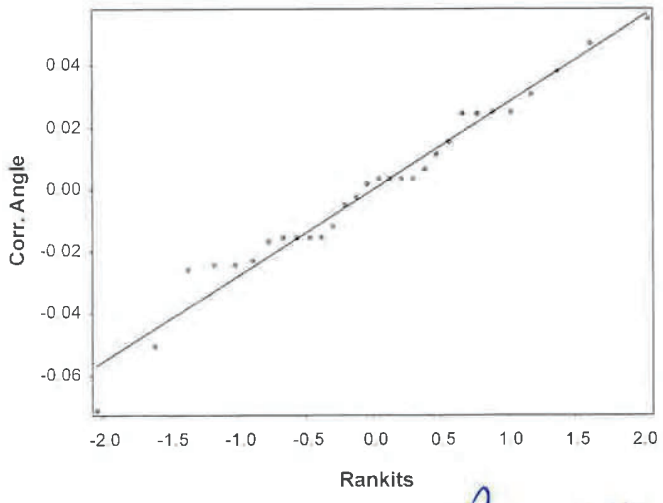
Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	1.3370	1.3180	1.3370	1.3570	1.3180
0.028		1.3370	1.3180	1.3370	1.3570	1.3180
0.05		1.3570	1.3370	1.3180	1.3180	1.3800
0.075		0.9665	0.9333	0.9907	0.9239	0.8642
0.097		0.6792	0.6281	0.6375	0.6654	0.6608
0.119		0.3195	0.2439	0.2962	0.3414	0.2712

Combined Proportion Normal Binomials

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	211/223	209/223	211/223	213/223	209/223
0.028		211/223	209/223	211/223	213/223	209/223
0.05		213/223	211/223	209/223	209/223	215/223
0.075		151/223	144/223	156/223	142/223	129/223
0.097		88/223	77/223	79/223	85/223	84/223
0.119		22/223	13/223	19/223	25/223	16/223

Graphics





CETIS Analytical Report

Mussel Shell Development Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	00-3803-8223	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv2.1.4
Analyzed:	27 Jun-23 15:28	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	27 Jun-23 15:22	**MD5 Hash:**	729D18971FC6AF2FBDE0BC6E16E3A3B	**Editor ID:**	001-083-753-2
Batch ID:	11-5525-4647	**Test Type:**	Development-Survival	**Analyst:**	
Start Date:	16 May-23 13:00	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Seawater
Ending Date:	18 May-23 13:00	**Species:**	Mytilus galloprovincialis	**Brine:**	Not Applicable
Test Length:	48h	**Taxon:**	Bivalvia	**Source:**	Carlsbad Aquafarms CA **Age:**
Sample ID:	09-9220-4867	**Code:**	MYT051623	**Project:**	REF TOX
Sample Date:	16 May-23 13:00	**Material:**	Ammonia (Unionized)	**Source:**	Reference Toxicant
Receipt Date:	16 May-23 13:00	**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

Point Estimates

Level	mg/L	95% LCL	95% UCL
EC15	0.0619	0.06003	0.06405
EC20	0.06586	0.06341	0.06879
EC25	0.06983	0.06676	0.07352
EC40	0.08137	0.07811	0.08387
EC50	0.08887	0.08672	0.09068

Combined Proportion Normal Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-mg/L	Code	Count	Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	5	0.9444	0.9462	0.9372	0.9552	0.79%	0.00%	1053/1115	0.9456	0.00%
0.028		5	0.9444	0.9462	0.9372	0.9552	0.79%	0.00%	1053/1115	0.9456	0.00%
0.05		5	0.9480	0.9462	0.9372	0.9641	1.23%	-0.38%	1057/1115	0.9456	0.00%
0.075		5	0.6475	0.6457	0.5785	0.6996	7.11%	31.43%	722/1115	0.6475	31.52%
0.097		5	0.3704	0.3767	0.3453	0.3946	5.45%	60.78%	413/1115	0.3704	60.83%
0.119		5	0.0852	0.0852	0.0583	0.1121	24.97%	90.98%	95/1115	0.0852	90.99%

Combined Proportion Normal Detail

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	0.9462	0.9372	0.9462	0.9552	0.9372
0.028		0.9462	0.9372	0.9462	0.9552	0.9372
0.05		0.9552	0.9462	0.9372	0.9372	0.9641
0.075		0.6771	0.6457	0.6996	0.6368	0.5785
0.097		0.3946	0.3453	0.3543	0.3812	0.3767
0.119		0.0987	0.0583	0.0852	0.1121	0.0718

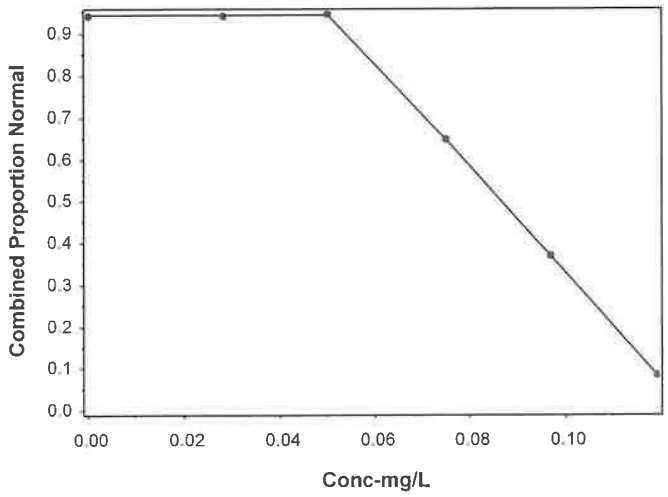
Combined Proportion Normal Binomials

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	211/223	209/223	211/223	213/223	209/223
0.028		211/223	209/223	211/223	213/223	209/223
0.05		213/223	211/223	209/223	209/223	215/223
0.075		151/223	144/223	156/223	142/223	129/223
0.097		88/223	77/223	79/223	85/223	84/223
0.119		22/223	13/223	19/223	25/223	16/223

Mussel Shell Development Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	00-3803-8223	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv2.1.4
Analyzed:	27 Jun-23 15:28	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	27 Jun-23 15:22	**MD5 Hash:**	729D18971FC6AF2FBDE0BC6E16E3A3B	**Editor ID:**	001-083-753-2

Graphics



CETIS Measurement Report

Mussel Shell Development Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	11-5525-4647	**Test Type:**	Development-Survival	**Analyst:**		
Start Date:	16 May-23 13:00	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Seawater	
Ending Date:	18 May-23 13:00	**Species:**	Mytilus galloprovincialis	**Brine:**	Not Applicable	
Test Length:	48h	**Taxon:**	Bivalvia	**Source:**	Carlsbad Aquafarms CA	**Age:**
Sample ID:	09-9220-4867	**Code:**	MYT051623	**Project:**	REF TOX	
Sample Date:	16 May-23 13:00	**Material:**	Ammonia (Unionized)	**Source:**	Reference Toxicant	
Receipt Date:	16 May-23 13:00	**CAS (PC):**		**Station:**	REF TOX	
Sample Age:	---	**Client:**	Internal Lab			

Dissolved Oxygen-mg/L

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	9.65	7.744	11.56	9.5	9.8	0.1061	0.2121	2.20%	0
0.028		2	9.55	5.103	14	9.2	9.9	0.2475	0.495	5.18%	0
0.05		2	9.7	8.43	10.97	9.6	9.8	0.0707	0.1414	1.46%	0
0.075		2	9.45	8.815	10.09	9.4	9.5	0.03536	0.07071	0.75%	0
0.097		2	9.2	9.178	9.222	9.2	9.2	0	0	0.00%	0
0.119		2	9.7	7.159	12.24	9.5	9.9	0.1414	0.2828	2.92%	0
Overall		12	9.542	9.374	9.71	9.2	9.9	0.07633	0.2644	2.77%	0 (0%)

Total Ammonia (N)-mg/L

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	0	0	0	0	0	0	0	---	0
0.028		2	0.028	0.02795	0.02805	0.028	0.028	0	0	0.00%	0
0.05		2	0.05	0.04987	0.05013	0.05	0.05	0	0	0.00%	0
0.075		2	0.075	0.07481	0.07519	0.075	0.075	0	0	0.00%	0
0.097		2	0.097	0.09675	0.09725	0.097	0.097	0	0	0.00%	0
0.119		2	0.119	0.1188	0.1192	0.119	0.119	0	0	0.00%	0
Overall		12	0.0615	0.0347	0.0883	0	0.119	0.01218	0.04218	68.59%	0 (0%)

pH-Units

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	7.9	7.884	7.916	7.9	7.9	0	0	0.00%	0
0.028		2	7.85	7.215	8.485	7.8	7.9	0.03535	0.07071	0.90%	0
0.05		2	7.8	7.787	7.813	7.8	7.8	0	0	0.00%	0
0.075		2	7.8	7.787	7.813	7.8	7.8	0	0	0.00%	0
0.097		2	7.7	7.698	7.702	7.7	7.7	0	0	0.00%	0
0.119		2	7.7	7.698	7.702	7.7	7.7	0	0	0.00%	0
Overall		12	7.792	7.741	7.842	7.7	7.9	0.02289	0.0793	1.02%	0 (0%)

Salinity-ppt

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	34	34	34	34	34	0	0	0.00%	0
0.028		2	34	34	34	34	34	0	0	0.00%	0
0.05		2	34	34	34	34	34	0	0	0.00%	0
0.075		2	34	34	34	34	34	0	0	0.00%	0
0.097		2	34	34	34	34	34	0	0	0.00%	0
0.119		2	34	34	34	34	34	0	0	0.00%	0
Overall		12	34	34	34	34	34	0	0	0.00%	0 (0%)

Temperature-°C

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
0.028		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
0.05		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
0.075		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
0.097		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
0.119		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
Overall		12	14.85	14.82	14.88	14.8	14.9	0.01508	0.05222	0.35%	0 (0%)

aquatic bioassay & consulting laboratories, inc

96 Hour *Eohaustorius estuarius* Survival Bioassay - Standard Toxicant

DATE: 05/16/2023

STANDARD TOXICANT: Ammonium Chloride

ENDPOINT: SURVIVAL

UNIONIZED AMMONIA

NOEC = 0.446 mg/L

EC25 = 0.7930 mg/L
EC50 = 1.2720 mg/L

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 27 Jun-23 12:58 (p 1 of 1)
Test Code/ID: EOH051623 / 01-5509-2940

Reference Toxicant 96-h Acute Survival Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	00-7479-8325	**Test Type:**	Survival	**Analyst:**	
Start Date:	16 May-23 12:00	**Protocol:**	EPA/600/R-94/025 (1994)	**Diluent:**	Laboratory Seawater
Ending Date:	20 May-23 12:00	**Species:**	Eohaustorius estuarius	**Brine:**	Not Applicable
Test Length:	96h	**Taxon:**	Malacostraca	**Source:**	Northwestern Aquatic Scien **Age:**
Sample ID:	13-3039-9911	**Code:**	EOH051623	**Project:**	REF TOX
Sample Date:	16 May-23 12:00	**Material:**	Ammonia (Unionized)	**Source:**	Reference Toxicant
Receipt Date:	16 May-23 12:00	**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	S
10-9497-3376	Survival Rate	Steel Many-One Rank Sum Test		0.446	0.793	0.5947	11.1%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	mg/L	95% LCL	95% UCL	S
01-3444-3670	Survival Rate	Linear Interpolation (ICPIN)		EC15	0.6388	0.5385	0.7005	1
				EC20	0.7159	0.6311	0.8393	
				EC25	0.793	0.6921	0.9366	
				EC40	1.08	0.891	1.514	
				EC50	1.272	1.028	1.895	

Survival Rate Summary

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
0.217		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
0.446		4	0.9750	0.8954	1.0550	0.9000	1.0000	0.0250	0.0500	5.13%	2.50%
0.793		4	0.7500	0.6581	0.8419	0.7000	0.8000	0.0289	0.0577	7.70%	25.00%
1.511		4	0.3750	0.0470	0.7030	0.2000	0.6000	0.1031	0.2062	54.97%	62.50%
3.161		4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	100.00%

Survival Rate Detail — MD5: FEE5359D1E0A9F6E7560E2CAED9DEEB0

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
0.217		1.0000	1.0000	1.0000	1.0000
0.446		1.0000	0.9000	1.0000	1.0000
0.793		0.8000	0.7000	0.7000	0.8000
1.511		0.6000	0.5000	0.2000	0.2000
3.161		0.0000	0.0000	0.0000	0.0000

Survival Rate Binomials

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	10/10	10/10	10/10	10/10
0.217		10/10	10/10	10/10	10/10
0.446		10/10	9/10	10/10	10/10
0.793		8/10	7/10	7/10	8/10
1.511		6/10	5/10	2/10	2/10
3.161		0/10	0/10	0/10	0/10

CETIS Analytical Report

Reference Toxicant 96-h Acute Survival Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	10-9497-3376	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv2.1.4
Analyzed:	27 Jun-23 12:57	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:	27 Jun-23 12:03	**MD5 Hash:**	FEE5359D1E0A9F6E7560E2CAED9DEEB	**Editor ID:**	001-083-753-2
Batch ID:	00-7479-8325	**Test Type:**	Survival	**Analyst:**	
Start Date:	16 May-23 12:00	**Protocol:**	EPA/600/R-94/025 (1994)	**Diluent:**	Laboratory Seawater
Ending Date:	20 May-23 12:00	**Species:**	Eohaustorius estuarius	**Brine:**	Not Applicable
Test Length:	96h	**Taxon:**	Malacostraca	**Source:**	Northwestern Aquatic Scien **Age:**
Sample ID:	13-3039-9911	**Code:**	EOH051623	**Project:**	REF TOX
Sample Date:	16 May-23 12:00	**Material:**	Ammonia (Unionized)	**Source:**	Reference Toxicant
Receipt Date:	16 May-23 12:00	**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Angular (Corrected)	C > T	0.446	0.793	0.5947	---	0.111	11.10%

Steel Many-One Rank Sum Test

Control	vs	Conc-mg/L	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		0.217	6	18	10	1	CDF	0.8000	Non-Significant Effect
		0.446	6	16	10	1	CDF	0.5661	Non-Significant Effect
		0.793*	6	10	10	0	CDF	0.0350	Significant Effect
		1.511*	6	10	10	0	CDF	0.0350	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	1.77035	0.442589	4	37.53	<1.0E-05	Significant Effect
Error	0.176893	0.0117928	15			
Total	1.94725		19			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
	Levene Equality of Variance Test	34.47	4.893	<1.0E-05	Unequal Variances
	Mod Levene Equality of Variance Test	12.76	4.893	0.0001	Unequal Variances
Distribution	Anderson-Darling A2 Test	1.111	3.878	0.0066	Non-Normal Distribution
	D'Agostino Kurtosis Test	1.488	2.576	0.1367	Normal Distribution
	D'Agostino Skewness Test	0.1628	2.576	0.8707	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	2.241	9.21	0.3261	Normal Distribution
	Kolmogorov-Smirnov D Test	0.25	0.2235	0.0020	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.9043	0.866	0.0497	Normal Distribution

Survival Rate Summary

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
0.217		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
0.446		4	0.9750	0.8954	1.0000	1.0000	0.9000	1.0000	0.0250	5.13%	2.50%
0.793		4	0.7500	0.6581	0.8419	0.7500	0.7000	0.8000	0.0289	7.70%	25.00%
1.511		4	0.3750	0.0470	0.7030	0.3000	0.2000	0.6000	0.1031	54.97%	62.50%
3.161		4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	100.00%

Angular (Corrected) Transformed Summary

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	0.00%
0.217		4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	0.00%
0.446		4	1.3710	1.2420	1.5010	1.4120	1.2490	1.4120	0.0407	5.94%	2.89%
0.793		4	1.0490	0.9426	1.1560	1.0490	0.9912	1.1070	0.0335	6.38%	25.70%
1.511		4	0.6497	0.3017	0.9977	0.5709	0.4636	0.8861	0.1094	33.67%	53.99%
3.161		4	0.1588	0.1588	0.1588	0.1588	0.1588	0.1588	0.0000	0.00%	88.76%

CETIS Analytical Report

Reference Toxicant 96-h Acute Survival Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	10-9497-3376	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv2.1.4
Analyzed:	27 Jun-23 12:57	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:	27 Jun-23 12:03	**MD5 Hash:**	FEE5359D1E0A9F6E7560E2CAED9DEEB	**Editor ID:**	001-083-753-2

Survival Rate Detail

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
0.217		1.0000	1.0000	1.0000	1.0000
0.446		1.0000	0.9000	1.0000	1.0000
0.793		0.8000	0.7000	0.7000	0.8000
1.511		0.6000	0.5000	0.2000	0.2000
3.161		0.0000	0.0000	0.0000	0.0000

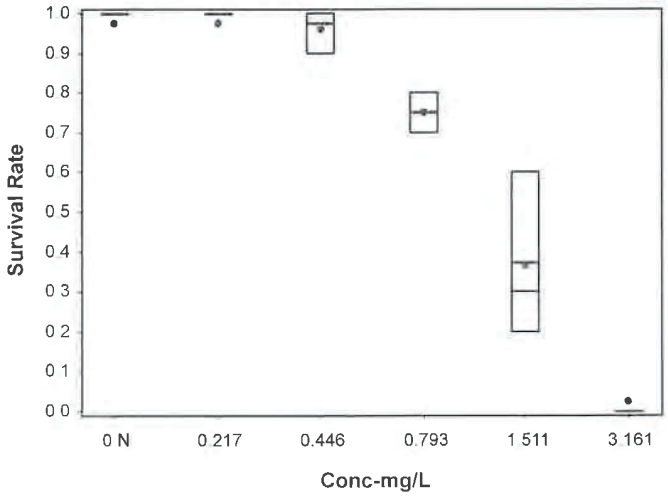
Angular (Corrected) Transformed Detail

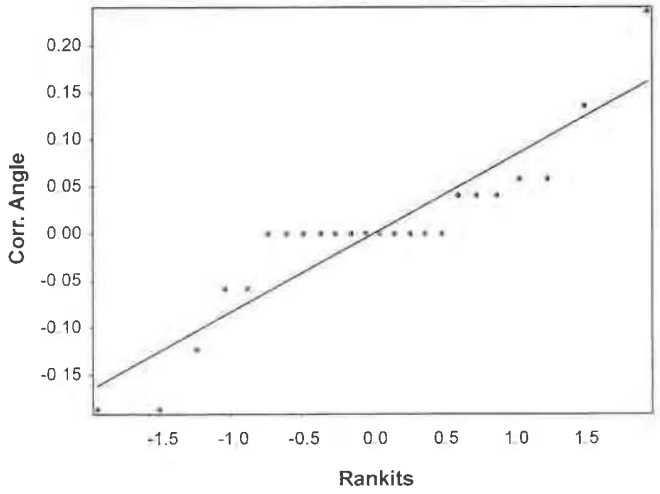
Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.4120	1.4120	1.4120	1.4120
0.217		1.4120	1.4120	1.4120	1.4120
0.446		1.4120	1.2490	1.4120	1.4120
0.793		1.1070	0.9912	0.9912	1.1070
1.511		0.8861	0.7854	0.4636	0.4636
3.161		0.1588	0.1588	0.1588	0.1588

Survival Rate Binomials

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	10/10	10/10	10/10	10/10
0.217		10/10	10/10	10/10	10/10
0.446		10/10	9/10	10/10	10/10
0.793		8/10	7/10	7/10	8/10
1.511		6/10	5/10	2/10	2/10
3.161		0/10	0/10	0/10	0/10

Graphics





CETIS Analytical Report

Reference Toxicant 96-h Acute Survival Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	01-3444-3670	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv2.1.4
Analyzed:	27 Jun-23 12:57	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	27 Jun-23 12:03	**MD5 Hash:**	FEE5359D1E0A9F6E7560E2CAED9DEEB	**Editor ID:**	001-083-753-2
Batch ID:	00-7479-8325	**Test Type:**	Survival	**Analyst:**	
Start Date:	16 May-23 12:00	**Protocol:**	EPA/600/R-94/025 (1994)	**Diluent:**	Laboratory Seawater
Ending Date:	20 May-23 12:00	**Species:**	Eohaustorius estuarius	**Brine:**	Not Applicable
Test Length:	96h	**Taxon:**	Malacostraca	**Source:**	Northwestern Aquatic Scien **Age:**
Sample ID:	13-3039-9911	**Code:**	EOH051623	**Project:**	REF TOX
Sample Date:	16 May-23 12:00	**Material:**	Ammonia (Unionized)	**Source:**	Reference Toxicant
Receipt Date:	16 May-23 12:00	**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

Point Estimates

Level	mg/L	95% LCL	95% UCL
EC15	0.6388	0.5385	0.7005
EC20	0.7159	0.6311	0.8393
EC25	0.793	0.6921	0.9366
EC40	1.08	0.891	1.514
EC50	1.272	1.028	1.895

Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-mg/L	Code	Count	Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	40/40	1.0000	0.00%
0.217		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	40/40	1.0000	0.00%
0.446		4	0.9750	1.0000	0.9000	1.0000	5.13%	2.50%	39/40	0.9750	2.50%
0.793		4	0.7500	0.7500	0.7000	0.8000	7.70%	25.00%	30/40	0.7500	25.00%
1.511		4	0.3750	0.3000	0.2000	0.6000	54.97%	62.50%	15/40	0.3750	62.50%
3.161		4	0.0000	0.0000	0.0000	0.0000	---	100.00%	0/40	0.0000	100.00%

Survival Rate Detail

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
0.217		1.0000	1.0000	1.0000	1.0000
0.446		1.0000	0.9000	1.0000	1.0000
0.793		0.8000	0.7000	0.7000	0.8000
1.511		0.6000	0.5000	0.2000	0.2000
3.161		0.0000	0.0000	0.0000	0.0000

Survival Rate Binomials

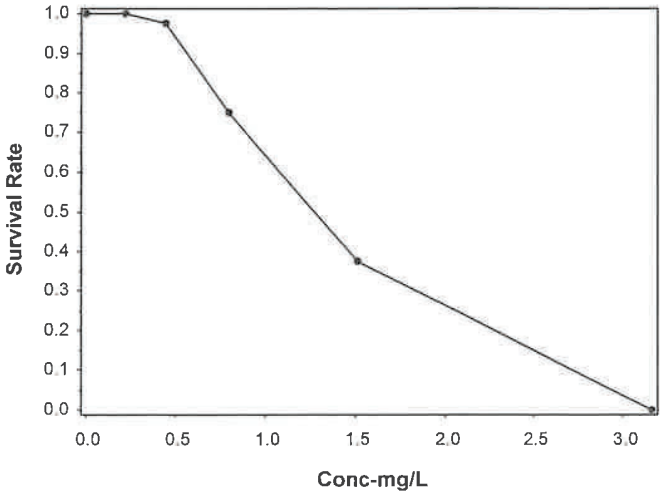
Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	10/10	10/10	10/10	10/10
0.217		10/10	10/10	10/10	10/10
0.446		10/10	9/10	10/10	10/10
0.793		8/10	7/10	7/10	8/10
1.511		6/10	5/10	2/10	2/10
3.161		0/10	0/10	0/10	0/10

CETIS Analytical Report

Reference Toxicant 96-h Acute Survival Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	01-3444-3670	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv2.1.4
Analyzed:	27 Jun-23 12:57	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	27 Jun-23 12:03	**MD5 Hash:**	FEE5359D1E0A9F6E7560E2CAED9DEEB	**Editor ID:**	001-083-753-2

Graphics



CETIS Measurement Report

Reference Toxicant 96-h Acute Survival Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	00-7479-8325	**Test Type:**	Survival	**Analyst:**	
Start Date:	16 May-23 12:00	**Protocol:**	EPA/600/R-94/025 (1994)	**Diluent:**	Laboratory Seawater
Ending Date:	20 May-23 12:00	**Species:**	Eohaustorius estuarius	**Brine:**	Not Applicable
Test Length:	96h	**Taxon:**	Malacostraca	**Source:**	Northwestern Aquatic Scien **Age:**
Sample ID:	13-3039-9911	**Code:**	EOH051623	**Project:**	REF TOX
Sample Date:	16 May-23 12:00	**Material:**	Ammonia (Unionized)	**Source:**	Reference Toxicant
Receipt Date:	16 May-23 12:00	**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Dissolved Oxygen-mg/L

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	6.7	5.429	7.971	6.6	6.8	0.07071	0.1414	2.11%	0
0.217		2	6.7	4.159	9.241	6.5	6.9	0.1414	0.2828	4.22%	0
0.446		2	6.7	6.683	6.717	6.7	6.7	0	0	0.00%	0
0.793		2	6.7	5.429	7.971	6.6	6.8	0.07071	0.1414	2.11%	0
1.511		2	6.9	6.889	6.911	6.9	6.9	0	0	0.00%	0
3.161		2	6.5	6.5	6.5	6.5	6.5	0	0	0.00%	0
Overall		12	6.7	6.599	6.801	6.5	6.9	0.04606	0.1595	2.38%	0 (0%)

Total Ammonia (N)-mg/L

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	0	---	---	0	0	---	---	---	0
0.217		1	0.217	---	---	0.217	0.217	---	---	---	0
0.446		1	0.446	---	---	0.446	0.446	---	---	---	0
0.793		1	0.793	---	---	0.793	0.793	---	---	---	0
1.511		1	1.511	---	---	1.511	1.511	---	---	---	0
3.161		1	3.161	---	---	3.161	3.161	---	---	---	0
Overall		6	1.021	-0.2107	2.253	0	3.161	0.4793	1.174	114.90%	0 (0%)

pH-Units

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	7.9	7.884	7.916	7.9	7.9	0	0	0.00%	0
0.217		2	7.7	7.698	7.702	7.7	7.7	0	0	0.00%	0
0.446		2	7.85	7.215	8.485	7.8	7.9	0.03535	0.07071	0.90%	0
0.793		2	7.75	7.115	8.385	7.7	7.8	0.03536	0.07072	0.91%	0
1.511		2	7.75	7.115	8.385	7.7	7.8	0.03536	0.07072	0.91%	0
3.161		2	7.7	7.698	7.702	7.7	7.7	0	0	0.00%	0
Overall		12	7.775	7.72	7.83	7.7	7.9	0.025	0.0866	1.11%	0 (0%)

Salinity-ppt

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	20	20	20	20	20	0	0	0.00%	0
0.217		2	20	20	20	20	20	0	0	0.00%	0
0.446		2	20	20	20	20	20	0	0	0.00%	0
0.793		2	20	20	20	20	20	0	0	0.00%	0
1.511		2	20	20	20	20	20	0	0	0.00%	0
3.161		2	20	20	20	20	20	0	0	0.00%	0
Overall		12	20	20	20	20	20	0	0	0.00%	0 (0%)

Temperature-°C

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
0.217		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
0.446		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
0.793		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
1.511		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
3.161		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
Overall		12	14.85	14.82	14.88	14.8	14.9	0.01508	0.05222	0.35%	0 (0%)

137698

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

EDBPJ6UX

Client Name/Address: Haley & Aldrich, 5333 Mission Center Rd Suite 300, San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2015 **Annual Sediment Arroyo Simi-Frontier Park**	ANALYSIS REQUIRED	Field Readings / Meter serial #
Eurofins Calscience Irvine Contact: Virendra Patel, 2841 Dow Avenue, Suite 100, Tustin, CA 92780, Tel: 949-260-3218, **ECI Project # 57013187**	Project Manager: Katherine Miller, 520.289.8606, 520.904.6944 (cell)		Field readings: (Include units) Time of readings 0700
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.			pH 6.51 pH unit; Temp 62.7 °C/F; DO 4.05 mg/L; Conductivity 1960 µmhos/cm; Velocity 0.1 ft/sec
Sampler: Adrien Mobeka	Field Manager: Mark Dominick, 978.234.5033, 818.599.0702 (cell)		Field readings QC; Checked by: Mark Dominick; Date/Time: 5-9-2023 / 0700

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Ammonia (SM4500-NH3-D) A	Total Organic Carbon (9060) A	PCBs (SW8082) A	Chlordane, Dieldrin, Toxaphene, 4,4-DDD, 4,4-DDE, 4,4-DDT (SW8081A) A	48-hour Bivalve Embryo toxicity (Mytilus edulis or Crassostrea gigas) (EPAR-95/136) **ABC Labs in Ventura, CA** A	Chronic 10-day echaustorius estuarius Toxicity (EPA/600/R-94/025) **ABC Labs in Ventura, CA** A	% Moisture (2540G) A	Particle Size Distribution (D422M) A	Comments
Arroyo Simi	Arroyo_Simi-Sed_20230509	5/9/2023 / 0745	SE	9 oz Jar	1	None	165	No	X								
			SE	9 oz Jar	1	None	246	No		X							
			SE	9 oz Jar	1	None	280	No			X						
			SE	9 oz Jar	1	None	290	No				X					
			SE	1L wide mouth Plastic	3	None	295	No					X				Deliver to ABC Labs in Ventura, CA
			SE	1L wide mouth Plastic	4	4°C in the Dark	300	No						X			Keep sample in cooler in the dark until delivered to ABC Labs
			SE	9 oz Jar	1	None	305	No							X		
			SE	9 oz Jar	1	None	310	No								X	

Legend: A=Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Mark Dominick	5-9-2023 / 1135	H&A	EC	5/9/23 1135
	5/9/23 1825	EC		5/9/23 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 ___ All Level IV: X

570-137698 Chain of Custody

2.0/2.2 SCG

2019-2020 Rainy Season
Version 2

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-224322.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-137698-1
Address: 5755 8th Street East, ,	Due Date Requested: 5/19/2023			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone: 253-922-2310(Tel)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Sediment	Project #: 57013187			
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, Y - Trizma, 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)	MOISTURE_2540G/ Percent Moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Arroyo_Simi-Sed_20230509 (570-137698-1)	5/9/23	07:45 Pacific		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our 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:	Company	Received by:	Date/Time:	Company
	5/10/23 1504				
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
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-224322.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-137698-2
Address: 5755 8th Street East, ,	Due Date Requested: 5/25/2023			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone: 253-922-2310(Tel)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Sediment	Project #: 57013187			
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, Y - Trizma, 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)	9060A_DW/ Standard Soil TOC	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Arroyo_Simi-Sed_20230509 (570-137698-1)	5/9/23	07:45 Pacific		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our 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
Relinquished by:	5/10/23 1504				
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: 570-137698-3
SDG Number: Simi-Frontier Park

Login Number: 137698
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

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 5/15/2023 10:41:53 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Annual Arroyo Simi-Upstream
SDG NUMBER Dry Weather

JOB NUMBER

570-137696-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

my EOL

Job Notes

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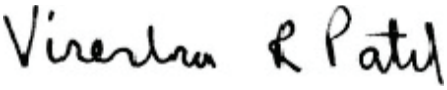
Authorization



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5/15/2023 10:41:53 AM

Authorized for release by
Virendra Patel, Project Manager I
Virendra.Patel@et.eurofinsus.com
(714)895-5494

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Definitions/Glossary

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

Job ID: 570-137696-1
SDG: 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

Job ID: 570-137696-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-137696-1

Comments
No additional comments.

Receipt
The sample was received on 5/9/2023 6:25 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 2.2º C.

Receipt Exceptions

The number of containers for the following samples did not match the information listed on the Chain-of-Custody (COC): Arroyo_Simi_Upstream_20230509_Grab (570-137696-1). Received 1 containers, while the COC lists 3.

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.

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.

Detection Summary

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

Job ID: 570-137696-1
SDG: Dry Weather

Client Sample ID: Arroyo_Simi_Upstream_20230509_Grab — Lab Sample ID: 570-137696-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Hardness as calcium carbonate	570		2.0	0.42	mg/L	1		SM 2340C	Total/NA

This Detection Summary does not include radiochemical test results.

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

Job ID: 570-137696-1
SDG: Dry Weather

General Chemistry

Client Sample ID: Arroyo_Simi_Upstream_20230509_Grab
Date Collected: 05/09/23 08:05
Date Received: 05/09/23 18:25

Lab Sample ID: 570-137696-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate (SM 2340C)	570		2.0	0.42	mg/L			05/10/23 13:52	1

Method: SM 2340C - Hardness, Total (mg/l as CaC03)

Lab Sample ID: MB 570-327910/1
Matrix: Water
Analysis Batch: 327910

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	ND		2.0	0.42	mg/L			05/10/23 13:52	1

Lab Sample ID: LCS 570-327910/2
Matrix: Water
Analysis Batch: 327910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hardness as calcium carbonate	10.0	10.2		mg/L		102	90 - 110

Lab Sample ID: LCS 570-327910/4
Matrix: Water
Analysis Batch: 327910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hardness as calcium carbonate	100	96.4		mg/L		96	90 - 110

Lab Sample ID: LCSD 570-327910/3
Matrix: Water
Analysis Batch: 327910

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
Hardness as calcium carbonate	10.0	10.0		mg/L		100	90 - 110	2	10

Lab Sample ID: LCSD 570-327910/5
Matrix: Water
Analysis Batch: 327910

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
Hardness as calcium carbonate	100	95.8		mg/L		96	90 - 110	1	10

Lab Sample ID: 570-137696-1 DU
Matrix: Water
Analysis Batch: 327910

Client Sample ID: Arroyo_Simi_Upstream_20230509_Grab
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Hardness as calcium carbonate	570		570		mg/L		0.8	15

QC Association Summary

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

Job ID: 570-137696-1
SDG: Dry Weather

General Chemistry

Analysis Batch: 327910

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137696-1	Arroyo_Simi_Upstream_20230509_Grab	Total/NA	Water	SM 2340C	
MB 570-327910/1	Method Blank	Total/NA	Water	SM 2340C	
LCS 570-327910/2	Lab Control Sample	Total/NA	Water	SM 2340C	
LCS 570-327910/4	Lab Control Sample	Total/NA	Water	SM 2340C	
LCSD 570-327910/3	Lab Control Sample Dup	Total/NA	Water	SM 2340C	
LCSD 570-327910/5	Lab Control Sample Dup	Total/NA	Water	SM 2340C	
570-137696-1 DU	Arroyo_Simi_Upstream_20230509_Grab	Total/NA	Water	SM 2340C	

Lab Chronicle

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

Job ID: 570-137696-1
SDG: Dry Weather

Client Sample ID: Arroyo_Simi_Upstream_20230509_Grab
Date Collected: 05/09/23 08:05
Date Received: 05/09/23 18:25

Lab Sample ID: 570-137696-1
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	SM 2340C		1	50 mL	50 mL	327910	05/10/23 13:52	U7UR	EET CAL 4
	Instrument ID: NOEQUIP									

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

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

Job ID: 570-137696-1
SDG: 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
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Kansas	NELAP	E-10420	07-31-23
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

Method Summary

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

Job ID: 570-137696-1
SDG: Dry Weather

Method	Method Description	Protocol	Laboratory
SM 2340C	Hardness, Total (mg/l as CaC03)	SM	EET CAL 4

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

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

Job ID: 570-137696-1
SDG: Dry Weather

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-137696-1	Arroyo_Simi_Upstream_20230509_Grab	Water	05/09/23 08:05	05/09/23 18:25

Scanned with CamScanner

Eurofins Calscience Tustin

CHAIN OF CUSTODY FORM

EDBPJ6UX

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-Upstream
Dry Weather

Eurofins Calscience Project Manager: Virendra Patel
2841 Dow Avenue, Suite #100
Tustin, CA 92780
Tel: 714-895-5494
ECI Project #57013187

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)

Sampler: Adrien Mobeka

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	Hardness as $CaCO_3$, Recoverable (SM2340B)
Arroyo Simi Upstream	Arroyo Simi Upstream_20230509_Grab	5/9/2023 0805	WS	500 mL Poly	3	HNO_3	80	Yes	X

Field Readings | Meter serial #

Field Readings: (Include units)

Time of Readings: 0805

pH 6.55 pH unit

Temp 60.9 °F

Velocity 0.4 ft/sec

Field readings QC

Checked by: MD

Date/Time: 5-9-2023 / 0805

Comments

underscores between "Arroyo", "Simi", and "Upstream" (M. Dominick, 5/9/2023)

Legend: A=Annual, Q=Quarterly

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
MD	5-9-2023 / 1135	H.A	EC	5/9/23 1135
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: X 5 Day: ____ Normal: ____

Sample Integrity: (Check)
Intact: ____ On Ice: ____
Store samples for 6 months.

Data Requirements: (Check)
No Level IV: ____ All Level IV: X

2021-2022 Rainy Season
Version 4

137696

Eurofins Calscience Tustin

CHAIN OF CUSTODY FORM

A Q A A Q Q

EDBPJ6UX

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

Eurofins Calscience Project Manager: Virendra Patel
2841 Dow Avenue, Suite #100
Tustin, CA 92780
Tel: 714-895-5494
ECI Project #57013187

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.

Sampler: Adrien Mobeka

Project:
Boeing-SSFL NPDES
Permit 2015
Annual Arroyo Simi-Upstream
Dry Weather

Project Manager: Katherine Miller
520.289.8606, 520.904.6944 (cell)

Field Manager: Mark Dominick
978.234.5033, 818.599.0702 (cell)

ANALYSIS REQUIRED

Field Readings | Meter serial #

Field Readings: (Include units)

Time of Readings: 0805

pH 6.55 pH unit

Temp 60.9 °C/°F

Velocity 0.4 ft/sec

Field readings QC

Checked by: [signature]

Date/Time: 5-9-2023 / 0805

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Hardness as $CaCO_3$, Recoverable (SM2340B)	Comments
Arroyo Simi Upstream	Arroyo Simi Upstream_20230509_Grab	5/9/2023/0805	WS	500 mL Poly	3	HNO_3	80	Yes	X	

570-137696 Chain of Custody

Legend: A=Annual, Q=Quarterly

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	5-9-2023/1135	ECA	[signature] EC	5/9/23 1135
[signature]	5/9/23 1825	EC	[signature]	5/9/23 1825

Turn-around time: (Check)
24 Hour: ____ 72 Hour: ____ 10 Day: X
48 Hour: X 5 Day: ____ Normal: ____

Sample Integrity: (Check)
Intact: ____ On Ice: ____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: ____ All Level IV: X

2.0/2.2 SCG

2021-2022 Rainy Season
Version 4

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-137696-1
SDG Number: Dry Weather

Login Number: 137696
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.	False	Refer to Job Narrative for details.
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

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 5/23/2023 6:17:28 PM

JOB DESCRIPTION

Boeing NPDES SSFL - Arroyo Sim-Frontier Park
SDG NUMBER Dry Weather

JOB NUMBER

570-137700-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

myEOL

Job Notes

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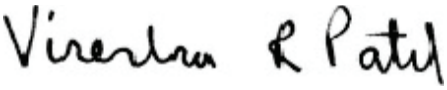

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5/23/2023 6:17:28 PM

Authorized for release by
Virendra Patel, Project Manager I
Virendra.Patel@et.eurofinsus.com
(714)895-5494

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Definitions/Glossary

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

Job ID: 570-137700-1
SDG: Dry Weather

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
PI	Primary and confirm results varied by > than 40% RPD

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: 570-137700-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-137700-1

Comments
No additional comments.

Receipt
The samples were received on 5/9/2023 6:25 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 1.8º 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 570-329405.The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.608.3

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.
Project/Site: Boeing NPDES SSFL - Arroyo Sim-Frontier Park

Job ID: 570-137700-1
SDG: Dry Weather

Client Sample ID: Arroyo_Simi_20230509_Grab

Lab Sample ID: 570-137700-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Hardness as calcium carbonate	980		20	4.2	mg/L	1		SM 2340C	Total/NA

This Detection Summary does not include radiochemical test results.

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

Job ID: 570-137700-1
SDG: Dry Weather

Method: EPA 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Arroyo_Simi_20230509_Grab
Date Collected: 05/09/23 07:15
Date Received: 05/09/23 18:25

Lab Sample ID: 570-137700-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.033	0.026	ug/L		05/16/23 13:44	05/17/23 16:12	1
4,4'-DDD	ND		0.0067	0.0044	ug/L		05/16/23 13:44	05/17/23 16:12	1
4,4'-DDE	ND		0.0033	0.0019	ug/L		05/16/23 13:44	05/17/23 16:12	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		05/16/23 13:44	05/17/23 16:12	1
Dieldrin	ND		0.0033	0.0013	ug/L		05/16/23 13:44	05/17/23 16:12	1
Toxaphene	ND		0.067	0.054	ug/L		05/16/23 13:44	05/17/23 16:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*27*	*PI*	*20 - 139*	*05/16/23 13:44*	*05/17/23 16:12*	*1*

Method: EPA 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: Arroyo_Simi_20230509_Grab
Lab Sample ID: 570-137700-1
Date Collected: 05/09/23 07:15
Matrix: Water
Date Received: 05/09/23 18:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		05/16/23 13:44	05/22/23 22:58	1
Aroclor 1221	ND		0.10	0.044	ug/L		05/16/23 13:44	05/22/23 22:58	1
Aroclor 1232	ND		0.10	0.044	ug/L		05/16/23 13:44	05/22/23 22:58	1
Aroclor 1242	ND		0.10	0.044	ug/L		05/16/23 13:44	05/22/23 22:58	1
Aroclor 1248	ND		0.10	0.044	ug/L		05/16/23 13:44	05/22/23 22:58	1
Aroclor 1254	ND		0.10	0.052	ug/L		05/16/23 13:44	05/22/23 22:58	1
Aroclor 1260	ND		0.10	0.052	ug/L		05/16/23 13:44	05/22/23 22:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*49*		*20 - 139*	*05/16/23 13:44*	*05/22/23 22:58*	*1*
DCB Decachlorobiphenyl (Surr)	*36*		*20 - 154*	*05/16/23 13:44*	*05/22/23 22:58*	*1*

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

Job ID: 570-137700-1
SDG: Dry Weather

General Chemistry

Client Sample ID: Arroyo_Simi_20230509_Grab
Date Collected: 05/09/23 07:15
Date Received: 05/09/23 18:25

Lab Sample ID: 570-137700-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate (SM 2340C)	980		20	4.2	mg/L			05/12/23 16:52	1

Surrogate Summary

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

Job ID: 570-137700-1
SDG: Dry Weather

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)
570-137700-1	Arroyo_Simi_20230509_Grab	27 PI
LCS 570-329405/2-A	Lab Control Sample	69
LCSD 570-329405/3-A	Lab Control Sample Dup	90

Surrogate Legend

TCX = Tetrachloro-m-xylene

Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	TCX2 (20-139)
MB 570-329405/1-A	Method Blank	89

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)
570-137700-1	Arroyo_Simi_20230509_Grab	49	36
LCS 570-329405/4-A	Lab Control Sample	86	88
LCSD 570-329405/5-A	Lab Control Sample Dup	71	73
MB 570-329405/1-A	Method Blank	75	77

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)
DCB = DCB Decachlorobiphenyl (Surr)

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-329405/1-A
Matrix: Water
Analysis Batch: 329563

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 329405

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane 2echnical6	ND		0.033	0.0u4	(g/L		05/14/u3 13:))	05/17/u3 1) :13	1
) ,) '-DDD	ND		0.0047	0.00))	(g/L		05/14/u3 13:))	05/17/u3 1) :13	1
) ,) '-DDE	ND		0.0033	0.0019	(g/L		05/14/u3 13:))	05/17/u3 1) :13	1
) ,) '-DDT	ND		0.0033	0.0014	(g/L		05/14/u3 13:))	05/17/u3 1) :13	1
Dieldrin	ND		0.0033	0.0013	(g/L		05/14/u3 13:))	05/17/u3 1) :13	1
Toxaphene	ND		0.047	0.05)	(g/L		05/14/u3 13:))	05/17/u3 1) :13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCBecalh l or dbi hQpC	*ny*		*(Sou) y*	*S83u63( ) 7u) 1 -*	*S83u23( ) 7u- 1u)*	*u*

Lab Sample ID: LCS 570-329405/2-A
Matrix: Water
Analysis Batch: 329563

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 329405

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
) ,) '-DDD			0.0333	0.037f		(g/L		113	31 - 1) 1		
) ,) '-DDE			0.0333	0.037)		(g/L		11u	30 - 1) 5		
) ,) '-DDT			0.0333	0.03f 5		(g/L		115	u5 - 140		
Dieldrin			0.0333	0.03f u		(g/L		115	34 - 1) 4		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCBecalh l or dbi hQpC	*6y*		*(Sou) y*

Lab Sample ID: LCSD 570-329405/3-A
Matrix: Water
Analysis Batch: 329563

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 329405

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
) ,) '-DDD			0.0333	0.03f f		(g/L		114	31 - 1) 1	u	39
) ,) '-DDE			0.0333	0.039u		(g/L		11f	30 - 1) 5	5	35
) ,) '-DDT			0.0333	0.039)		(g/L		11f	u5 - 140	u	) u
Dieldrin			0.0333	0.0394		(g/L		119	34 - 1) 4	)	) 9

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCBecalh l or dbi hQpC	*yS*		*(Sou) y*

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 570-329405/1-A
Matrix: Water
Analysis Batch: 330860

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 329405

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1014	ND		0.10	0.0))	(g/L		05/14/u3 13:))	05/uu/u3 1f :) 1	1
Aroclor 1uu1	ND		0.10	0.0))	(g/L		05/14/u3 13:))	05/uu/u3 1f :) 1	1
Aroclor 1u3u	ND		0.10	0.0))	(g/L		05/14/u3 13:))	05/uu/u3 1f :) 1	1
Aroclor 1u) u	ND		0.10	0.0))	(g/L		05/14/u3 13:))	05/uu/u3 1f :) 1	1
Aroclor 1u) f	ND		0.10	0.0))	(g/L		05/14/u3 13:))	05/uu/u3 1f :) 1	1

E(rosin8 Cal8cience

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC) (Continued)

Lab Sample ID: MB 570-329405/1-A
Matrix: Water
Analysis Batch: 330860

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 329405

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1u5)	ND		0.10	0.05u	(g/L		05/14/u3 13:))	05/uu/u3 1f :) 1	1
Aroclor 1u40	ND		0.10	0.05u	(g/L		05/14/u3 13:))	05/uu/u3 1f :) 1	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCBecalh l or obi hQpC705/ 4	*28*		*(Sou) y*	*S83u63( ) 7u) 1- -*	*S83((3( ) 7un1- u*	*u*
: 9 T7. Ccecalh l t maQpi h705/ 4	*22*		*(Sou8-*	*S83u63( ) 7u) 1- -*	*S83((3( ) 7un1- u*	*u*

Lab Sample ID: LCS 570-329405/4-A
Matrix: Water
Analysis Batch: 330860

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 329405

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Aroclor 1014			0.133	0.1u5		(g/L		9)	50 - 1) 0		
Aroclor 1u40			0.133	0.131		(g/L		99	f - 1) 0		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCBecalh l or obi hQpC705/ 4	*n6*		*(Sou) y*
: 9 T7. Ccecalh l t maQpi h705/ 4	*nn*		*(Sou8-*

Lab Sample ID: LCSD 570-329405/5-A
Matrix: Water
Analysis Batch: 330860

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 329405

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aroclor 1014			0.133	0.1u0		(g/L		90	50 - 1) 0	)	34
Aroclor 1u40			0.133	0.1u7		(g/L		94	f - 1) 0	3	3f

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCBecalh l or obi hQpC705/ 4	*2u*		*(Sou) y*
: 9 T7. Ccecalh l t maQpi h705/ 4	*2)*		*(Sou8-*

Method: SM 2340C - Hardness, Total (mg/l as CaC03)

Lab Sample ID: MB 570-328685/1
Matrix: Water
Analysis Batch: 328685

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardne88 a8 calci(m carbonate	ND		u.0	0.) u	mg/L			05/1u/u3 14:) 1	1

Lab Sample ID: LCS 570-328685/2
Matrix: Water
Analysis Batch: 328685

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Hardne88 a8 calci(m carbonate			10.0	9.40		mg/L		94	90 - 110		

Method: SM 2340C - Hardness, Total (mg/l as CaC03) (Continued)

Lab Sample ID: LCS 570-328685/4
Matrix: Water
Analysis Batch: 328685

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Hardne88 a8 calci(m carbonate			100	95.u		mg/L		95	90 - 110		

Lab Sample ID: LCSD 570-328685/3
Matrix: Water
Analysis Batch: 328685

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
Hardne88 a8 calci(m carbonate			10.0	10.0		mg/L		100	90 - 110	)	10

Lab Sample ID: LCSD 570-328685/5
Matrix: Water
Analysis Batch: 328685

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
Hardne88 a8 calci(m carbonate			100	95.0		mg/L		95	90 - 110	0	10

GC Semi VOA

Prep Batch: 329405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137700-1	Arroyo_Simi_20230509_Grab	Total/NA	Water	608	
MB 570-329405/1-A	Method Blank	Total/NA	Water	608	
LCS 570-329405/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 570-329405/4-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-329405/3-A	Lab Control Sample Dup	Total/NA	Water	608	
LCSD 570-329405/5-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 329563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137700-1	Arroyo_Simi_20230509_Grab	Total/NA	Water	608.3	329405
MB 570-329405/1-A	Method Blank	Total/NA	Water	608.3	329405
LCS 570-329405/2-A	Lab Control Sample	Total/NA	Water	608.3	329405
LCSD 570-329405/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	329405

Analysis Batch: 330860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137700-1	Arroyo_Simi_20230509_Grab	Total/NA	Water	608.3	329405
MB 570-329405/1-A	Method Blank	Total/NA	Water	608.3	329405
LCS 570-329405/4-A	Lab Control Sample	Total/NA	Water	608.3	329405
LCSD 570-329405/5-A	Lab Control Sample Dup	Total/NA	Water	608.3	329405

General Chemistry

Analysis Batch: 328685

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137700-1	Arroyo_Simi_20230509_Grab	Total/NA	Water	SM 2340C	
MB 570-328685/1	Method Blank	Total/NA	Water	SM 2340C	
LCS 570-328685/2	Lab Control Sample	Total/NA	Water	SM 2340C	
LCS 570-328685/4	Lab Control Sample	Total/NA	Water	SM 2340C	
LCSD 570-328685/3	Lab Control Sample Dup	Total/NA	Water	SM 2340C	
LCSD 570-328685/5	Lab Control Sample Dup	Total/NA	Water	SM 2340C	

Lab Chronicle

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

Job ID: 570-137700-1
SDG: Dry Weather

Client Sample ID: Arroyo_Simi_20230509_Grab

Date Collected: 05/09/23 07:15
Date Received: 05/09/23 18:25

Lab Sample ID: 570-137700-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			1500 mL	1 mL	329405	05/16/23 13:44	USUL	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	329563	05/17/23 16:12	N5Y3	EET CAL 4
	Instrument ID: GC54A									
Total/NA	Prep	608			1500 mL	1 mL	329405	05/16/23 13:44	USUL	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	330860	05/22/23 22:58	UJ3K	EET CAL 4
	Instrument ID: GC58									
Total/NA	Analysis	SM 2340C		1	5 mL	50 mL	328685	05/12/23 16:52	U7UR	EET CAL 4
	Instrument ID: NOEQUIP									

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

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

Job ID: 570-137700-1
SDG: 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
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Kansas	NELAP	E-10420	07-31-23
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

Method Summary

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

Job ID: 570-137700-1
SDG: Dry Weather

Method	Method Description	Protocol	Laboratory
608.3	Organochlorine Pesticides in Water	EPA	EET CAL 4
608.3	Polychlorinated Biphenyls (PCBs) (GC)	EPA	EET CAL 4
SM 2340C	Hardness, Total (mg/l as CaC03)	SM	EET CAL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	EPA	EET CAL 4

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

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

Job ID: 570-137700-1
SDG: Dry Weather

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-137700-1	Arroyo_Simi_20230509_Grab	Water	05/09/23 07:15	05/09/23 18:25

137700

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

EDBPJ6UX

Q Q Q

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

Eurofins Calscience Irvine Contact: Virendra Patel
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: 949-260-3218
ECI Project # 57013187

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: Adrien Mobeka

Project:
Boeing-SSFL NPDES
Permit 2015
Quarterly Arroyo Simi-Frontier Park
Dry Weather

Project Manager: Katherine Miller
520.289.8606, 520.904.6944 (cell)

Field Manager: Mark Dominick
978.234.5033, 818.599.0702 (cell)

ANALYSIS REQUIRED

Field Readings | Meter serial #

Field Readings: (Include units)

Time of Readings: 0700

pH 6.51 pH unit

Temp 62.2 °C/F

Velocity 0.1 ft/sec

Field readings QC

Checked by:

Date/Time: 5-9-2023/0700

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Hardness as CaCO3, Recoverable (SM2340B)	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_20230509_Grab	5/9/2023 0715	WS	250 mL Poly	1	HNO_3	100	No	X							
			WS	1L Glass Amber	2	None	275	No		X						Extract within 24-Hours of sampling at Weck Labs
			WS	1L Glass Amber	2	None	285	No			X					
	Arroyo_Simi_20230509_Grab_Extra	5/9/2023 0715	WS	1L Glass Amber	2	~~None~~ ICE	275	No		H						Hold
			WS	1L Glass Amber	2	None	285	No			H					Hold

570-137700 Chain of Custody

Legend: Q=Quarterly

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	5-9-2023/1135	H.T		5/9/23 1135 EC
	5/9/23 1825 EC			5/9/23 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

2019-2020 Rainy Season
Version 2

1.6/1.8 SCM
6

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-137700-1
SDG Number: Dry Weather

Login Number: 137700
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

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 5/26/2023 2:59:46 PM

JOB DESCRIPTION

Boeing NPDES SSFL - Arroyo Sim-Frontier Park
SDG NUMBER Dry Weather

JOB NUMBER

570-137700-2

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

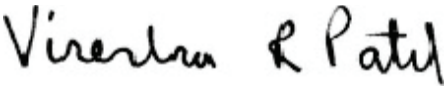
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization



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Authorized for release by
Virendra Patel, Project Manager I
Virendra.Patel@et.eurofinsus.com
(714)895-5494

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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: 570-137700-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-137700-2

Comments
No additional comments.

Receipt
The samples were received on 5/9/2023 6:25 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 1.8º 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: 570-137700-2
Project/Site: Boeing NPDES SSFL - Arroyo Sim-Frontier Park
SDG: Dry Weather

Client Sample ID: Arroyo_Simi_20230509_Grab
Lab Sample ID: 570-137700-1

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-137700-2
Project/Site: Boeing NPDES SSFL - Arroyo Sim-Frontier Park
SDG: 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 East Clark Avenue, City of Industry, CA 917451396

Sample Summary

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

Job ID: 570-137700-2
SDG: Dry Weather

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-137700-1	Arroyo_Simi_20230509_Grab	Water	05/09/23 07:15	05/09/23 18:25

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

Chain of Custody Record

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3C Tech

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-224089.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-137700-2
Address: 14859 East Clark Avenue,	Due Date Requested: 5/31/2023			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 917451396				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Arroyo Sim Frontier Park	Project #: 57013187			
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, Y - Trizma, 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- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Arroyo_Simi_20230509_Grab (570-137700-1)	5/9/23	07:15 Pacific		Water			X	2	See Attached Instructions

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our 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	[signature]	5/10/23 11:08	EC	[signature]	05/10/23 11:08	
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: 1.9c T0279

WECK LABORATORIES, INC.

Sample Receipt Checklist

5/26/2023

Weck WKO: **3E10076**
WKO Logged by: Rey Edrosa
Samples Checked by: Rey Edrosa

Date/Time Received: 05/10/23 @ 11:08
# of Samples: 02
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	1.9°C			
	Samples received on ice?	☒	☐		
	Ice Type (Blue/Wet)	Wet			
	All samples intact?	☒	☐		
	Samples in proper containers?	☒	☐		
	Sufficient sample volume?	☒	☐		
	Received within holding time?	☒	☐		
	Project Manager notified?	☐	☐	☒	
Sample Preservation Verification?	Sample labels checked for correct preservation?	☒	☐	☐	
	VOC Headspace: (No) none, If Yes (See comment) 524.2, 524.3, 624.1, 8260, 1666 P/T, LUFT	☐	☐	☒	☐ <6mm/Pea size?
	pH verified upon receipt? Metals <2; H2SO4 pres tests <2; 522<4; TOC <2; 508.1, 525.2<2; 6710B<2; 608.3 5-9	☐	☐	☒	pH paper Lot#
	Free Chlorine Tested <0.1 (Organics Analyses)	☐	☐	☒	Cl Test Strip Lot#
	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: Rey Edrosa Date: 05/10/2023

137700

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

EDBPJ6UX

Q Q Q

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

Eurofins Calscience Irvine Contact: Virendra Patel
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: 949-260-3218
ECI Project # 57013187

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: Adrien Mobeka

Project:
Boeing-SSFL NPDES
Permit 2015
Quarterly Arroyo Simi-Frontier Park
Dry Weather

Project Manager: Katherine Miller
520.289.8606, 520.904.6944 (cell)

Field Manager: Mark Dominick
978.234.5033, 818.599.0702 (cell)

ANALYSIS REQUIRED

Field Readings | Meter serial #

Field Readings: (Include units)
Time of Readings: 0700
pH 6.51 pH unit
Temp 62.2 °C/F
Velocity 0.1 ft/sec

Field readings QC
Checked by:
Date/Time: 5-9-2023/0700

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Hardness as CaCO3, Recoverable (SM2340B)	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_20230509_Grab	5/9/2023 0715	WS	250 mL Poly	1	HNO_3	100	No	X			
			WS	1L Glass Amber	2	None	275	No		X		Extract within 24-Hours of sampling at Weck Labs
			WS	1L Glass Amber	2	None	285	No			X	
	Arroyo_Simi_20230509_Grab_Extra	5/9/2023 0715	WS	1L Glass Amber	2	None	275	No		H		Hold
			WS	1L Glass Amber	2	None	285	No			H	Hold

570-137700 Chain of Custody

Legend: Q=Quarterly

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	5-9-2023/1135	H.A		5/9/23 1135 EC
	5/9/23 1825	EC		5/9/23 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

2019-2020 Rainy Season
Version 2

1.6/1.8 SCM
6

5/26/2023

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-137700-2
SDG Number: Dry Weather

Login Number: 137700
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

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 4/25/2023 10:04:42 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Quarterly Outfall 001 - Grab

JOB NUMBER

570-133560-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

myEOL

Job Notes

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The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

Virendra R Patil

Generated
4/25/2023 10:04:42 AM

Authorized for release by
Virendra Patel, Project Manager I
Virendra.Patel@et.eurofinsus.com
(714)895-5494

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-133560-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - 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

Job ID: 570-133560-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-133560-1

Comments
No additional comments.

Receipt
The samples were received on 4/4/2023 7:13 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 1.7º C.

GC/MS VOA
Method 624.1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with analytical batch 570-317706 were outside control limits: (570-133658-A-1 MS) and (570-133658-A-1 MSD). The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method 624.1: The preservative used in the sample containers provided is not compatible with the Method 624 analytes requested. The following samples were received preserved with hydrochloric acid: Outfall001_20230404_Grab (570-133560-1) and TB-20230404 (570-133560-2). The requested target analyte list contains 2-Chloroethyl vinyl ether and/or Acrolein, which are acid-labile compounds that degrade in an acidic medium.

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.

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

Organic Prep
Method 1664A: The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-318255.
Method: 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.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Grab

Job ID: 570-133560-1

Client Sample ID: Outfall001_20230404_Grab — Lab Sample ID: 570-133560-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	250		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: TB-20230404 — Lab Sample ID: 570-133560-2

No Detections.

This Detection Summary does not include radiochemical test results.

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall001_20230404_Grab
Lab Sample ID: 570-133560-1
Date Collected: 04/04/23 08:35
Matrix: Water
Date Received: 04/04/23 19:13

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/05/23 16:26	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			04/05/23 16:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			04/05/23 16:26	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			04/05/23 16:26	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			04/05/23 16:26	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			04/05/23 16:26	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			04/05/23 16:26	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			04/05/23 16:26	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			04/05/23 16:26	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			04/05/23 16:26	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			04/05/23 16:26	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			04/05/23 16:26	1
Acrolein	ND		5.0	4.6	ug/L			04/05/23 16:26	1
Acrylonitrile	ND		2.0	1.4	ug/L			04/05/23 16:26	1
Benzene	ND		0.50	0.28	ug/L			04/05/23 16:26	1
Bromoform	ND		1.0	0.25	ug/L			04/05/23 16:26	1
Bromomethane	ND		0.50	0.22	ug/L			04/05/23 16:26	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			04/05/23 16:26	1
Chlorobenzene	ND		0.50	0.19	ug/L			04/05/23 16:26	1
Dibromochloromethane	ND		0.50	0.15	ug/L			04/05/23 16:26	1
Chloroethane	ND		1.0	0.29	ug/L			04/05/23 16:26	1
Chloroform	ND		0.50	0.19	ug/L			04/05/23 16:26	1
Chloromethane	ND		0.50	0.30	ug/L			04/05/23 16:26	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			04/05/23 16:26	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			04/05/23 16:26	1
Bromodichloromethane	ND		0.50	0.19	ug/L			04/05/23 16:26	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/05/23 16:26	1
Methylene Chloride	ND		2.0	0.57	ug/L			04/05/23 16:26	1
m,p-Xylene	ND		1.0	0.17	ug/L			04/05/23 16:26	1
Naphthalene	ND		1.0	0.33	ug/L			04/05/23 16:26	1
o-Xylene	ND		0.50	0.15	ug/L			04/05/23 16:26	1
Tetrachloroethene	ND		0.50	0.21	ug/L			04/05/23 16:26	1
Toluene	ND		0.50	0.23	ug/L			04/05/23 16:26	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			04/05/23 16:26	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			04/05/23 16:26	1
Trichloroethene	ND		0.50	0.17	ug/L			04/05/23 16:26	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			04/05/23 16:26	1
Vinyl chloride	ND		0.50	0.47	ug/L			04/05/23 16:26	1
Xylenes, Total	ND		1.0	0.17	ug/L			04/05/23 16:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*60 - 140*		*04/05/23 16:26*	*1*
Toluene-d8 (Surr)	*102*		*60 - 140*		*04/05/23 16:26*	*1*
Dibromofluoromethane (Surr)	*87*		*60 - 140*		*04/05/23 16:26*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-133560-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Grab

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: TB-20230404
Date Collected: 04/04/23 08:35
Date Received: 04/04/23 19:13

Lab Sample ID: 570-133560-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/05/23 16:03	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			04/05/23 16:03	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			04/05/23 16:03	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			04/05/23 16:03	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			04/05/23 16:03	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			04/05/23 16:03	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			04/05/23 16:03	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			04/05/23 16:03	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			04/05/23 16:03	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			04/05/23 16:03	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			04/05/23 16:03	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			04/05/23 16:03	1
Acrolein	ND		5.0	4.6	ug/L			04/05/23 16:03	1
Acrylonitrile	ND		2.0	1.4	ug/L			04/05/23 16:03	1
Benzene	ND		0.50	0.28	ug/L			04/05/23 16:03	1
Bromoform	ND		1.0	0.25	ug/L			04/05/23 16:03	1
Bromomethane	ND		0.50	0.22	ug/L			04/05/23 16:03	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			04/05/23 16:03	1
Chlorobenzene	ND		0.50	0.19	ug/L			04/05/23 16:03	1
Dibromochloromethane	ND		0.50	0.15	ug/L			04/05/23 16:03	1
Chloroethane	ND		1.0	0.29	ug/L			04/05/23 16:03	1
Chloroform	ND		0.50	0.19	ug/L			04/05/23 16:03	1
Chloromethane	ND		0.50	0.30	ug/L			04/05/23 16:03	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			04/05/23 16:03	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			04/05/23 16:03	1
Bromodichloromethane	ND		0.50	0.19	ug/L			04/05/23 16:03	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/05/23 16:03	1
Methylene Chloride	ND		2.0	0.57	ug/L			04/05/23 16:03	1
m,p-Xylene	ND		1.0	0.17	ug/L			04/05/23 16:03	1
Naphthalene	ND		1.0	0.33	ug/L			04/05/23 16:03	1
o-Xylene	ND		0.50	0.15	ug/L			04/05/23 16:03	1
Tetrachloroethene	ND		0.50	0.21	ug/L			04/05/23 16:03	1
Toluene	ND		0.50	0.23	ug/L			04/05/23 16:03	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			04/05/23 16:03	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			04/05/23 16:03	1
Trichloroethene	ND		0.50	0.17	ug/L			04/05/23 16:03	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			04/05/23 16:03	1
Vinyl chloride	ND		0.50	0.47	ug/L			04/05/23 16:03	1
Xylenes, Total	ND		1.0	0.17	ug/L			04/05/23 16:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*60 - 140*		*04/05/23 16:03*	*1*
Toluene-d8 (Surr)	*98*		*60 - 140*		*04/05/23 16:03*	*1*
Dibromofluoromethane (Surr)	*96*		*60 - 140*		*04/05/23 16:03*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-133560-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Grab

General Chemistry

Client Sample ID: Outfall001_20230404_Grab
Date Collected: 04/04/23 08:35
Date Received: 04/04/23 19:13

Lab Sample ID: 570-133560-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664A)	ND		0.97	0.50	mg/L		04/07/23 07:45	04/07/23 14:04	1
Specific Conductance (SM 2510B)	**250**		1.0	1.0	umhos/cm			04/21/23 13:23	1
Settleable Solids (SM 2540F)	ND		0.10	0.10	mL/L			04/04/23 22:03	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Grab

Job ID: 570-133560-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	TOL	DBFM
Lab Sample ID	Client Sample ID	(60-140)	(60-140)	(60-140)
570-133560-1	Outfall001_20230404_Grab	105	102	87
570-133560-2	TB-20230404	104	98	96
LCS 570-317706/1003	Lab Control Sample	107	102	96
LCSD 570-317706/4	Lab Control Sample Dup	102	103	95
MB 570-317706/6	Method Blank	102	101	87

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Client: Haley & Aldrich, Inc.
Job ID: 570-133560-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Grab

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-317706/6
Matrix: Water
Analysis Batch: 317706

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-2richloroethane	ND		0.50	0.45	ug/L			0T/05/43 15:17	1
1,1,4,4-2etrachloroethane	ND		0.50	0.40	ug/L			0T/05/43 15:17	1
1,1,4-2richloro-1,4,4-trifluoroethane	ND		4.0	0.33	ug/L			0T/05/43 15:17	1
1,1,4-2richloroethane	ND		0.50	0.17	ug/L			0T/05/43 15:17	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			0T/05/43 15:17	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			0T/05/43 15:17	1
1,4-Dichlorobenzene	ND		0.50	0.16	ug/L			0T/05/43 15:17	1
1,4-Dichloroethane	ND		0.50	0.15	ug/L			0T/05/43 15:17	1
1,4-Dichloropropane	ND		0.50	0.17	ug/L			0T/05/43 15:17	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			0T/05/43 15:17	1
1,T-Dichlorobenzene	ND		0.50	0.11	ug/L			0T/05/43 15:17	1
4-Chloroethyl vinyl ether	ND		4.0	1.1	ug/L			0T/05/43 15:17	1
Acrolein	ND		5.0	T.6	ug/L			0T/05/43 15:17	1
Acrylonitrile	ND		4.0	1.T	ug/L			0T/05/43 15:17	1
Benzene	ND		0.50	0.48	ug/L			0T/05/43 15:17	1
Bromoform	ND		1.0	0.45	ug/L			0T/05/43 15:17	1
Bromomethane	ND		0.50	0.44	ug/L			0T/05/43 15:17	1
Carbon tetrachloride	ND		0.50	0.48	ug/L			0T/05/43 15:17	1
Chlorobenzene	ND		0.50	0.19	ug/L			0T/05/43 15:17	1
Dibromochloromethane	ND		0.50	0.15	ug/L			0T/05/43 15:17	1
Chloroethane	ND		1.0	0.49	ug/L			0T/05/43 15:17	1
Chloroform	ND		0.50	0.19	ug/L			0T/05/43 15:17	1
Chloromethane	ND		0.50	0.30	ug/L			0T/05/43 15:17	1
cis-1,4-Dichloroethene	ND		0.50	0.41	ug/L			0T/05/43 15:17	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			0T/05/43 15:17	1
Bromodichloromethane	ND		0.50	0.19	ug/L			0T/05/43 15:17	1
Ethylbenzene	ND		0.50	0.45	ug/L			0T/05/43 15:17	1
Methylene Chloride	ND		4.0	0.57	ug/L			0T/05/43 15:17	1
m,p-Xylene	ND		1.0	0.17	ug/L			0T/05/43 15:17	1
Naphthalene	ND		1.0	0.33	ug/L			0T/05/43 15:17	1
o-Xylene	ND		0.50	0.15	ug/L			0T/05/43 15:17	1
2etrachloroethene	ND		0.50	0.41	ug/L			0T/05/43 15:17	1
2oluene	ND		0.50	0.43	ug/L			0T/05/43 15:17	1
trans-1,4-Dichloroethene	ND		0.50	0.4T	ug/L			0T/05/43 15:17	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			0T/05/43 15:17	1
2richloroethene	ND		0.50	0.17	ug/L			0T/05/43 15:17	1
2richlorofluoromethane	ND		0.50	0.49	ug/L			0T/05/43 15:17	1
Vinyl chloride	ND		0.50	0.T7	ug/L			0T/05/43 15:17	1
Xylenes, 2otal	ND		1.0	0.17	ug/L			0T/05/43 15:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*60 - 140*		*04/05/23 15:17*	*1*
Toluene-d8 (Surr)	*101*		*60 - 140*		*04/05/23 15:17*	*1*
Dibromofluoromethane (Surr)	*87*		*60 - 140*		*04/05/23 15:17*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Grab

Job ID: 570-133560-1

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-317706/1003
Matrix: Water
Analysis Batch: 317706

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-2richloroethane	10.0	11.7		ug/L		117	70 - 130
1,1,4,4-2etrachloroethane	10.0	9.77		ug/L		98	60 - 1T0
1,1,4-2richloro-1,4,4-trifluoroetha ne	10.0	10.3		ug/L		103	60 - 1T0
1,1,4-2richloroethane	10.0	10.5		ug/L		105	70 - 130
1,1-Dichloroethane	10.0	10.6		ug/L		106	70 - 130
1,1-Dichloroethene	10.0	10.T		ug/L		10T	50 - 150
1,4-Dichlorobenzene	10.0	9.75		ug/L		98	65 - 135
1,4-Dichloroethane	10.0	11.9		ug/L		119	70 - 130
1,4-Dichloropropane	10.0	11.1		ug/L		111	35 - 165
1,3-Dichlorobenzene	10.0	10.1		ug/L		101	70 - 130
1,T-Dichlorobenzene	10.0	9.91		ug/L		99	65 - 135
4-Chloroethyl vinyl ether	10.0	7.75		ug/L		78	1 - 445
Acrolein	40.0	18.T		ug/L		94	60 - 1T0
Acrylonitrile	10.0	11.6		ug/L		116	60 - 1T0
Benzene	10.0	10.7		ug/L		107	65 - 135
Bromoform	10.0	10.T		ug/L		10T	70 - 130
Bromomethane	10.0	15.9		ug/L		159	15 - 185
Carbon tetrachloride	10.0	11.3		ug/L		113	70 - 130
Chlorobenzene	10.0	10.6		ug/L		106	65 - 135
Dibromochloromethane	10.0	10.8		ug/L		108	70 - 135
Chloroethane	10.0	9.61		ug/L		96	T0 - 160
Chloroform	10.0	10.8		ug/L		108	70 - 135
Chloromethane	10.0	11.1		ug/L		111	1 - 405
cis-1,4-Dichloroethene	10.0	9.94		ug/L		99	60 - 1T0
cis-1,3-Dichloropropene	10.0	11.1		ug/L		111	45 - 175
Bromodichloromethane	10.0	11.8		ug/L		118	65 - 135
Ethylbenzene	10.0	11.1		ug/L		111	60 - 1T0
Methylene Chloride	10.0	9.70		ug/L		97	60 - 1T0
m,p-Xylene	40.0	44.6		ug/L		113	60 - 1T0
Naphthalene	10.0	9.17		ug/L		94	60 - 1T0
o-Xylene	10.0	11.0		ug/L		110	60 - 1T0
2etrachloroethene	10.0	11.5		ug/L		115	70 - 130
2oluene	10.0	10.5		ug/L		105	70 - 130
trans-1,4-Dichloroethene	10.0	10.0		ug/L		100	70 - 130
trans-1,3-Dichloropropene	10.0	11.3		ug/L		113	50 - 150
2richloroethene	10.0	10.8		ug/L		108	65 - 135
2richlorofluoromethane	10.0	11.4		ug/L		114	50 - 150
Vinyl chloride	10.0	9.78		ug/L		98	5 - 195
Xylenes, 2otal	30.0	33.6		ug/L		114	60 - 1T0

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*60 - 140*
Toluene-d8 (Surr)	*102*		*60 - 140*
Dibromofluoromethane (Surr)	*96*		*60 - 140*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 570-317706/4
Matrix: Water
Analysis Batch: 317706

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
1,1,1-2richloroethane			10.0	14.0		ug/L		140	70 - 130	3	36
1,1,4,4-2etrachloroethane			10.0	9.39		ug/L		9T	60 - 1T0	T	61
1,1,4-2richloro-1,4,4-trifluoroetha ne			10.0	11.0		ug/L		110	60 - 1T0	7	30
1,1,4-2richloroethane			10.0	10.6		ug/L		106	70 - 130	1	T5
1,1-Dichloroethane			10.0	11.0		ug/L		110	70 - 130	T	T0
1,1-Dichloroethene			10.0	10.7		ug/L		107	50 - 150	4	34
1,4-Dichlorobenzene			10.0	10.0		ug/L		100	65 - 135	3	57
1,4-Dichloroethane			10.0	11.6		ug/L		116	70 - 130	4	T9
1,4-Dichloropropane			10.0	11.4		ug/L		114	35 - 165	0	55
1,3-Dichlorobenzene			10.0	10.5		ug/L		105	70 - 130	T	T3
1,T-Dichlorobenzene			10.0	10.4		ug/L		104	65 - 135	3	57
4-Chloroethyl vinyl ether			10.0	7.80		ug/L		78	1 - 445	1	71
Acrolein			40.0	17.8		ug/L		89	60 - 1T0	3	60
Acrylonitrile			10.0	11.5		ug/L		115	60 - 1T0	1	60
Benzene			10.0	11.0		ug/L		110	65 - 135	3	61
Bromoform			10.0	10.5		ug/L		105	70 - 130	1	T4
Bromomethane			10.0	13.T		ug/L		13T	15 - 185	17	61
Carbon tetrachloride			10.0	11.8		ug/L		118	70 - 130	T	T1
Chlorobenzene			10.0	10.T		ug/L		10T	65 - 135	4	53
Dibromochloromethane			10.0	11.4		ug/L		114	70 - 135	T	50
Chloroethane			10.0	9.80		ug/L		98	T0 - 160	4	78
Chloroform			10.0	10.9		ug/L		109	70 - 135	1	30
Chloromethane			10.0	11.3		ug/L		113	1 - 405	1	60
cis-1,4-Dichloroethene			10.0	10.0		ug/L		100	60 - 1T0	1	30
cis-1,3-Dichloropropene			10.0	11.7		ug/L		117	45 - 175	5	58
Bromodichloromethane			10.0	14.0		ug/L		140	65 - 135	4	56
Ethylbenzene			10.0	11.4		ug/L		114	60 - 1T0	1	63
Methylene Chloride			10.0	8.T4		ug/L		8T	60 - 1T0	1T	48
m,p-Xylene			40.0	43.4		ug/L		116	60 - 1T0	3	30
Naphthalene			10.0	9.56		ug/L		96	60 - 1T0	T	30
o-Xylene			10.0	11.0		ug/L		110	60 - 1T0	1	30
2etrachloroethene			10.0	11.8		ug/L		118	70 - 130	3	39
2oluene			10.0	10.8		ug/L		108	70 - 130	4	T1
trans-1,4-Dichloroethene			10.0	10.6		ug/L		106	70 - 130	6	T5
trans-1,3-Dichloropropene			10.0	11.5		ug/L		115	50 - 150	4	86
2richloroethene			10.0	11.3		ug/L		113	65 - 135	T	T8
2richlorofluoromethane			10.0	11.5		ug/L		115	50 - 150	3	8T
Vinyl chloride			10.0	9.8T		ug/L		98	5 - 195	1	66
Xylenes, 2otal			30.0	3T.4		ug/L		11T	60 - 1T0	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*60 - 140*
Toluene-d8 (Surr)	*103*		*60 - 140*
Dibromofluoromethane (Surr)	*95*		*60 - 140*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Grab

Job ID: 570-133560-1

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-318255/1-A
Matrix: Water
Analysis Batch: 318449

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 318255

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		0T/07/43 07:T5	0T/07/43 1T:0T	1

Lab Sample ID: LCS 570-318255/2-A
Matrix: Water
Analysis Batch: 318449

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 318255

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil & Grease)	T0.0	35.6		mg/L		89	78 - 11T

Lab Sample ID: LCSD 570-318255/3-A
Matrix: Water
Analysis Batch: 318449

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 318255

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil & Grease)	T0.0	31.7		mg/L		79	78 - 11T	14	18

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 570-322764/10
Matrix: Water
Analysis Batch: 322764

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			0T/41/43 11:37	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-133560-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Grab

GC/MS VOA

Analysis Batch: 317706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133560-1	Outfall001_20230404_Grab	Total/NA	Water	624.1	
570-133560-2	TB-20230404	Total/NA	Water	624.1	
MB 570-317706/6	Method Blank	Total/NA	Water	624.1	
LCS 570-317706/1003	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-317706/4	Lab Control Sample Dup	Total/NA	Water	624.1	

General Chemistry

Analysis Batch: 317342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133560-1	Outfall001_20230404_Grab	Total/NA	Water	SM 2540F	

Prep Batch: 318255

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133560-1	Outfall001_20230404_Grab	Total/NA	Water	1664A	
MB 570-318255/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-318255/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-318255/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

Analysis Batch: 318449

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133560-1	Outfall001_20230404_Grab	Total/NA	Water	1664A	318255
MB 570-318255/1-A	Method Blank	Total/NA	Water	1664A	318255
LCS 570-318255/2-A	Lab Control Sample	Total/NA	Water	1664A	318255
LCSD 570-318255/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	318255

Analysis Batch: 322764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133560-1	Outfall001_20230404_Grab	Total/NA	Water	SM 2510B	
MB 570-322764/10	Method Blank	Total/NA	Water	SM 2510B	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-133560-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Grab

Client Sample ID: Outfall001_20230404_Grab
Lab Sample ID: 570-133560-1
Date Collected: 04/04/23 08:35
Matrix: Water
Date Received: 04/04/23 19:13

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	317706	04/05/23 16:26	N1A	EET CAL 4
	Instrument ID: GCMSJJ									
Total/NA	Prep	1664A			1028 mL	1000 mL	318255	04/07/23 07:45	RY4P	EET CAL 4
Total/NA	Analysis	1664A		1			318449	04/07/23 14:04	L6IE	EET CAL 4
	Instrument ID: NO EQUIQ									
Total/NA	Analysis	SM 2510B		1			322764	04/21/23 13:23	UAPD	EET CAL 4
	Instrument ID: ManSciMantech									
Total/NA	Analysis	SM 2540F		1	1000 mL	1 L	317342	04/04/23 22:03	TXA8	EET CAL 4
	Instrument ID: NOEQUIP									

Client Sample ID: TB-20230404
Lab Sample ID: 570-133560-2
Date Collected: 04/04/23 08:35
Matrix: Water
Date Received: 04/04/23 19:13

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	317706	04/05/23 16:03	N1A	EET CAL 4
	Instrument ID: GCMSJJ									

Laboratory References:
EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-133560-1
Project/Site: Boeing NPDES SSFL - Quarterly 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
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Grab

Job ID: 570-133560-1

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	EPA	EET CAL 4
1664A	HEM and SGT-HEM	1664A	EET CAL 4
SM 2510B	Conductivity, Specific Conductance	SM	EET CAL 4
SM 2540F	Solids, Settleable	SM	EET CAL 4
1664A	HEM and SGT-HEM (Aqueous)	1664A	EET CAL 4

Protocol References:

1664A = EPA-821-98-002

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Grab

Job ID: 570-133560-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-133560-1	Outfall001_20230404_Grab	Water	04/04/23 08:35	04/04/23 19:13
570-133560-2	TB-20230404	Water	04/04/23 08:35	04/04/23 19:13

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

RAX7NNGN

Client Name/Address:	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 001 Grab
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	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: Neal Smith	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Oil & Grease (E1664A-HEM) R	VOCs + 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) (E624) Q/S	Settleable Solids (E160.5 (SM2540F)) R	Conductivity (SM2510B / E120.1) R	ANALYSIS REQUIRED
Outfall 001	Outfall001_20230404_Grab	4/4/2023 0835	WM	1 L Glass Amber	2	HCl	15	No	X				
			WM	40 mL VOA	3	HCl	20	No		X			
			WM	1 L Poly	1	None	70	No			X		
			WM	500 mL Poly	1	None	75	No				X	
Trip Blank	TB-20230404	4/4/2023 0835	WQ	40 mL VOA	2	HCl	20	No		X			

Legend: R=Routine, Q=Quarterly, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Michelle Dallalah		Haley & Aldrich		
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__

Field Readings | Meter serial #

Field Readings: (Include units)
Time of Readings: 0835
DO 10.93 mg/L
pH 8.31 pH unit
Temp 9.55 °F

Field readings QC
Checked by: _____
Date/Time: 4-4-2024 2023

Comments: edit by M. Dallalah 4/4/23 4:15pm

Revised COC received from Michelle Dallalah *H&A) on 04/04/23 at 16:19pm.

4/25/2023

2019-2020 Rainy Season
Version 5

this should be VOCs - only 1,1 DCE, 1,2 DCA, TCE (E624), please update

Loc: 570
133560

Page 1 of 1

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

RAX7NNGN

Client Name/Address:	Project:	Field Readings	Meter serial #
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 001 Grab	Field Readings: (Include units) Time of Readings: 0835 DO 10.93 mg/L pH 8.31 pH unit Temp 9.55 °C °F	
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)	Field readings QC Checked by: Date/Time: 4-4-2024	
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: Neal Smith	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		

									ANALYSIS REQUIRED											
									R	Q/S	R	R								
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Oil & Grease (E1664A-HEM)	VOCs + 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) (E624)	Settleable Solids (E160.5 (SM2540F))	Conductivity (SM2510B / E120.1)								Comments
Outfall 001	Outfall001_20230404_Grab	4/4/2023 0835	WM	1 L Glass Amber	2	HCl	15	No	X											
			WM	40 mL VOA	3	HCl	20	No		X										
			WM	1 L Poly	1	None	70	No			X									
			WM	500 mL Poly	1	None	75	No				X								
Trip Blank	TB-20230404	4/4/2023 0835	WQ	40 mL VOA	2	HCl	20	No		X										

570-133560 Chain of Custody

Legend: R=Routine, Q=Quarterly, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
Michelle Dallalah	4-4-2023/1326	Haley & Aldrich		4/4/23	1326 EC
	4/4/23 1913	EC		4/4/23	1913

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

Revised COC received from Victoria Pehlivan (H&A) on 04/05/23 at 11:34am.
- Virendra (ECI)

1.8/1.7 2.2/2.1 SCI2

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23

4/25/2023

2019-2020 Rainy Season
Version 5

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

RAX7NNGN

Client Name/Address:	Project:	Field Readings	Meter serial #
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 001 Grab	Field Readings: (Include units) Time of Readings: 0835 DO 10.93 mg/L pH 8.31 pH unit Temp 9.55 °C °F	
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**			
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: Date/Time: 4-4-2024	
Sampler: Neal Smith	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		

									R	Q/S	R	R	ANALYSIS REQUIRED									
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Oil & Grease (E1664A-HEM)	VOCs + 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) (E624)	Settleable Solids (E160.5 (SM2540F))	Conductivity (SM2510B / E120.1)								Comments
Outfall 001	Outfall001_20230404_Grab	4/4/2023 0835	WM	1 L Glass Amber	2	HCl	15	No	X											
			WM	40 mL VOA	3	HCl	20	No		X										
			WM	1 L Poly	1	None	70	No			X									
1			WM	500 mL Poly	1	None	75	No				X								
2 Trip Blank	TB-20230404	4/4/2023 0835	WQ	40 mL VOA	2	HCl	20	No		X										

570-133560 Chain of Custody

Legend: R=Routine, Q=Quarterly, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Michelle Dallakah	4-4-2023/1326	Haley & Aldrich		4/4/23 1326 EC
	4/4/23 1913	EC		4/4/23 1913

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

1.8/1.7 2.2/2.1 SCIL

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-133560-1

Login Number: 133560
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

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 5/26/2023 8:03:19 AM Revision 1

JOB DESCRIPTION

Boeing NPDES SSFL - Routine Outfall 001 - Comp

JOB NUMBER

570-133757-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

Eurofins Calscience

Job Notes

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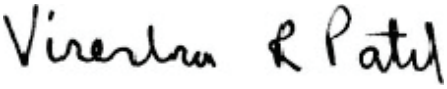
The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization



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Revision 1

Authorized for release by
Virendra Patel, Project Manager I
Virendra.Patel@et.eurofinsus.com
(714)895-5494

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

Qualifiers

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
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

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
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: 570-133757-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-133757-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 4/19/2023. The report (revision 1) is being revised due to: The report was revised to include the missing Dissolved Metals (EPA 200.8) results..

Receipt
The samples were received on 4/5/2023 6:30 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 2.4º C, 2.9º C and 3.1º 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: Outfall001_20230405_Comp_F (570-133757-3), Outfall001_20230405_Comp_F (570-133757-3[MS]) and Outfall001_20230405_Comp_F (570-133757-3[MSD]). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall001_20230405_Comp_F (570-133757-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

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

General Chemistry
Method Kelada 01: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 570-318171 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 570-318871. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.
Method 608_LL

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-319142. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 625 Sim

Job ID: 570-133757-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

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.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

Client Sample ID: Outfall001_20230405_Comp — Lab Sample ID: 570-133757-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDT	0.0021	J,DX	0.0033	0.0016	ug/L	1		608.3	Total/NA
4,4'-DDD	0.0079		0.0067	0.0044	ug/L	1		608.3	Total/NA
Chloride	6.5		1.0	0.36	mg/L	1		300.0	Total/NA
Nitrate as N	0.091	J,DX	0.10	0.020	mg/L	1		300.0	Total/NA
Sulfate	39		1.0	0.24	mg/L	1		300.0	Total/NA
Nitrate Nitrite as N	0.091	J,DX	0.10	0.020	mg/L	1		NO2NO3 Calc	Total/NA
Copper	2.0		2.0	0.32	ug/L	1		200.8	Total Recoverable
Iron	27		20	3.7	ug/L	1		200.8	Total Recoverable
Lead	0.15	J,DX	1.0	0.12	ug/L	1		200.8	Total Recoverable
Selenium	2.3		2.0	0.52	ug/L	1		200.8	Total Recoverable
Zinc	3.0	J,DX	20	2.8	ug/L	1		200.8	Total Recoverable
Hardness as calcium carbonate	78		7.1	0.50	mg/L	1		SM 2340B	Total Recoverable
Turbidity	0.60		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Dissolved Solids	190		10	8.7	mg/L	1		SM 2540C	Total/NA
Biochemical Oxygen Demand	2.5		2.0	1.0	mg/L	1		SM 5210B	Total/NA

Client Sample ID: Outfall001_20230405_Comp_F — Lab Sample ID: 570-133757-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	1.8	J,DX BU	2.0	0.32	ug/L	1		200.8	Dissolved
Iron	8.0	J,DX BU	20	3.7	ug/L	1		200.8	Dissolved
Hardness as calcium carbonate	72		7.1	0.50	mg/L	1		SM 2340B	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		0.94	0.13	ug/L		04/11/23 08:36	04/12/23 18:58	1
2,4-Dinitrotoluene	ND		0.19	0.11	ug/L		04/11/23 08:36	04/12/23 18:58	1
Bis(2-ethylhexyl) phthalate	ND		4.7	3.4	ug/L		04/11/23 08:36	04/12/23 18:58	1
N-Nitrosodimethylamine	ND		0.19	0.18	ug/L		04/11/23 08:36	04/12/23 18:58	1
Pentachlorophenol	ND		0.94	0.80	ug/L		04/11/23 08:36	04/12/23 18:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*70*		*31 - 120*	*04/11/23 08:36*	*04/12/23 18:58*	*1*
Phenol-d6 (Surr)	*27*		*10 - 120*	*04/11/23 08:36*	*04/12/23 18:58*	*1*
p-Terphenyl-d14 (Surr)	*91*		*45 - 120*	*04/11/23 08:36*	*04/12/23 18:58*	*1*
2,4,6-Tribromophenol	*100*		*28 - 127*	*04/11/23 08:36*	*04/12/23 18:58*	*1*
2-Fluorophenol	*25*		*17 - 120*	*04/11/23 08:36*	*04/12/23 18:58*	*1*
Nitrobenzene-d5	*74*		*27 - 120*	*04/11/23 08:36*	*04/12/23 18:58*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

Method: EPA 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		04/10/23 12:00	04/19/23 07:32	1
Chlordane	ND		0.033	0.026	ug/L		04/10/23 12:00	04/19/23 07:32	1
Dieldrin	ND		0.0033	0.0013	ug/L		04/10/23 12:00	04/19/23 07:32	1
4,4'-DDT	**0.0021**	**J,DX**	0.0033	0.0016	ug/L		04/10/23 12:00	04/19/23 07:32	1
4,4'-DDD	**0.0079**		0.0067	0.0044	ug/L		04/10/23 12:00	04/19/23 07:32	1
4,4'-DDE	ND		0.0033	0.0019	ug/L		04/10/23 12:00	04/19/23 07:32	1
Toxaphene	ND		0.067	0.054	ug/L		04/10/23 12:00	04/19/23 07:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*45*		*20 - 139*	*04/10/23 12:00*	*04/19/23 07:32*	*1*
DCB Decachlorobiphenyl (Surr)	*83*		*20 - 154*	*04/10/23 12:00*	*04/19/23 07:32*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

Method: EPA 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		04/10/23 12:00	04/13/23 16:46	1
Aroclor 1221	ND		0.10	0.044	ug/L		04/10/23 12:00	04/13/23 16:46	1
Aroclor 1232	ND		0.10	0.044	ug/L		04/10/23 12:00	04/13/23 16:46	1
Aroclor 1242	ND		0.10	0.044	ug/L		04/10/23 12:00	04/13/23 16:46	1
Aroclor 1248	ND		0.10	0.044	ug/L		04/10/23 12:00	04/13/23 16:46	1
Aroclor 1254	ND		0.10	0.052	ug/L		04/10/23 12:00	04/13/23 16:46	1
Aroclor 1260	ND		0.10	0.052	ug/L		04/10/23 12:00	04/13/23 16:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*56*		*20 - 154*	*04/10/23 12:00*	*04/13/23 16:46*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

Method: EPA 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.5**		1.0	0.36	mg/L			04/06/23 08:23	1
Nitrite as N	ND		0.10	0.043	mg/L			04/06/23 08:23	1
Nitrate as N	**0.091**	**J,DX**	0.10	0.020	mg/L			04/06/23 08:23	1
Sulfate	**39**		1.0	0.24	mg/L			04/06/23 08:23	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

Method: EPA 314.0 - Perchlorate (IC)

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			04/06/23 22:59	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

Method: EPA NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.091	J,DX	0.10	0.020	mg/L			04/11/23 12:23	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		04/06/23 12:26	04/07/23 10:01	1
Copper	**2.0**		2.0	0.32	ug/L		04/06/23 12:26	04/07/23 10:01	1
Iron	**27**		20	3.7	ug/L		04/06/23 12:26	04/07/23 10:01	1
Lead	**0.15**	**J,DX**	1.0	0.12	ug/L		04/06/23 12:26	04/07/23 10:01	1
Selenium	**2.3**		2.0	0.52	ug/L		04/06/23 12:26	04/07/23 10:01	1
Zinc	**3.0**	**J,DX**	20	2.8	ug/L		04/06/23 12:26	04/07/23 10:01	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall001_20230405_Comp_F
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	BU	1.0	0.13	ug/L			04/07/23 14:08	1
Copper	**1.8**	**J,DX BU**	2.0	0.32	ug/L			04/07/23 14:08	1
Iron	**8.0**	**J,DX BU**	20	3.7	ug/L			04/07/23 14:08	1
Lead	ND	BU	1.0	0.12	ug/L			04/07/23 14:08	1
Selenium	ND	BU	2.0	0.52	ug/L			04/07/23 14:08	1
Zinc	ND	BU	20	2.8	ug/L			04/07/23 14:08	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		04/06/23 19:00	04/07/23 10:22	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

Method: EPA 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall001_20230405_Comp_F
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.20	0.12	ug/L		04/06/23 18:10	04/07/23 12:41	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	78		7.1	0.50	mg/L			04/08/23 17:28	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Client Sample ID: Outfall001_20230405_Comp_F
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	72		7.1	0.50	mg/L			04/11/23 17:28	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

General Chemistry

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.075	0.032	mg/L		04/11/23 11:42	04/11/23 13:32	1
Cyanide, Total (EPA Kelada 01)	ND		5.0	2.5	ug/L			04/06/23 15:25	1
Turbidity (SM 2130B)	**0.60**		0.05	0.05	NTU			04/05/23 20:44	1
Total Dissolved Solids (SM 2540C)	**190**		10	8.7	mg/L			04/10/23 14:51	1
Total Suspended Solids (SM 2540D)	ND		3.0	2.5	mg/L			04/10/23 18:43	1
Biochemical Oxygen Demand (SM 5210B)	**2.5**		2.0	1.0	mg/L		04/06/23 12:11	04/06/23 12:58	1
MBAS (SM 5540C)	ND		0.20	0.050	mg/L		04/06/23 20:40	04/06/23 22:48	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

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	FBP (31-120)	PHL6 (10-120)	TPHd14 (45-120)	TBP (28-127)	2FP (17-120)	NBZ (27-120)
570-133757-1	Outfall001_20230405_Comp	70	27	91	100	25	74
LCS 570-319142/2-A	Lab Control Sample	58	25	79	82	33	56
LCSD 570-319142/3-A	Lab Control Sample Dup	59	25	80	84	34	55
MB 570-319142/1-A	Method Blank	66	32	82	84	30	81

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)	
Lab Sample ID	Client Sample ID	TCX2 (20-139)	DCB1 (20-154)
570-133757-1	Outfall001_20230405_Comp	45	83

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl (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)	DCB1 (20-154)
LCS 570-318871/2-A	Lab Control Sample	84	88
LCSD 570-318871/3-A	Lab Control Sample Dup	84	87
MB 570-318871/1-A	Method Blank	78	103

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl (Surr)

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)
570-133757-1	Outfall001_20230405_Comp	56
LCS 570-318871/4-A	Lab Control Sample	62
LCSD 570-318871/5-A	Lab Control Sample Dup	62
MB 570-318871/1-A	Method Blank	73

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-319142/1-A
Matrix: Water
Analysis Batch: 319564

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 319142

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.14	ug/L		04/11/23 08:36	04/12/23 16:54	1
2,4-Dinitrotoluene	ND		0.20	0.12	ug/L		04/11/23 08:36	04/12/23 16:54	1
Bis(2-ethylhexyl) phthalate	ND		5.0	3.6	ug/L		04/11/23 08:36	04/12/23 16:54	1
N-Nitrosodimethylamine	ND		0.20	0.19	ug/L		04/11/23 08:36	04/12/23 16:54	1
Pentachlorophenol	ND		1.0	0.84	ug/L		04/11/23 08:36	04/12/23 16:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*77*		*03 - 321*	*14/33/20 1680 7*	*14/32/20 378 4*	*3*
5henol-P7 (Surr)	*02*		*31 - 321*	*14/33/20 1680 7*	*14/32/20 378 4*	*3*
p-derphenyl-P34 (Surr)	*62*		*4: - 321*	*14/33/20 1680 7*	*14/32/20 378 4*	*3*
2747-dribro9 ophenol	*64*		*26 - 32,*	*14/33/20 1680 7*	*14/32/20 378 4*	*3*
2-Fluorophenol	*01*		*3, - 321*	*14/33/20 1680 7*	*14/32/20 378 4*	*3*
mitobent ene-P:	*63*		*2, - 321*	*14/33/20 1680 7*	*14/32/20 378 4*	*3*

Lab Sample ID: LCS 570-319142/2-A
Matrix: Water
Analysis Batch: 319969

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 319142

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4,6-Trichlorophenol	20.0	12.3		ug/L		62	52 - 129
2,4-Dinitrotoluene	20.0	21.6		ug/L		108	48 - 127
Bis(2-ethylhexyl) phthalate	20.0	22.4		ug/L		112	29 - 137
N-Nitrosodimethylamine	20.0	6.62		ug/L		33	20 - 120
Pentachlorophenol	20.0	11.7		ug/L		58	38 - 152

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*: 6*		*03 - 321*
5henol-P7 (Surr)	*2:*		*31 - 321*
p-derphenyl-P34 (Surr)	*, z*		*4: - 321*
2747-dribro9 ophenol	*62*		*26 - 32,*
2-Fluorophenol	*00*		*3, - 321*
mitobent ene-P:	*: 7*		*2, - 321*

Lab Sample ID: LCSD 570-319142/3-A
Matrix: Water
Analysis Batch: 319564

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 319142

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4,6-Trichlorophenol	20.0	12.4		ug/L		62	52 - 129	1	35
2,4-Dinitrotoluene	20.0	20.3		ug/L		102	48 - 127	6	25
Bis(2-ethylhexyl) phthalate	20.0	23.0		ug/L		115	29 - 137	3	50
N-Nitrosodimethylamine	20.0	5.46		ug/L		27	20 - 120	19	21
Pentachlorophenol	20.0	12.4		ug/L		62	38 - 152	6	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*: z*		*03 - 321*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-319142/3-A
Matrix: Water
Analysis Batch: 319564

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 319142

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
5henol-P7 (Surr)	*2:*		*31 - 321*
p-derphenyl-P34 (Surr)	*61*		*4: - 321*
2747-dribro9 ophenol	*64*		*26 - 32,*
2-Fluorophenol	*04*		*3, - 321*
mitobent ene-P:	*: :*		*2, - 321*

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-318871/1-A
Matrix: Water
Analysis Batch: 321060

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 318871

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		04/10/23 12:00	04/17/23 17:32	1
Chlordane	ND		0.033	0.026	ug/L		04/10/23 12:00	04/17/23 17:32	1
Dieldrin	ND		0.0033	0.0013	ug/L		04/10/23 12:00	04/17/23 17:32	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		04/10/23 12:00	04/17/23 17:32	1
4,4'-DDD	ND		0.0067	0.0044	ug/L		04/10/23 12:00	04/17/23 17:32	1
4,4'-DDE	ND		0.0033	0.0019	ug/L		04/10/23 12:00	04/17/23 17:32	1
Toxaphene	ND		0.067	0.054	ug/L		04/10/23 12:00	04/17/23 17:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
delachloro-9 -xylene	*, 6*		*21 - 30z*	*14/31/20 3281 1*	*14/3, /20 3, 802*	*3*
DCB Decachlorobiphenyl (Surr)	*310*		*21 - 3: 4*	*14/31/20 3281 1*	*14/3, /20 3, 802*	*3*

Lab Sample ID: LCS 570-318871/2-A
Matrix: Water
Analysis Batch: 321060

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 318871

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
alpha-BHC			0.0333	0.0216		ug/L		65	37 - 140		
Dieldrin			0.0333	0.0257		ug/L		77	36 - 146		
4,4'-DDT			0.0333	0.0242		ug/L		72	25 - 160		
4,4'-DDD			0.0333	0.0245		ug/L		74	31 - 141		
4,4'-DDE			0.0333	0.0291		ug/L		87	30 - 145		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
delachloro-9 -xylene	*64*		*21 - 30z*
DCB Decachlorobiphenyl (Surr)	*66*		*21 - 3: 4*

Lab Sample ID: LCSD 570-318871/3-A
Matrix: Water
Analysis Batch: 321060

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 318871

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
alpha-BHC			0.0333	0.0212		ug/L		64	37 - 140	2	36
Dieldrin			0.0333	0.0250		ug/L		75	36 - 146	3	49

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: LCSD 570-318871/3-A
Matrix: Water
Analysis Batch: 321060

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 318871

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
4,4'-DDT			0.0333	0.0238		ug/L		71	25 - 160	2	42
4,4'-DDD			0.0333	0.0242		ug/L		73	31 - 141	1	39
4,4'-DDE			0.0333	0.0286		ug/L		86	30 - 145	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
delNachloro-9 -xylene	*64*		*21 - 30z*
DCB Decachlorobiphenyl (Surr)	*6,*		*21 - 3: 4*

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 570-318871/1-A
Matrix: Water
Analysis Batch: 319159

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 318871

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		04/10/23 12:00	04/11/23 09:53	1
Aroclor 1221	ND		0.10	0.044	ug/L		04/10/23 12:00	04/11/23 09:53	1
Aroclor 1232	ND		0.10	0.044	ug/L		04/10/23 12:00	04/11/23 09:53	1
Aroclor 1242	ND		0.10	0.044	ug/L		04/10/23 12:00	04/11/23 09:53	1
Aroclor 1248	ND		0.10	0.044	ug/L		04/10/23 12:00	04/11/23 09:53	1
Aroclor 1254	ND		0.10	0.052	ug/L		04/10/23 12:00	04/11/23 09:53	1
Aroclor 1260	ND		0.10	0.052	ug/L		04/10/23 12:00	04/11/23 09:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*, 0*		*21 - 3: 4*	*14/31/20 328l1*	*14/33/20 1z8 0*	*3*

Lab Sample ID: LCS 570-318871/4-A
Matrix: Water
Analysis Batch: 319159

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 318871

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Aroclor 1016			0.133	0.147		ug/L		110	50 - 140		
Aroclor 1260			0.133	0.142		ug/L		107	8 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*72*		*21 - 3: 4*

Lab Sample ID: LCSD 570-318871/5-A
Matrix: Water
Analysis Batch: 319159

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 318871

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aroclor 1016			0.133	0.114		ug/L		85	50 - 140	26	36
Aroclor 1260			0.133	0.154	PI	ug/L		115	8 - 140	8	38

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*72*		*21 - 3: 4*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-317898/5
Matrix: Water
Analysis Batch: 317898

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			04/06/23 07:16	1
Sulfate	ND		1.0	0.24	mg/L			04/06/23 07:16	1

Lab Sample ID: LCS 570-317898/6
Matrix: Water
Analysis Batch: 317898

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	48.4		mg/L		97	90 - 110
Sulfate	50.0	48.5		mg/L		97	90 - 110

Lab Sample ID: LCSD 570-317898/7
Matrix: Water
Analysis Batch: 317898

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	48.4		mg/L		97	90 - 110	0	15
Sulfate	50.0	48.7		mg/L		97	90 - 110	0	15

Lab Sample ID: 570-133757-1 MS
Matrix: Water
Analysis Batch: 317898

Client Sample ID: Outfall001_20230405_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	6.5		50.0	58.0		mg/L		103	80 - 120
Sulfate	39		50.0	94.2		mg/L		110	80 - 120

Lab Sample ID: 570-133757-1 MSD
Matrix: Water
Analysis Batch: 317898

Client Sample ID: Outfall001_20230405_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	6.5		50.0	58.0		mg/L		103	80 - 120	0	20
Sulfate	39		50.0	94.2		mg/L		111	80 - 120	0	20

Lab Sample ID: MB 570-317899/5
Matrix: Water
Analysis Batch: 317899

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	0.043	mg/L			04/06/23 07:16	1
Nitrate as N	ND		0.10	0.020	mg/L			04/06/23 07:16	1

Lab Sample ID: LCS 570-317899/6
Matrix: Water
Analysis Batch: 317899

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	2.53		mg/L		101	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 570-317899/6
Matrix: Water
Analysis Batch: 317899

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			5.00	4.85		mg/L		97	90 - 110		

Lab Sample ID: LCSD 570-317899/7
Matrix: Water
Analysis Batch: 317899

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	2.53		mg/L		101	90 - 110	0	15
Nitrate as N			5.00	4.86		mg/L		97	90 - 110	0	15

Lab Sample ID: 570-133757-1 MS
Matrix: Water
Analysis Batch: 317899

Client Sample ID: Outfall001_20230405_Comp
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	2.65		mg/L		106	80 - 120		
Nitrate as N	0.091	J,DX	5.00	5.32		mg/L		105	80 - 120		

Lab Sample ID: 570-133757-1 MSD
Matrix: Water
Analysis Batch: 317899

Client Sample ID: Outfall001_20230405_Comp
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	2.67		mg/L		107	80 - 120	1	20
Nitrate as N	0.091	J,DX	5.00	5.35		mg/L		105	80 - 120	1	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-318048/7
Matrix: Water
Analysis Batch: 318048

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			04/06/23 16:22	1

Lab Sample ID: LCS 570-318048/8
Matrix: Water
Analysis Batch: 318048

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	24.7		ug/L		99	85 - 115		

Lab Sample ID: LCSD 570-318048/9
Matrix: Water
Analysis Batch: 318048

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	24.5		ug/L		98	85 - 115	1	15

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 570-317989/1-A
Matrix: Water
Analysis Batch: 318079

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 317989

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		04/06/23 10:43	04/06/23 13:22	1
Copper	ND		2.0	0.32	ug/L		04/06/23 10:43	04/06/23 13:22	1
Iron	ND		20	3.7	ug/L		04/06/23 10:43	04/06/23 13:22	1
Lead	ND		1.0	0.12	ug/L		04/06/23 10:43	04/06/23 13:22	1
Selenium	ND		2.0	0.52	ug/L		04/06/23 10:43	04/06/23 13:22	1
Zinc	ND		20	2.8	ug/L		04/06/23 10:43	04/06/23 13:22	1

Lab Sample ID: LCS 570-317989/2-A
Matrix: Water
Analysis Batch: 318079

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 317989

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	80.0	81.9		ug/L		102	85 - 115
Copper	80.0	82.1		ug/L		103	85 - 115
Iron	800	846		ug/L		106	85 - 115
Lead	80.0	82.5		ug/L		103	85 - 115
Selenium	80.0	84.7		ug/L		106	85 - 115
Zinc	80.0	81.1		ug/L		101	85 - 115

Lab Sample ID: LCSD 570-317989/3-A
Matrix: Water
Analysis Batch: 318079

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 317989

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	80.0	81.6		ug/L		102	85 - 115	0	20
Copper	80.0	82.9		ug/L		104	85 - 115	1	20
Iron	800	843		ug/L		105	85 - 115	0	20
Lead	80.0	82.0		ug/L		103	85 - 115	1	20
Selenium	80.0	83.6		ug/L		104	85 - 115	1	20
Zinc	80.0	80.4		ug/L		100	85 - 115	1	20

Lab Sample ID: 570-133757-1 MS
Matrix: Water
Analysis Batch: 318423

Client Sample ID: Outfall001_20230405_Comp
Prep Type: Total Recoverable
Prep Batch: 317989

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	ND		80.0	82.9		ug/L		104	80 - 120
Copper	2.0		80.0	86.0		ug/L		105	80 - 120
Iron	27		800	862		ug/L		104	80 - 120
Lead	0.15	J,DX	80.0	83.2		ug/L		104	80 - 120
Selenium	2.3		80.0	93.7		ug/L		114	80 - 120
Zinc	3.0	J,DX	80.0	83.9		ug/L		101	80 - 120

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-133757-1 MSD
Matrix: Water
Analysis Batch: 318423

Client Sample ID: Outfall001_20230405_Comp
Prep Type: Total Recoverable
Prep Batch: 317989

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	ND		80.0	80.2		ug/L		100	80 - 120	3	20
Copper	2.0		80.0	83.2		ug/L		101	80 - 120	3	20
Iron	27		800	825		ug/L		100	80 - 120	4	20
Lead	0.15	J,DX	80.0	80.0		ug/L		100	80 - 120	4	20
Selenium	2.3		80.0	92.9		ug/L		113	80 - 120	1	20
Zinc	3.0	J,DX	80.0	81.5		ug/L		98	80 - 120	3	20

Lab Sample ID: MB 570-318299/1-A
Matrix: Water
Analysis Batch: 318467

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L			04/07/23 13:56	1
Copper	ND		2.0	0.32	ug/L			04/07/23 13:56	1
Iron	ND		20	3.7	ug/L			04/07/23 13:56	1
Lead	ND		1.0	0.12	ug/L			04/07/23 13:56	1
Selenium	ND		2.0	0.52	ug/L			04/07/23 13:56	1
Zinc	ND		20	2.8	ug/L			04/07/23 13:56	1

Lab Sample ID: LCS 570-318299/2-A
Matrix: Water
Analysis Batch: 318467

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Cadmium			80.0	80.4		ug/L		101	85 - 115		
Copper			80.0	82.2		ug/L		103	85 - 115		
Iron			800	825		ug/L		103	85 - 115		
Lead			80.0	80.4		ug/L		101	85 - 115		
Selenium			80.0	81.2		ug/L		102	85 - 115		
Zinc			80.0	79.9		ug/L		100	85 - 115		

Lab Sample ID: LCSD 570-318299/3-A
Matrix: Water
Analysis Batch: 318467

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium			80.0	77.7		ug/L		97	85 - 115	3	20
Copper			80.0	80.2		ug/L		100	85 - 115	2	20
Iron			800	807		ug/L		101	85 - 115	2	20
Lead			80.0	78.0		ug/L		97	85 - 115	3	20
Selenium			80.0	76.7		ug/L		96	85 - 115	6	20
Zinc			80.0	77.8		ug/L		97	85 - 115	3	20

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-133757-3 MS
Matrix: Water
Analysis Batch: 318467

Client Sample ID: Outfall001_20230405_Comp_F
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	ND	BU	80.0	73.5	BU	ug/L		92	80 - 120
Copper	1.8	J,DX BU	80.0	77.6	BU	ug/L		95	80 - 120
Iron	8.0	J,DX BU	800	743	BU	ug/L		92	80 - 120
Lead	ND	BU	80.0	73.6	BU	ug/L		92	80 - 120
Selenium	ND	BU	80.0	75.5	BU	ug/L		94	80 - 120
Zinc	ND	BU	80.0	73.6	BU	ug/L		92	80 - 120

Lab Sample ID: 570-133757-3 MSD
Matrix: Water
Analysis Batch: 318467

Client Sample ID: Outfall001_20230405_Comp_F
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	ND	BU	80.0	72.1	BU	ug/L		90	80 - 120	2	20
Copper	1.8	J,DX BU	80.0	75.5	BU	ug/L		92	80 - 120	3	20
Iron	8.0	J,DX BU	800	741	BU	ug/L		92	80 - 120	0	20
Lead	ND	BU	80.0	71.4	BU	ug/L		89	80 - 120	3	20
Selenium	ND	BU	80.0	75.0	BU	ug/L		94	80 - 120	1	20
Zinc	ND	BU	80.0	73.3	BU	ug/L		92	80 - 120	0	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-317878/1-A
Matrix: Water
Analysis Batch: 318420

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 317878

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		04/06/23 19:00	04/07/23 11:57	1

Lab Sample ID: LCS 570-317878/2-A
Matrix: Water
Analysis Batch: 318420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 317878

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	7.73		ug/L		97	85 - 115

Lab Sample ID: LCSD 570-317878/3-A
Matrix: Water
Analysis Batch: 318420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 317878

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	7.89		ug/L		99	85 - 115	2	10

Lab Sample ID: 570-133757-1 MS
Matrix: Water
Analysis Batch: 318420

Client Sample ID: Outfall001_20230405_Comp
Prep Type: Total/NA
Prep Batch: 317878

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		8.00	7.51		ug/L		94	85 - 115

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 570-133757-1 MSD — **Client Sample ID: Outfall001_20230405_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 318420 — **Prep Batch: 317878**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		8.00	7.71		ug/L		96	85 - 115	3	10

Lab Sample ID: MB 570-317879/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 318420 — **Prep Batch: 318181**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		04/06/23 18:10	04/07/23 12:31	1

Lab Sample ID: LCS 570-317879/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 318420 — **Prep Batch: 318181**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	8.03		ug/L		100	85 - 115

Lab Sample ID: LCSD 570-317879/3-B — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 318420 — **Prep Batch: 318181**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	8.32		ug/L		104	85 - 115	4	10

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 570-319328/5-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 319339 — **Prep Batch: 319328**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.075	0.032	mg/L		04/11/23 11:42	04/11/23 13:25	1

Lab Sample ID: LCS 570-319328/6-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 319339 — **Prep Batch: 319328**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.500	0.495		mg/L		99	90 - 110

Lab Sample ID: LCSD 570-319328/7-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 319339 — **Prep Batch: 319328**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.500	0.492		mg/L		98	90 - 110	1	20

Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate

Lab Sample ID: MB 570-318171/11
Matrix: Water
Analysis Batch: 318171

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L			04/06/23 13:52	1

Lab Sample ID: LCS 570-318171/12
Matrix: Water
Analysis Batch: 318171

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	250	226		ug/L		90	90 - 110

Lab Sample ID: LCSD 570-318171/13
Matrix: Water
Analysis Batch: 318171

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
Cyanide, Total	250	244		ug/L		98	90 - 110	8	20

Lab Sample ID: MRL 570-318171/10
Matrix: Water
Analysis Batch: 318171

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	5.00	4.29	J,DX	ug/L		86	50 - 150

Method: SM 2130B - Turbidity

Lab Sample ID: LCSSRM 570-317851/1
Matrix: Water
Analysis Batch: 317851

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	1000	1000		NTU		99.6	99.0 - 101.0

Lab Sample ID: LCSSRM 570-317851/2
Matrix: Water
Analysis Batch: 317851

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	10.0	10		NTU		99.6	99.0 - 101.0

Lab Sample ID: LCSSRM 570-317851/3
Matrix: Water
Analysis Batch: 317851

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	0.0200	ND		NTU		100.0	0.0 - 200.0

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 570-318930/1
Matrix: Water
Analysis Batch: 318930
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	8.7	mg/L			04/10/23 14:51	1

Lab Sample ID: LCS 570-318930/2
Matrix: Water
Analysis Batch: 318930
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	1000		mg/L		100	84 - 108		

Lab Sample ID: LCSD 570-318930/3
Matrix: Water
Analysis Batch: 318930
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 Dissolved Solids			1000	956		mg/L		96	84 - 108	4	10

Lab Sample ID: 570-133757-1 DU
Matrix: Water
Analysis Batch: 318930
Client Sample ID: Outfall001_20230405_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	190			182		mg/L				2	10

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-319034/1
Matrix: Water
Analysis Batch: 319034
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			04/10/23 18:43	1

Lab Sample ID: LCS 570-319034/2
Matrix: Water
Analysis Batch: 319034
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	102		mg/L		102	77 - 116		

Lab Sample ID: LCSD 570-319034/3
Matrix: Water
Analysis Batch: 319034
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	103		mg/L		103	77 - 116	1	10

Method: SM 5210B - BOD, 5-Day

Lab Sample ID: LCS 570-318052/2-A
Matrix: Water
Analysis Batch: 319363

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 318052

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Biochemical Oxygen Demand			199	226		mg/L		114	84.6 - 115.4		

Lab Sample ID: USB 570-319363/2
Matrix: Water
Analysis Batch: 319363

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	1.0	mg/L			04/06/23 12:33	1

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 570-318376/5-A
Matrix: Water
Analysis Batch: 318221

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 318376

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.20	0.050	mg/L		04/06/23 20:40	04/06/23 22:40	1

Lab Sample ID: LCS 570-318376/6-A
Matrix: Water
Analysis Batch: 318221

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 318376

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
MBAS			0.500	0.479		mg/L		96	83 - 122		

Lab Sample ID: LCSD 570-318376/7-A
Matrix: Water
Analysis Batch: 318221

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 318376

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS			0.500	0.479		mg/L		96	83 - 122	0	10

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

GC/MS Semi VOA

Prep Batch: 319142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	625	
MB 570-319142/1-A	Method Blank	Total/NA	Water	625	
LCS 570-319142/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-319142/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 319564

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	625.1 SIM	319142
MB 570-319142/1-A	Method Blank	Total/NA	Water	625.1 SIM	319142
LCSD 570-319142/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	319142

Analysis Batch: 319969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-319142/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	319142

GC Semi VOA

Prep Batch: 318871

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	608	
MB 570-318871/1-A	Method Blank	Total/NA	Water	608	
LCS 570-318871/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 570-318871/4-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-318871/3-A	Lab Control Sample Dup	Total/NA	Water	608	
LCSD 570-318871/5-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 319159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-318871/1-A	Method Blank	Total/NA	Water	608.3	318871
LCS 570-318871/4-A	Lab Control Sample	Total/NA	Water	608.3	318871
LCSD 570-318871/5-A	Lab Control Sample Dup	Total/NA	Water	608.3	318871

Analysis Batch: 319906

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	608.3	318871

Analysis Batch: 321060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-318871/1-A	Method Blank	Total/NA	Water	608.3	318871
LCS 570-318871/2-A	Lab Control Sample	Total/NA	Water	608.3	318871
LCSD 570-318871/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	318871

Analysis Batch: 321462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	608.3	318871

HPLC/IC

Analysis Batch: 317898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 317898 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-317898/5	Method Blank	Total/NA	Water	300.0	
LCS 570-317898/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-317898/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-133757-1 MS	Outfall001_20230405_Comp	Total/NA	Water	300.0	
570-133757-1 MSD	Outfall001_20230405_Comp	Total/NA	Water	300.0	

Analysis Batch: 317899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	300.0	
MB 570-317899/5	Method Blank	Total/NA	Water	300.0	
LCS 570-317899/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-317899/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-133757-1 MS	Outfall001_20230405_Comp	Total/NA	Water	300.0	
570-133757-1 MSD	Outfall001_20230405_Comp	Total/NA	Water	300.0	

Analysis Batch: 318048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	314.0	
MB 570-318048/7	Method Blank	Total/NA	Water	314.0	
LCS 570-318048/8	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-318048/9	Lab Control Sample Dup	Total/NA	Water	314.0	

Analysis Batch: 319259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	NO2NO3 Calc	

Metals

Prep Batch: 317878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	245.1	
MB 570-317878/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-317878/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-317878/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-133757-1 MS	Outfall001_20230405_Comp	Total/NA	Water	245.1	
570-133757-1 MSD	Outfall001_20230405_Comp	Total/NA	Water	245.1	

Filtration Batch: 317879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-3	Outfall001_20230405_Comp_F	Dissolved	Water	Filtration	
MB 570-317879/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-317879/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-317879/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	

Prep Batch: 317989

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total Recoverable	Water	200.8	
MB 570-317989/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-317989/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-317989/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	

Metals (Continued)

Prep Batch: 317989 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1 MS	Outfall001_20230405_Comp	Total Recoverable	Water	200.8	
570-133757-1 MSD	Outfall001_20230405_Comp	Total Recoverable	Water	200.8	

Analysis Batch: 318079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-317989/1-A	Method Blank	Total Recoverable	Water	200.8	317989
LCS 570-317989/2-A	Lab Control Sample	Total Recoverable	Water	200.8	317989
LCSD 570-317989/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	317989

Analysis Batch: 318166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total Recoverable	Water	SM 2340B	

Analysis Batch: 318167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-3	Outfall001_20230405_Comp_F	Dissolved	Water	SM 2340B	

Prep Batch: 318181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-3	Outfall001_20230405_Comp_F	Dissolved	Water	245.1	317879
MB 570-317879/1-B	Method Blank	Dissolved	Water	245.1	317879
LCS 570-317879/2-B	Lab Control Sample	Dissolved	Water	245.1	317879
LCSD 570-317879/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	317879

Filtration Batch: 318299

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-3	Outfall001_20230405_Comp_F	Dissolved	Water	Filtration	
MB 570-318299/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-318299/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-318299/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-133757-3 MS	Outfall001_20230405_Comp_F	Dissolved	Water	Filtration	
570-133757-3 MSD	Outfall001_20230405_Comp_F	Dissolved	Water	Filtration	

Analysis Batch: 318420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	245.1	317878
570-133757-3	Outfall001_20230405_Comp_F	Dissolved	Water	245.1	318181
MB 570-317878/1-A	Method Blank	Total/NA	Water	245.1	317878
MB 570-317879/1-B	Method Blank	Dissolved	Water	245.1	318181
LCS 570-317878/2-A	Lab Control Sample	Total/NA	Water	245.1	317878
LCS 570-317879/2-B	Lab Control Sample	Dissolved	Water	245.1	318181
LCSD 570-317878/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	317878
LCSD 570-317879/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	318181
570-133757-1 MS	Outfall001_20230405_Comp	Total/NA	Water	245.1	317878
570-133757-1 MSD	Outfall001_20230405_Comp	Total/NA	Water	245.1	317878

Analysis Batch: 318423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total Recoverable	Water	200.8	317989
570-133757-1 MS	Outfall001_20230405_Comp	Total Recoverable	Water	200.8	317989

Metals (Continued)

Analysis Batch: 318423 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1 MSD	Outfall001_20230405_Comp	Total Recoverable	Water	200.8	317989

Analysis Batch: 318467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-3	Outfall001_20230405_Comp_F	Dissolved	Water	200.8	318299
MB 570-318299/1-A	Method Blank	Dissolved	Water	200.8	318299
LCS 570-318299/2-A	Lab Control Sample	Dissolved	Water	200.8	318299
LCSD 570-318299/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	318299
570-133757-3 MS	Outfall001_20230405_Comp_F	Dissolved	Water	200.8	318299
570-133757-3 MSD	Outfall001_20230405_Comp_F	Dissolved	Water	200.8	318299

General Chemistry

Analysis Batch: 317851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	SM 2130B	
LCSSRM 570-317851/1	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-317851/2	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-317851/3	Lab Control Sample	Total/NA	Water	SM 2130B	

Prep Batch: 318052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	BOD Prep	
LCS 570-318052/2-A	Lab Control Sample	Total/NA	Water	BOD Prep	

Analysis Batch: 318171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	Kelada 01	
MB 570-318171/11	Method Blank	Total/NA	Water	Kelada 01	
LCS 570-318171/12	Lab Control Sample	Total/NA	Water	Kelada 01	
LCSD 570-318171/13	Lab Control Sample Dup	Total/NA	Water	Kelada 01	
MRL 570-318171/10	Lab Control Sample	Total/NA	Water	Kelada 01	

Analysis Batch: 318221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	SM 5540C	318376
MB 570-318376/5-A	Method Blank	Total/NA	Water	SM 5540C	318376
LCS 570-318376/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	318376
LCSD 570-318376/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	318376

Prep Batch: 318376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	SM 5540C	
MB 570-318376/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-318376/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-318376/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	

Analysis Batch: 318930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 318930 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-318930/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 570-318930/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 570-318930/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
570-133757-1 DU	Outfall001_20230405_Comp	Total/NA	Water	SM 2540C	

Analysis Batch: 319034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	SM 2540D	
MB 570-319034/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-319034/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-319034/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Prep Batch: 319328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	Distill/Ammonia	
MB 570-319328/5-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 570-319328/6-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	
LCSD 570-319328/7-A	Lab Control Sample Dup	Total/NA	Water	Distill/Ammonia	

Analysis Batch: 319339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	350.1	319328
MB 570-319328/5-A	Method Blank	Total/NA	Water	350.1	319328
LCS 570-319328/6-A	Lab Control Sample	Total/NA	Water	350.1	319328
LCSD 570-319328/7-A	Lab Control Sample Dup	Total/NA	Water	350.1	319328

Analysis Batch: 319363

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	SM 5210B	318052
USB 570-319363/2	Method Blank	Total/NA	Water	SM 5210B	
LCS 570-318052/2-A	Lab Control Sample	Total/NA	Water	SM 5210B	318052

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

Client Sample ID: Outfall001_20230405_Comp

Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			1060.8 mL	2 mL	319142	04/11/23 08:36	OAJ3	EET CAL 4
Total/NA	Analysis	625.1 SIM		1	1 mL	1 mL	319564	04/12/23 18:58	ULLI	EET CAL 4
	Instrument ID: GCMSJJJ									
Total/NA	Prep	608			1500 mL	1 mL	318871	04/10/23 12:00	H1SH	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	321462	04/19/23 07:32	N5Y3	EET CAL 4
	Instrument ID: GC52A									
Total/NA	Prep	608			1500 mL	1 mL	318871	04/10/23 12:00	H1SH	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	319906	04/13/23 16:46	OM8W	EET CAL 4
	Instrument ID: GC66									
Total/NA	Analysis	300.0		1	4 mL	4 mL	317898	04/06/23 08:23	PS	EET CAL 4
	Instrument ID: IC7									
Total/NA	Analysis	300.0		1	4 mL	4 mL	317899	04/06/23 08:23	PS	EET CAL 4
	Instrument ID: IC7									
Total/NA	Analysis	314.0		1	4 mL	4 mL	318048	04/06/23 22:59	URMH	EET CAL 4
	Instrument ID: IC8									
Total/NA	Analysis	NO2NO3 Calc		1			319259	04/11/23 12:23	WH6J	EET CAL 4
	Instrument ID: NOEQUIP									
Total Recoverable	Prep	200.8			50 mL	50 mL	317989	04/06/23 12:26	Y2WS	EET CAL 4
Total Recoverable	Analysis	200.8		1			318423	04/07/23 10:01	Y2WS	EET CAL 4
	Instrument ID: ICPMS09									
Total/NA	Prep	245.1			25 mL	50 mL	317878	04/06/23 19:00	CS5Z	EET CAL 4
Total/NA	Analysis	245.1		1			318420	04/07/23 10:22	C0YH	EET CAL 4
	Instrument ID: HG8									
Total Recoverable	Analysis	SM 2340B		1			318166	04/08/23 17:28	P1R	EET CAL 4
	Instrument ID: NOEQUIP									
Total/NA	Prep	Distill/Ammonia			5 mL	5 mL	319328	04/11/23 11:42	UXCH	EET CAL 4
Total/NA	Analysis	350.1		1	5 mL	5 mL	319339	04/11/23 13:32	UXCH	EET CAL 4
	Instrument ID: ACA2									
Total/NA	Analysis	Kelada 01		1	8 mL	8 mL	318171	04/06/23 15:25	GG0B	EET CAL 4
	Instrument ID: LACHAT01									
Total/NA	Analysis	SM 2130B		1			317851	04/05/23 20:44	TXA8	EET CAL 4
	Instrument ID: TUR4									
Total/NA	Analysis	SM 2540C		1	100 mL	1000 mL	318930	04/10/23 14:51	UWCT	EET CAL 4
	Instrument ID: BAL71									
Total/NA	Analysis	SM 2540D		1	330 mL	1000 mL	319034	04/10/23 18:43	UWCT	EET CAL 4
	Instrument ID: BAL71									
Total/NA	Prep	BOD Prep					318052	04/06/23 12:11	U7UR	EET CAL 4
Total/NA	Analysis	SM 5210B		1	300 mL	300 mL	319363	04/06/23 12:58	TN8Z	EET CAL 4
	Instrument ID: BOD3									
Total/NA	Prep	SM 5540C			100 mL	100 mL	318376	04/06/23 20:40	ZVB7	EET CAL 4
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	318221	04/06/23 22:48	TXA8	EET CAL 4
	Instrument ID: UV8									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

Client Sample ID: Outfall001_20230405_Comp_F

Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	318299	04/07/23 09:15	JP8N	EET CAL 4
Dissolved	Analysis	200.8		1			318467	04/07/23 14:08	Y2WS	EET CAL 4
	Instrument ID: ICPMS10									
Dissolved	Filtration	Filtration			25 mL	25 mL	317879	04/05/23 22:26	CS5Z	EET CAL 4
Dissolved	Prep	245.1			25 mL	50 mL	318181	04/06/23 18:10	CS5Z	EET CAL 4
Dissolved	Analysis	245.1		1			318420	04/07/23 12:41	C0YH	EET CAL 4
	Instrument ID: HG8									
Dissolved	Analysis	SM 2340B		1			318167	04/11/23 17:28	P1R	EET CAL 4
	Instrument ID: NOEQUIP									

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-133757-1
Project/Site: Boeing NPDES SSFL - Routine 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
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

Method	Method Description	Protocol	Laboratory
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	EPA	EET CAL 4
608.3	Organochlorine Pesticides in Water	EPA	EET CAL 4
608.3	Polychlorinated Biphenyls (PCBs) (GC)	EPA	EET CAL 4
300.0	Anions, Ion Chromatography	EPA	EET CAL 4
314.0	Perchlorate (IC)	EPA	EET CAL 4
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	EET CAL 4
200.8	Metals (ICP/MS)	EPA	EET CAL 4
245.1	Mercury (CVAA)	EPA	EET CAL 4
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	EET CAL 4
350.1	Nitrogen, Ammonia	EPA	EET CAL 4
Kelada 01	Cyanide, Total, Acid Dissociable and Thiocyanate	EPA	EET CAL 4
SM 2130B	Turbidity	SM	EET CAL 4
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CAL 4
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CAL 4
SM 5210B	BOD, 5-Day	SM	EET CAL 4
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	EET CAL 4
200.8	Preparation, Total Recoverable Metals	EPA	EET CAL 4
245.1	Preparation, Mercury	EPA	EET CAL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	EPA	EET CAL 4
625	Liquid-Liquid Extraction	EPA	EET CAL 4
BOD Prep	Preparation, BOD	SM	EET CAL 4
Distill/Ammonia	Distillation, Ammonia	None	EET CAL 4
Filtration	Sample Filtration	None	EET CAL 4
SM 5540C	Preparation, Methylene Blue Active Substances (MBAS)	SM	EET CAL 4

Protocol References:

EPA = US Environmental Protection Agency
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-133757-1	Outfall001_20230405_Comp	Water	04/05/23 07:40	04/05/23 18:30
570-133757-3	Outfall001_20230405_Comp_F	Water	04/05/23 07:40	04/05/23 18:30

Revised COC received from Mark Dominick (H&A) on 04/05/2023 at 14:18pm.
- Virendra (ECI)

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 2023, Quarterly Outfall [001, 002, 011, 018], Outfall 001, Comp
Eurofins Calscience Irvine Contact: Virendra Patel, 2841 Dow Avenue, Suite 100, Tustin, CA 92780, Tel: 949-260-3218, **ECI Project # 57013187**	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: Neal Smith	

ANALYSIS REQUIRED

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R Total Dissolved Metals: (E200.8): Zn, 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 Recoverable Hardness as CaCO3 E 200.7 Ca/Mg	R Total Dissolved Metals: Mercury (E245.1)	QRSW Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)	QRSW Total Recoverable Metals: Hardness as CaCO3	QRSW Total Dissolved Metals: Hardness as CaCO3	C/EP Total Dissolved Metals: (E200.8): Fe			Comments
Outfall 001	Outfall001_20230405_Comp_F	4/5/2023 1040	WM	1 L Poly	1	None	190	No								X					Filter and preserve w/in 24hrs of receipt at lab
			~~WM~~	~~500 mL Poly~~	~~1~~	~~HNO_3~~	~~80~~	~~No~~								X					
			WM	1L Poly	1	None	200	Yes	X									X			Filter and preserve w/in 24hrs of receipt at lab. Outfall 001 analyze for Fe.
			WM	1 L Glass Amber	2	None	250	No						X							Chlordane, DDD, DDE, DDT, dieldrin,PCBs,toxaphene at OF001.
			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_20230405_Comp	4/5/2023 1040	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	500 ml poly	1	HNO_3	80	No				X									

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time
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__

2019-2020 Rainy Season
Version 5

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-133757 Chain of Custody

Loc: 570
133757

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 001 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	**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: Neal Smith**	

									R	R	R	R	R	R	R/EP	R	R	R	R	C			
									ANALYSIS REQUIRED														
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.8): 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-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	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: (E200.8): Fe			Comments
1 Outfall 001	Outfall001_20230405_Comp	4/5/2023 0740	WM	500 mL Poly	1	HNO_3	90	Yes	X										X	X			Outfall 001 analyze for 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 hours 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								
2	Outfall001_20230405_Comp_Extra	4/5/2023 0740	WM	1 L Glass Amber	2	None	110	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, EP=Expert Panel, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
[signature]	4-5-2023/1210	ELA	[signature]	4/5/23	1210 EC
[signature]	4/5/23	1830 EC	[signature]	4/5/23	18:30 EC

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__

2.9/2.9 2.4/2.4 3.1/3.1 SC11

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 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 001 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	
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: Neal Smith	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	R: Total Dissolved Metals: (E200.8): 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	R: Total Dissolved Metals: Mercury (E245.1)	QRSW: Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)	QRSW: Total Recoverable Metals: Hardness as CaCO3	QRSW: Total Dissolved Metals: Hardness as CaCO3	C/EP: Total Dissolved Metals: (E200.8): Fe			Comments
Outfall 001 3	Outfall001_20230405_Comp_F	4/5/2023 /0740	WM	1 L Poly	1	None	190	No								X				Filter and preserve w/in 24hrs of receipt at lab.
			WM	500 mL Poly	1	HNO_3	80	No							X					
			WM	1L Poly	1	None	200	Yes	X								X			Filter and preserve w/in 24hrs of receipt at lab Outfall 001 analyze for Fe.
			WM	1 L Glass Amber	2	None	250	No						X						Chlordane, DDD, DDE, DDT, dieldrin,PCBs,toxaphene at OF001.
			WM	borosilicate vials	2	None	320	No					X							Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
1	Outfall001_20230405_Comp	4/5/2023 /0740	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												

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
[signature]	4-5-2023/1210	H+A	[signature]	4/5/23 1210 EC	Turn-around time: (Check) 24 Hour: ______ 72 Hour: ______ 10 Day: __X____ 48 Hour: ______ 5 Day: ______ Normal: ______
[signature]	4/5/23 1830	EC	[signature]	4/5/23 18:30 EC	Sample Integrity: (Check) Intact: ______ On Ice: ______
					Store samples for 6 months. Data Requirements: (Check) No Level IV: ______ All Level IV: __X____

2019-2020 Rainy Season
Version 5

5/26/2023 (Rev. 1)

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-215545.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-133757-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 5/8/2023			
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 - Routine Outfall 001 - Comp	Project #: 57013187			
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, Y - Trizma, 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:												
Outfall001_20230405_Comp (570-133757-1)	4/5/23	07:40 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation. Ok to Preserve

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our 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: 4/6/23 1425	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
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-215595.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-133757-2
Address: 880 Riverside Parkway,	Due Date Requested: 4/25/2023			
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 - Routine Outfall 001 - Comp	Project #: 57013187			
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, Y - Trizma, 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 (MOD) Standard List w/ Totals	1613B/1613B_Sox_Sep_P (MOD) Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20230405_Comp (570-133757-1)	4/5/23	07:40 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall001_20230405_Comp_Extra (570-133757-2)	4/5/23	07:40 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 Calscience places the ownership of method, analyte & accreditation compliance upon our 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
	4/6/23 1526				
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:

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-133757-1

Login Number: 133757
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
/ adioactiRty v awns chec' ed or iwk6< bac' =round awmeawured by a wurRey meter.	N6A	
ghe coolerswcuwtody weal, iTf rewent, iwintact.	grue	
pamf le cuwtody wealw, iTf rewent, are intact.	grue	
ghe cooler or wamf lewdo not af f ear to haRe been comf romiwed or tamf ered v ith.	grue	
pamf lewv ere receiRed on ice.	grue	
Cooler gemf erature iwaccef table.	grue	
Cooler gemf erature iwrecorded.	grue	
CSC iwf rewent.	grue	
CSC iwTilled out in in' and le=ible.	grue	
CSC iwTilled out v ith all f ertinent inTormation.	grue	
Iwthe Cield pamf lerswname f rewent on CSCF	grue	
ghere are no diwcref anciewbetv een the containerwreceiRed and the CSC.	grue	
pamf leware receiRed v ithin Holdin= gime ?e(cludin= tewtwv ith immediate Hgwx	grue	
pamf le containerwhaRe le=ible labelw.	grue	
Containerware not bro' en or lea' in=.	grue	
pamf le collection date6imeware f roRided.	grue	
Af f rof riate wamf le containerware uwed.	grue	
pamf le bottleware comf letely Tilled.	grue	
pamf le) rewerRation PeriTied.	grue	
ghere iwwuTTicient Rol. Tor all reVuewted analywew, incl. any reVuewted q p6q pMw	grue	
ContainerwreVuirin= Dero headwf ace haRe no headwf ace or bubble iw kzmm ?164"x.	grue	
q ultif hawic wamf leware not f rewent.	grue	
pamf lewdo not reVuire wf littin= or comf owitin=.	grue	
/ ewidual Chlorine Chec' ed.	N6A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 4/19/2023 2:22:20 PM

JOB DESCRIPTION

Boeing NPDES SSFL - Routine Outfall 001 - Comp

JOB NUMBER

570-133757-2

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

myEOL

Eurofins Calscience

Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

Virendra R Patil

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4/19/2023 2:22:20 PM

Authorized for release by
Virendra Patel, Project Manager I
Virendra.Patel@et.eurofinsus.com
(714)895-5494

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-2

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: 570-133757-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-133757-2

Receipt
The samples were received on 4/5/2023 6:30 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 2.4°C, 2.9°C and 3.1°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 12D5 exceeded this criteria: Outfall001_20230405_Comp (570-133757-1), (CCV 320-668066/2), (LCS 320-667367/2-A), (LCSD 320-667367/3-A) and (MB 320-667367/1-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: 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: Outfall001_20230405_Comp (570-133757-1), (CCV 320-668397/2) and (MB 320-667367/1-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 printed on April 18, 2023 at 20:36 indicated that the instrument was at less than 10,000 resolution. Upon arrival to work the next morning the analyst checked the resolution and the instrument had returned to 10,000 resolution, and a resolution check was printed on April 19,2023 at 09:25. Temperature variation of the lab is suspected. The samples were evaluated for high mass fragmentation breakthrough and none was found. There is no adverse impact on the data. The following samples are impacted. Outfall001_20230405_Comp (570-133757-1), (CCV 320-668397/2), (MB 320-667367/1-A) and (WDM 320-668397/1)

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.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-2

Client Sample ID: Outfall001_20230405_Comp

Lab Sample ID: 570-133757-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.00000049	J,DX MB	0.000048	0.00000025	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.00000073	J,DX MB q	0.000048	0.00000016	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.00000045	J,DX MB	0.000048	0.00000019	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000021	J,DX MB	0.000048	0.00000036	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.00000069	J,DX MB q	0.000048	0.00000037	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.00000086	J,DX MB	0.000048	0.00000023	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.00000054	J,DX MB q	0.000048	0.00000021	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.00000082	J,DX MB	0.000048	0.00000027	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.00000031	J,DX MB q	0.000048	0.00000021	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000032	J,DX MB	0.000048	0.00000029	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000033	J,DX MB q	0.000048	0.00000054	ug/L	1		1613B	Total/NA
OCDD	0.000025	J,DX MB	0.000095	0.00000051	ug/L	1		1613B	Total/NA
OCDF	0.0000056	J,DX MB	0.000095	0.00000027	ug/L	1		1613B	Total/NA
Total TCDF	0.0000012	J,DX MB q	0.0000095	0.00000011	ug/L	1		1613B	Total/NA
Total PeCDD	0.00000049	J,DX MB	0.000048	0.00000025	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000012	J,DX MB q	0.000048	0.00000016	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000028	J,DX MB q	0.000048	0.00000032	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000033	J,DX MB q	0.000048	0.00000021	ug/L	1		1613B	Total/NA
Total HpCDD	0.0000061	J,DX MB q	0.000048	0.00000029	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000051	J,DX MB q	0.000048	0.00000054	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000095	0.00000023	ug/L		04/13/23 06:32	04/17/23 20:25	1
1,2,3,7,8-PeCDD	**0.00000049**	**J,DX MB**	0.000048	0.00000025	ug/L		04/13/23 06:32	04/17/23 20:25	1
1,2,3,7,8-PeCDF	**0.00000073**	**J,DX MB q**	0.000048	0.00000016	ug/L		04/13/23 06:32	04/17/23 20:25	1
2,3,4,7,8-PeCDF	**0.00000045**	**J,DX MB**	0.000048	0.00000019	ug/L		04/13/23 06:32	04/17/23 20:25	1
1,2,3,4,7,8-HxCDD	**0.0000021**	**J,DX MB**	0.000048	0.00000036	ug/L		04/13/23 06:32	04/17/23 20:25	1
1,2,3,6,7,8-HxCDD	**0.00000069**	**J,DX MB q**	0.000048	0.00000037	ug/L		04/13/23 06:32	04/17/23 20:25	1
1,2,3,7,8,9-HxCDD	ND		0.000048	0.00000032	ug/L		04/13/23 06:32	04/17/23 20:25	1
1,2,3,4,7,8-HxCDF	**0.00000086**	**J,DX MB**	0.000048	0.00000023	ug/L		04/13/23 06:32	04/17/23 20:25	1
1,2,3,6,7,8-HxCDF	**0.00000054**	**J,DX MB q**	0.000048	0.00000021	ug/L		04/13/23 06:32	04/17/23 20:25	1
1,2,3,7,8,9-HxCDF	**0.00000082**	**J,DX MB**	0.000048	0.00000027	ug/L		04/13/23 06:32	04/17/23 20:25	1
2,3,4,6,7,8-HxCDF	**0.00000031**	**J,DX MB q**	0.000048	0.00000021	ug/L		04/13/23 06:32	04/17/23 20:25	1
1,2,3,4,6,7,8-HpCDD	**0.0000032**	**J,DX MB**	0.000048	0.00000029	ug/L		04/13/23 06:32	04/17/23 20:25	1
1,2,3,4,6,7,8-HpCDF	**0.0000033**	**J,DX MB q**	0.000048	0.00000054	ug/L		04/13/23 06:32	04/17/23 20:25	1
1,2,3,4,7,8,9-HpCDF	ND		0.000048	0.00000061	ug/L		04/13/23 06:32	04/17/23 20:25	1
OCDD	**0.000025**	**J,DX MB**	0.000095	0.00000051	ug/L		04/13/23 06:32	04/17/23 20:25	1
OCDF	**0.0000056**	**J,DX MB**	0.000095	0.00000027	ug/L		04/13/23 06:32	04/17/23 20:25	1
Total TCDD	ND		0.0000095	0.00000023	ug/L		04/13/23 06:32	04/17/23 20:25	1
Total TCDF	**0.0000012**	**J,DX MB q**	0.0000095	0.00000011	ug/L		04/13/23 06:32	04/17/23 20:25	1
Total PeCDD	**0.00000049**	**J,DX MB**	0.000048	0.00000025	ug/L		04/13/23 06:32	04/17/23 20:25	1
Total PeCDF	**0.0000012**	**J,DX MB q**	0.000048	0.00000016	ug/L		04/13/23 06:32	04/17/23 20:25	1
Total HxCDD	**0.0000028**	**J,DX MB q**	0.000048	0.00000032	ug/L		04/13/23 06:32	04/17/23 20:25	1
Total HxCDF	**0.0000033**	**J,DX MB q**	0.000048	0.00000021	ug/L		04/13/23 06:32	04/17/23 20:25	1
Total HpCDD	**0.0000061**	**J,DX MB q**	0.000048	0.00000029	ug/L		04/13/23 06:32	04/17/23 20:25	1
Total HpCDF	**0.0000051**	**J,DX MB q**	0.000048	0.00000054	ug/L		04/13/23 06:32	04/17/23 20:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*77*		*25 - 164*	*04/13/23 06:32*	*04/17/23 20:25*	*1*
13C-2,3,7,8-TCDF	*84*		*24 - 169*	*04/13/23 06:32*	*04/17/23 20:25*	*1*
13C-1,2,3,7,8-PeCDD	*81*		*25 - 181*	*04/13/23 06:32*	*04/17/23 20:25*	*1*
13C-1,2,3,7,8-PeCDF	*85*		*24 - 185*	*04/13/23 06:32*	*04/17/23 20:25*	*1*
13C-2,3,4,7,8-PeCDF	*84*		*21 - 178*	*04/13/23 06:32*	*04/17/23 20:25*	*1*
13C-1,2,3,4,7,8-HxCDD	*81*		*32 - 141*	*04/13/23 06:32*	*04/17/23 20:25*	*1*

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDD	77		28 - 130	04/13/23 06:32	04/17/23 20:25	1
13C-1,2,3,4,7,8-HxCDF	78		26 - 152	04/13/23 06:32	04/17/23 20:25	1
13C-1,2,3,6,7,8-HxCDF	95		26 - 123	04/13/23 06:32	04/17/23 20:25	1
13C-1,2,3,7,8,9-HxCDF	95		29 - 147	04/13/23 06:32	04/17/23 20:25	1
13C-2,3,4,6,7,8-HxCDF	95		28 - 136	04/13/23 06:32	04/17/23 20:25	1
13C-1,2,3,4,6,7,8-HpCDD	78		23 - 140	04/13/23 06:32	04/17/23 20:25	1
13C-1,2,3,4,6,7,8-HpCDF	75		28 - 143	04/13/23 06:32	04/17/23 20:25	1
13C-1,2,3,4,7,8,9-HpCDF	82		26 - 138	04/13/23 06:32	04/17/23 20:25	1
13C-OCDD	91		17 - 157	04/13/23 06:32	04/17/23 20:25	1
13C-OCDF	100		17 - 157	04/13/23 06:32	04/17/23 20:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	94		35 - 197	04/13/23 06:32	04/17/23 20:25	1

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.0000095	0.00000043	ug/L		04/13/23 06:32	04/18/23 16:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*77*		*24 - 169*	*04/13/23 06:32*	*04/18/23 16:15*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*92*		*35 - 197*	*04/13/23 06:32*	*04/18/23 16:15*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-2

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)								
570-133757-1	Outfall001_20230405_Comp	94								
570-133757-1 - RA	Outfall001_20230405_Comp	92								
MB 320-667367/1-A	Method Blank	93								
MB 320-667367/1-A - RA	Method Blank	94								

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 320-667367/2-A	Lab Control Sample	92								
LCSD 320-667367/3-A	Lab Control Sample Dup	90								

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-2

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)
570-133757-1	Outfall001_20230405_Comp	77	84	81	85	84	81	77	78
570-133757-1 - RA	Outfall001_20230405_Comp		77						
MB 320-667367/1-A	Method Blank	73	83	74	82	80	72	80	72
MB 320-667367/1-A - RA	Method Blank		75						

		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)	OCDF (17-157)
570-133757-1	Outfall001_20230405_Comp	95	95	95	78	75	82	91	100
570-133757-1 - RA	Outfall001_20230405_Comp								
MB 320-667367/1-A	Method Blank	92	88	92	68	67	70	71	77
MB 320-667367/1-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
OCDF = 13C-OCDF

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 320-667367/2-A	Lab Control Sample	69	77	69	73	74	65	68	66
LCSD 320-667367/3-A	Lab Control Sample Dup	71	80	72	78	77	67	78	72

		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)	OCDF (13-199)
LCS 320-667367/2-A	Lab Control Sample	79	80	81	62	61	65	68	75
LCSD 320-667367/3-A	Lab Control Sample Dup	89	85	88	67	66	71	71	78

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

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-133757-2
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

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
OCDF = 13C-OCDF

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-667367/1-A
Matrix: Water
Analysis Batch: 668066

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 667367

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000036	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,7,8-PeCDD	0.000000701	J,DX	0.000050	0.00000042	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,7,8-PeCDF	0.000000994	J,DX	0.000050	0.00000025	ug/L		04/13/23 06:32	04/17/23 10:55	1
2,3,4,7,8-PeCDF	0.000000605	J,DX q	0.000050	0.00000029	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,4,7,8-HxCDD	0.00000266	J,DX	0.000050	0.00000043	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,6,7,8-HxCDD	0.00000105	J,DX	0.000050	0.00000042	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,7,8,9-HxCDD	0.00000103	J,DX	0.000050	0.00000038	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,4,7,8-HxCDF	0.000000777	J,DX q	0.000050	0.00000031	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,6,7,8-HxCDF	0.000000651	J,DX	0.000050	0.00000028	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,7,8,9-HxCDF	0.00000120	J,DX	0.000050	0.00000038	ug/L		04/13/23 06:32	04/17/23 10:55	1
2,3,4,6,7,8-HxCDF	0.000000592	J,DX	0.000050	0.00000028	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,4,6,7,8-HpCDD	0.00000186	J,DX q	0.000050	0.00000041	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,4,6,7,8-HpCDF	0.00000178	J,DX q	0.000050	0.00000039	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.00000046	ug/L		04/13/23 06:32	04/17/23 10:55	1
OCDD	0.0000219	J,DX	0.00010	0.00000069	ug/L		04/13/23 06:32	04/17/23 10:55	1
OCDF	0.00000582	J,DX	0.00010	0.00000049	ug/L		04/13/23 06:32	04/17/23 10:55	1
Total TCDD	0.00000240	J,DX q	0.000010	0.00000036	ug/L		04/13/23 06:32	04/17/23 10:55	1
Total TCDF	0.000000686	J,DX q	0.000010	0.00000017	ug/L		04/13/23 06:32	04/17/23 10:55	1
Total PeCDD	0.000000701	J,DX	0.000050	0.00000042	ug/L		04/13/23 06:32	04/17/23 10:55	1
Total PeCDF	0.00000160	J,DX q	0.000050	0.00000025	ug/L		04/13/23 06:32	04/17/23 10:55	1
Total HxCDD	0.00000473	J,DX	0.000050	0.00000038	ug/L		04/13/23 06:32	04/17/23 10:55	1
Total HxCDF	0.00000322	J,DX q	0.000050	0.00000028	ug/L		04/13/23 06:32	04/17/23 10:55	1
Total HpCDD	0.00000340	J,DX q	0.000050	0.00000041	ug/L		04/13/23 06:32	04/17/23 10:55	1
Total HpCDF	0.00000178	J,DX q	0.000050	0.00000039	ug/L		04/13/23 06:32	04/17/23 10:55	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*73*		*25 - 164*	*04/13/23 06:32*	*04/17/23 10:55*	*1*
13C-2,3,7,8-TCDF	*83*		*24 - 169*	*04/13/23 06:32*	*04/17/23 10:55*	*1*
13C-1,2,3,7,8-PeCDD	*74*		*25 - 181*	*04/13/23 06:32*	*04/17/23 10:55*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-667367/1-A
Matrix: Water
Analysis Batch: 668066

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 667367

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	82		24 - 185	04/13/23 06:32	04/17/23 10:55	1
13C-2,3,4,7,8-PeCDF	80		21 - 178	04/13/23 06:32	04/17/23 10:55	1
13C-1,2,3,4,7,8-HxCDD	72		32 - 141	04/13/23 06:32	04/17/23 10:55	1
13C-1,2,3,6,7,8-HxCDD	80		28 - 130	04/13/23 06:32	04/17/23 10:55	1
13C-1,2,3,4,7,8-HxCDF	72		26 - 152	04/13/23 06:32	04/17/23 10:55	1
13C-1,2,3,6,7,8-HxCDF	92		26 - 123	04/13/23 06:32	04/17/23 10:55	1
13C-1,2,3,7,8,9-HxCDF	88		29 - 147	04/13/23 06:32	04/17/23 10:55	1
13C-2,3,4,6,7,8-HxCDF	92		28 - 136	04/13/23 06:32	04/17/23 10:55	1
13C-1,2,3,4,6,7,8-HpCDD	68		23 - 140	04/13/23 06:32	04/17/23 10:55	1
13C-1,2,3,4,6,7,8-HpCDF	67		28 - 143	04/13/23 06:32	04/17/23 10:55	1
13C-1,2,3,4,7,8,9-HpCDF	70		26 - 138	04/13/23 06:32	04/17/23 10:55	1
13C-OCDD	71		17 - 157	04/13/23 06:32	04/17/23 10:55	1
13C-OCDF	77		17 - 157	04/13/23 06:32	04/17/23 10:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	93		35 - 197	04/13/23 06:32	04/17/23 10:55	1

Lab Sample ID: LCS 320-667367/2-A
Matrix: Water
Analysis Batch: 668066

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 667367

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
2,3,7,8-TCDD			0.000200	0.000204		ug/L		102	67 - 158		
2,3,7,8-TCDF			0.000200	0.000222		ug/L		111	75 - 158		
1,2,3,7,8-PeCDD			0.00100	0.000914		ug/L		91	70 - 142		
1,2,3,7,8-PeCDF			0.00100	0.000965		ug/L		96	80 - 134		
2,3,4,7,8-PeCDF			0.00100	0.000989		ug/L		99	68 - 160		
1,2,3,4,7,8-HxCDD			0.00100	0.000880		ug/L		88	70 - 164		
1,2,3,6,7,8-HxCDD			0.00100	0.000965		ug/L		97	76 - 134		
1,2,3,7,8,9-HxCDD			0.00100	0.000936		ug/L		94	64 - 162		
1,2,3,4,7,8-HxCDF			0.00100	0.000883		ug/L		88	72 - 134		
1,2,3,6,7,8-HxCDF			0.00100	0.000923		ug/L		92	84 - 130		
1,2,3,7,8,9-HxCDF			0.00100	0.000887		ug/L		89	78 - 130		
2,3,4,6,7,8-HxCDF			0.00100	0.000910		ug/L		91	70 - 156		
1,2,3,4,6,7,8-HpCDD			0.00100	0.000881		ug/L		88	70 - 140		
1,2,3,4,6,7,8-HpCDF			0.00100	0.000972		ug/L		97	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000922		ug/L		92	78 - 138		
OCDD			0.00200	0.00187		ug/L		93	78 - 144		
OCDF			0.00200	0.00184		ug/L		92	63 - 170		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	69		20 - 175
13C-2,3,7,8-TCDF	77		22 - 152
13C-1,2,3,7,8-PeCDD	69		21 - 227
13C-1,2,3,7,8-PeCDF	73		21 - 192
13C-2,3,4,7,8-PeCDF	74		13 - 328
13C-1,2,3,4,7,8-HxCDD	65		21 - 193

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-667367/2-A
Matrix: Water
Analysis Batch: 668066

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 667367

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,6,7,8-HxCDD	68		25 - 163
13C-1,2,3,4,7,8-HxCDF	66		19 - 202
13C-1,2,3,6,7,8-HxCDF	79		21 - 159
13C-1,2,3,7,8,9-HxCDF	80		17 - 205
13C-2,3,4,6,7,8-HxCDF	81		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	62		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	61		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	65		20 - 186
13C-OCDD	68		13 - 199
13C-OCDF	75		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	92		31 - 191

Lab Sample ID: LCSD 320-667367/3-A
Matrix: Water
Analysis Batch: 668066

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 667367

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000190		ug/L		95	67 - 158	7	50
2,3,7,8-TCDF			0.000200	0.000208		ug/L		104	75 - 158	7	50
1,2,3,7,8-PeCDD			0.00100	0.000853		ug/L		85	70 - 142	7	50
1,2,3,7,8-PeCDF			0.00100	0.000871		ug/L		87	80 - 134	10	50
2,3,4,7,8-PeCDF			0.00100	0.000920		ug/L		92	68 - 160	7	50
1,2,3,4,7,8-HxCDD			0.00100	0.000822		ug/L		82	70 - 164	7	50
1,2,3,6,7,8-HxCDD			0.00100	0.000900		ug/L		90	76 - 134	7	50
1,2,3,7,8,9-HxCDD			0.00100	0.000856		ug/L		86	64 - 162	9	50
1,2,3,4,7,8-HxCDF			0.00100	0.000850		ug/L		85	72 - 134	4	50
1,2,3,6,7,8-HxCDF			0.00100	0.000856		ug/L		86	84 - 130	8	50
1,2,3,7,8,9-HxCDF			0.00100	0.000819		ug/L		82	78 - 130	8	50
2,3,4,6,7,8-HxCDF			0.00100	0.000835		ug/L		83	70 - 156	9	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.000819		ug/L		82	70 - 140	7	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.000920		ug/L		92	82 - 122	5	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000860		ug/L		86	78 - 138	7	50
OCDD			0.00200	0.00173		ug/L		86	78 - 144	8	50
OCDF			0.00200	0.00172		ug/L		86	63 - 170	7	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	71		20 - 175
13C-2,3,7,8-TCDF	80		22 - 152
13C-1,2,3,7,8-PeCDD	72		21 - 227
13C-1,2,3,7,8-PeCDF	78		21 - 192
13C-2,3,4,7,8-PeCDF	77		13 - 328
13C-1,2,3,4,7,8-HxCDD	67		21 - 193
13C-1,2,3,6,7,8-HxCDD	78		25 - 163
13C-1,2,3,4,7,8-HxCDF	72		19 - 202
13C-1,2,3,6,7,8-HxCDF	89		21 - 159

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-667367/3-A
Matrix: Water
Analysis Batch: 668066

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 667367

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-1,2,3,7,8,9-HxCDF	85		17 - 205
13C-2,3,4,6,7,8-HxCDF	88		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	67		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	66		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	71		20 - 186
13C-OCDD	71		13 - 199
13C-OCDF	78		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	90		31 - 191

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-667367/1-A
Matrix: Water
Analysis Batch: 668397

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 667367

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	ND		0.000010	0.00000038	ug/L		04/13/23 06:32	04/18/23 14:49	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF - RA	75		24 - 169	04/13/23 06:32	04/18/23 14:49	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD - RA	94		35 - 197	04/13/23 06:32	04/18/23 14:49	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-2

Specialty Organics

Prep Batch: 667367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1 - RA	Outfall001_20230405_Comp	Total/NA	Water	1613B	
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	1613B	
MB 320-667367/1-A - RA	Method Blank	Total/NA	Water	1613B	
MB 320-667367/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-667367/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-667367/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 668066

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	1613B	667367
MB 320-667367/1-A	Method Blank	Total/NA	Water	1613B	667367
LCS 320-667367/2-A	Lab Control Sample	Total/NA	Water	1613B	667367
LCSD 320-667367/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	667367

Analysis Batch: 668397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1 - RA	Outfall001_20230405_Comp	Total/NA	Water	1613B	667367
MB 320-667367/1-A - RA	Method Blank	Total/NA	Water	1613B	667367

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-2

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B	RA		1050 mL	20.0 uL	667367	04/13/23 06:32	FC	EET SAC
Total/NA	Analysis	1613B	RA	1	1 uL	1 uL	668397	04/18/23 16:15	DB	EET SAC
	Instrument ID: 11D2									
Total/NA	Prep	1613B			1050 mL	20.0 uL	667367	04/13/23 06:32	FC	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	668066	04/17/23 20:25	GRB	EET SAC
	Instrument ID: 12D5									

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-133757-2
Project/Site: Boeing NPDES SSFL - Routine 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	08-11-23
Arkansas DEQ	State	88-0691	06-17-23
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-23
Florida	NELAP	E87570	06-30-23
Georgia	State	4040	01-29-24
Hawaii	State	<cert No.>	01-29-24
Illinois	NELAP	200060	03-17-24
Kansas	NELAP	E-10375	10-31-23
Louisiana	NELAP	01944	06-30-23
Louisiana (All)	NELAP	01944	06-30-23
Maine	State	CA00004	04-14-24
Michigan	State	9947	06-01-23
Nevada	State	CA00044	07-31-23
New Hampshire	NELAP	2997	04-18-23
New Jersey	NELAP	CA005	06-30-23
New York	NELAP	11666	04-01-24
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-24
Texas	NELAP	T104704399-19-13	05-31-23
US Fish & Wildlife	US Federal Programs	58448	04-30-23
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442021-12	02-28-23 *
Virginia	NELAP	460278	03-14-24
Washington	State	C581	05-05-23
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-23
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	EET SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
j ro/ectSBite: goeinNEj DFB BBLR- u oCtine f Ctnall 001 -
Cop _

Job ID: 570-133757-P

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-133757-1	f Ctnall0012P0P304052Cop _	Water	04S05SP3 07:40	04S05SP3 18:30

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-133757 Chain of Custody

Loc: 570
133757

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 001 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	**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: Neal Smith**	

									R	R	R	R	R	R	R/EP	R	R	R	R	C			
									ANALYSIS REQUIRED														
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.8): 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-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	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: (E200.8): Fe			Comments
1 Outfall 001	Outfall001_20230405_Comp	4/5/2023 0740	WM	500 mL Poly	1	HNO_3	90	Yes	X										X	X			Outfall 001 analyze for 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 hours 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								
2	Outfall001_20230405_Comp_Extra	4/5/2023 0740	WM	1 L Glass Amber	2	None	110	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, EP=Expert Panel, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	Company:
Mark Dominick	4-5-2023/1210	ELA	[illegible]	4/5/23 1210	EC
[illegible]	4/5/23 1830	EC	[illegible]	4/5/23 18:30	EC

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__

2.9/2.9 2.4/2.4 3.1/3.1 SC11

2019-2020 Rainy Season
Version 5

4/19/2023

CHAIN OF CUSTODY FORM

									R	R	R	R	R	QRSW	QRSW	QRSW	C/EP			
Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108			Project: Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 001 Comp						ANALYSIS REQUIRED												Comments
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**			Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)						Total Dissolved Metals: (E200.8): Zn (E200.8): Cu, Pb, Cd, Se	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E908.0), 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)	Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)	Total Recoverable Metals: Hardness as CaCO3	Total Dissolved Metals: Hardness as CaCO3	Total Dissolved Metals: (E200.8): 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.																				
Sampler: Neal Smith			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												
3 Outfall 001	Outfall001_20230405_Comp_F	4/5/2023 0740	WM	1 L Poly	1	None	190	No									X			Filter and preserve w/in 24hrs of receipt at lab.
			WM	500 mL Poly	1	HNO_3	80	No									X			
			WM	1L Poly	1	None	200	Yes	X									X		Filter and preserve w/in 24hrs of receipt at lab Outfall 001 analyze for Fe.
			WM	1 L Glass Amber	2	None	250	No						X						Chlordane, DDD, DDE, DDT, dieldrin,PCBs,toxaphene at OF001.
			WM	borosilicate vials	2	None	320	No					X							Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
1	Outfall001_20230405_Comp	4/5/2023 0740	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												

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	4-5-2023/1210	H:A	[signature]	4/5/23 1210 EC
[signature]	4/5/23 1830	EC	[signature]	4/5/23 18:30 EC
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__

2019-2020 Rainy Season
Version 5

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-215545.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-133757-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 5/8/2023			
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 - Routine Outfall 001 - Comp	Project #: 57013187			
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
Y - Trizma
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:												
Outfall001_20230405_Comp (570-133757-1)	4/5/23	07:40 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation. Ok to Preserve

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our 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: 4/6/23 1425	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
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-215595.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-133757-2
Address: 880 Riverside Parkway,	Due Date Requested: 4/25/2023			
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 - Routine Outfall 001 - Comp	Project #: 57013187			
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, Y - Trizma, 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 (MOD) Standard List w/ Totals	1613B/1613B_Sox_Sep_P (MOD) Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20230405_Comp (570-133757-1)	4/5/23	07:40 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall001_20230405_Comp_Extra (570-133757-2)	4/5/23	07:40 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 Calscience places the ownership of method, analyte & accreditation compliance upon our 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
	4/6/23 1526				
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
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-215595.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Requirec (See note): State Program - California		Job #: 570-133757-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 4/25/2023			
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 - Routine Outfall 001 - Comp	Project #: 57013187			
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, Y - Trizma, 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 (MOD) Standard List w/ Totals	1613B/1613B_Sox_Sep_P (MOD) Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20230405_Comp (570-133757-1)	4/5/23	07:40 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall001_20230405_Comp_Extra (570-133757-2)	4/5/23	07:40 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 Calscience places the ownership of method, analyte & accreditation compliance upon our 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: 4/6/23 1526	Company	Received by:	Date/Time: 04-07-23 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: Δ Yes Δ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

4/19/2023

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-133757-2

Login Number: 133757
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: 570-133757-2

Login Number: 133757
List Number: 3
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 04/07/23 01:29 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.	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	2.6c
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?	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

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 5/21/2023 11:04:58 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Routine Outfall 001 - Comp

JOB NUMBER

570-133757-3

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

myEOL

Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

Virendra R Patil

Generated
5/21/2023 11:04:58 AM

Authorized for release by
Virendra Patel, Project Manager I
Virendra.Patel@et.eurofinsus.com
(714)895-5494

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-3

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: 570-133757-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-133757-3

Comments
No additional comments.

Receipt
The samples were received on 4/5/2023 6:30 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 2.4º C, 2.9º C and 3.1º C.

RAD
Methods 900.0, 9310: Gross Alpha and Gross Beta batch 610855
The detection goal was not met for the following samples due to a reduction of the sample size attributed to high residual mass: (160-49751-A-1-B) and (160-49751-A-1-E DU). Analytical results are reported with the detection limit achieved.

Methods 900.0, 9310: Gross Alpha and Gross Beta batch 610855
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_20230405_Comp (570-133757-1), (LCS 160-610855/2-A), (LCSB 160-610855/3-A), (MB 160-610855/1-A), (160-49751-A-1-B), (160-49751-A-1-E DU), (160-49751-A-1-C MS) and (160-49751-A-1-D MSBT)

Method 901.1: Gamma Prep Batch 160-607146
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.

Outfall001_20230405_Comp (570-133757-1), (570-133036-R-1-D) and (570-133036-R-1-F DU)

Job ID: 570-133757-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Methods 903.0, 9315: Radium-226 batch 607889
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_20230405_Comp (570-133757-1), (LCS 160-607889/2-A), (LCSD 160-607889/3-A), (MB 160-607889/1-A), (400-235738-D-4-A), (400-235738-D-4-B MS) and (400-235738-D-4-C MSD)

Methods 904.0, 9320: Radium-228 prep batch 160-611315:

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_20230405_Comp (570-133757-1), (LCS 160-611315/2-A), (LCSD 160-611315/3-A) and (MB 160-611315/1-A)

Method 905: Strontium-90 batch 607355
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_20230405_Comp (570-133757-1), (LCS 160-607355/2-A), (MB 160-607355/1-A), (280-174032-D-4-A) and (280-174032-C-4-A DU)

Method 906.0: Tritium 608493
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 decay corrected to sample date and time as the Activity Reference Date. Outfall001_20230405_Comp (570-133757-1), (LCS 160-608493/2-A), (MB 160-608493/1-A), (570-133752-R-1-B), (570-133752-R-1-C DU) and (570-133752-R-1-D MS)

Method A-01-R: Isotopic Uranium batch 608325
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_20230405_Comp (570-133757-1), (LCS 160-608325/2-A), (MB 160-608325/1-A), (570-133036-R-1-G) and (570-133036-R-1-I DU)

Method PrecSep_0: Radium-228 Prep Batch 160-607906

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001_20230405_Comp (570-133757-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep_0: Radium-228 Prep Batch 160-607906

Insufficient sample volume was available to perform a sample duplicate for the following samples: Outfall001_20230405_Comp (570-133757-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep_0: Radium-228 Prep Batch 160-611315

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001_20230405_Comp (570-133757-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep_0: Radium-228 Prep Batch 160-611315

Job ID: 570-133757-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Insufficient sample volume was available to perform a sample duplicate for the following samples: Outfall001_20230405_Comp (570-133757-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21:

Method PrecSep-21: Radium-226 Prep Batch 160-607889

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001_20230405_Comp (570-133757-1). 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 160-607889

Insufficient sample volume was available to perform a sample duplicate for the following samples: Outfall001_20230405_Comp (570-133757-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead 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.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-3

Client Sample ID: Outfall001_20230405_Comp **Lab Sample ID: 570-133757-1**

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-3

Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.311	U	1.49	1.49	3.00	2.90	pCi/L	05/10/23 10:25	05/12/23 19:29	1
Gross Beta	**1.41**		0.664	0.679	4.00	0.965	pCi/L	05/10/23 10:25	05/12/23 19:29	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-3

Method: EPA 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-0.848	U	7.27	7.27	20.0	8.99	pCi/L	04/12/23 12:53	04/19/23 05:39	1
Potassium-40	-23.3	U	92.5	92.5		120	pCi/L	04/12/23 12:53	04/19/23 05:39	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-3

Method: EPA 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.177	U	0.299	0.300	1.00	0.520	pCi/L	04/18/23 10:45	05/12/23 06:10	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.3*		*30 - 110*	*04/18/23 10:45*	*05/12/23 06:10*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-3

Method: EPA 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.421	U	0.434	0.436	1.00	0.701	pCi/L	05/12/23 13:41	05/19/23 12:21	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*30 - 110*	*05/12/23 13:41*	*05/19/23 12:21*	*1*
Y Carrier	*80.3*		*30 - 110*	*05/12/23 13:41*	*05/19/23 12:21*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-3

Method: EPA 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.252	U	0.262	0.263	3.00	0.428	pCi/L	04/13/23 14:59	04/24/23 19:30	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*86.2*		*30 - 110*	*04/13/23 14:59*	*04/24/23 19:30*	*1*
Y Carrier	*72.9*		*30 - 110*	*04/13/23 14:59*	*04/24/23 19:30*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-3

Method: EPA 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-66.2	U	199	200	500	365	pCi/L	04/24/23 09:41	04/25/23 13:41	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-3

Method: DOE A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.209		0.154	0.155	1.00	0.134	pCi/L	04/20/23 16:08	04/24/23 23:27	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*80.0*		*30 - 110*	*04/20/23 16:08*	*04/24/23 23:27*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-3

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
570-133757-1	Outfall001_20230405_Comp	82.3
LCS 160-607889/2-A	Lab Control Sample	75.4
LCSD 160-607889/3-A	Lab Control Sample Dup	83.3
MB 160-607889/1-A	Method Blank	80.1

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	(30-110)	(30-110)
570-133757-1	Outfall001_20230405_Comp	93.5	80.3
LCS 160-611315/2-A	Lab Control Sample	98.0	89.3
LCSD 160-611315/3-A	Lab Control Sample Dup	94.0	86.5
MB 160-611315/1-A	Method Blank	95.0	85.1

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	(30-110)	(30-110)
570-133757-1	Outfall001_20230405_Comp	86.2	72.9
LCS 160-607355/2-A	Lab Control Sample	86.2	84.1
MB 160-607355/1-A	Method Blank	87.8	85.6

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)
570-133757-1	Outfall001_20230405_Comp	80.0
LCS 160-608325/2-A	Lab Control Sample	87.6
MB 160-608325/1-A	Method Blank	81.8

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-610855/1-A
Matrix: Water
Analysis Batch: 611286

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 610855

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uro44 Alpha	0.0530s	9	0.70G	0.70G	3.00	1.31	pCi/L	05/10/23 10:25	05/12/23 1G07	1
Uro44 Beta	0.2528	9	0.501	0.501	8.00	0.658	pCi/L	05/10/23 10:25	05/12/23 1G07	1

Lab Sample ID: LCS 160-610855/2-A
Matrix: Water
Analysis Batch: 611283

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 610855

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Uro44 Alpha	8s.G	87.02		7.06	3.00	2.1s	pCi/L	s5	75 - 125

Lab Sample ID: LCSB 160-610855/3-A
Matrix: Water
Analysis Batch: 611283

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 610855

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Uro44 Beta	73.3	72.32		7.7G	8.00	0.s8s	pCi/L	ss	75 - 125

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-607146/1-A
Matrix: Water
Analysis Batch: 608050

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 607146

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ce4ium-137	-0.2558	9	6.12	6.12	20.0	s.G0	pCi/L	08/12/23 12:53	08/1s/23 03:12	1
Pota44ium-80	71.58		G7.s	G6.8		G7.8	pCi/L	08/12/23 12:53	08/1s/23 03:12	1

Lab Sample ID: LCS 160-607146/2-A
Matrix: Water
Analysis Batch: 608053

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 607146

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Americium-281	135000	135500		1G100		887	pCi/L	100	7s - 121
Ce4ium-137	80600	81770		8s60	20.0	110	pCi/L	102	67 - 115
Cobalt-G0	17700	16530		2210		58.0	pCi/L	105	66 - 11G

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-607889/1-A
Matrix: Water
Analysis Batch: 611286

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 607889

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-22G	-0.0212G	9	0.182	0.182	1.00	0.307	pCi/L	08/16/23 10:85	05/12/23 0G07	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.1*		*30 - 110*	*04/18/23 10:45*	*05/12/23 06:07*	*1*

Lab Sample ID: LCS 160-607889/2-A
Matrix: Water
Analysis Batch: 611286

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 607889

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-22G			11.3	11.57		1.87	1.00	0.332	pCi/L	102	75 - 113		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*75.4*		*30 - 110*

Lab Sample ID: LCSD 160-607889/3-A
Matrix: Water
Analysis Batch: 611286

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 607889

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-22G			11.3	10.5G		1.35	1.00	0.358	pCi/L	s3	75 - 113	0.3G	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*83.3*		*30 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-611315/1-A
Matrix: Water
Analysis Batch: 612288

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 611315

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.1208	9	0.26G	0.26G	1.00	0.5G2	pCi/L	05/12/23 13:81	05/1s/23 12:17	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.0*		*30 - 110*	*05/12/23 13:41*	*05/19/23 12:17*	*1*
Y Carrier	*85.1*		*30 - 110*	*05/12/23 13:41*	*05/19/23 12:17*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-611315/2-A
Matrix: Water
Analysis Batch: 612288

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 611315

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			6.1s	6.0G8		1.12	1.00	0.501	pCi/L	s6	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*98.0*		*30 - 110*
Y Carrier	*89.3*		*30 - 110*

Lab Sample ID: LCSD 160-611315/3-A
Matrix: Water
Analysis Batch: 612290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 611315

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-226			6.1s	s.5s3		1.55	1.00	0.sGG	pCi/L	117	75 - 125	0.57	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*94.0*		*30 - 110*
Y Carrier	*86.5*		*30 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-607355/1-A
Matrix: Water
Analysis Batch: 608494

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 607355

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-s0	0.1022	9	0.20G	0.20G	3.00	0.351	pCi/L	08/13/23 18:5s	08/28/23 1s:21	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*87.8*		*30 - 110*	*04/13/23 14:59*	*04/24/23 19:21*	*1*
Y Carrier	*85.6*		*30 - 110*	*04/13/23 14:59*	*04/24/23 19:21*	*1*

Lab Sample ID: LCS 160-607355/2-A
Matrix: Water
Analysis Batch: 608494

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 607355

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Strontium-s0			7.33	7.851		0.632	3.00	0.266	pCi/L	102	77 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*86.2*		*30 - 110*
Y Carrier	*84.1*		*30 - 110*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-3

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-608493/1-A
Matrix: Water
Analysis Batch: 608725

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 608493

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-127.0	9	165	165	500	386	pCi/L	08/28/23 0s:81	08/25/23 11:03	1

Lab Sample ID: LCS 160-608493/2-A
Matrix: Water
Analysis Batch: 608725

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 608493

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Tritium			20s0	28GG		8s7	500	811	pCi/L	116	75 - 125		

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-608325/1-A
Matrix: Water
Analysis Batch: 608551

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 608325

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total 9 ranium	0.07277	9	0.1152	0.1153	1.00	0.168	pCi/L	08/20/23 1G06	08/28/23 23:27	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*81.8*		*30 - 110*	*04/20/23 16:08*	*04/24/23 23:27*	*1*

Lab Sample ID: LCS 160-608325/2-A
Matrix: Water
Analysis Batch: 608555

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 608325

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
9 ranium-238			12.7	13.6G		1.5s	1.00	0.188	pCi/L	10s	75 - 125		
9 ranium-236			13.0	18.s3		1.G6	1.00	0.150	pCi/L	115	75 - 125		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*87.6*		*30 - 110*

Rad

Prep Batch: 607146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-607146/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-607146/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	

Prep Batch: 607355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	PrecSep-7	
MB 160-607355/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-607355/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	

Prep Batch: 607889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	PrecSep-21	
MB 160-607889/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-607889/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-607889/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 608325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	ExtChrom	
MB 160-608325/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-608325/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	

Prep Batch: 608493

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-608493/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-608493/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 610855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	Evaporation	
MB 160-610855/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-610855/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-610855/3-A	Lab Control Sample	Total/NA	Water	Evaporation	

Prep Batch: 611315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	PrecSep_0	
MB 160-611315/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-611315/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-611315/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-3

Client Sample ID: Outfall001_20230405_Comp

Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			200 mL	1.0 g	610855	05/10/23 10:25	MST	EET SL
Total/NA	Analysis	900.0		1			611286	05/12/23 19:29	FLC	EET SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	607146	04/12/23 12:53	AJP	EET SL
Total/NA	Analysis	901.1		1			608052	04/19/23 05:39	LAM	EET SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			757.80 mL	1.0 g	607889	04/18/23 10:45	KAC	EET SL
Total/NA	Analysis	903.0		1			611286	05/12/23 06:10	FLC	EET SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			757.43 mL	1.0 g	611315	05/12/23 13:41	KAC	EET SL
Total/NA	Analysis	904.0		1			612289	05/19/23 12:21	FLC	EET SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep-7			993.69 mL	1.0 g	607355	04/13/23 14:59	KAC	EET SL
Total/NA	Analysis	905		1			608625	04/24/23 19:30	FLC	EET SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	LSC_Dist_Susp			100.37 mL	1.0 g	608493	04/24/23 09:41	DJP	EET SL
Total/NA	Analysis	906.0		1			608725	04/25/23 13:41	REV	EET SL
	Instrument ID: LSCTEAL									
Total/NA	Prep	ExtChrom			497.7 mL	1.0 mL	608325	04/20/23 16:08	SEH	EET SL
Total/NA	Analysis	A-01-R		1			608547	04/24/23 23:27	FLC	EET SL
	Instrument ID: ALPHAVISION									

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-3

Laboratory: Eurofins Stl 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	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-23
North Dakota	State	R-207	06-30-23
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-23
Washington	State	C592	08-30-23
West Virginia DEP	State	381	10-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-3

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	EET SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	EET SL
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
905	Strontium-90 (GFPC)	EPA	EET SL
906.0	Tritium, Total (LSC)	EPA	EET SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	EET SL
Evaporation	Preparation, Evaporation	None	EET SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	EET SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	EET SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	EET SL

Protocol References:

DOE = U.S. Department of Energy
EPA = US Environmental Protection Agency
None = None

Laboratory References:

EET 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 - Routine Outfall 001 - Comp

Job ID: 570-133757-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-133757-1	Outfall001_20230405_Comp	Water	04/05/23 07:40	04/05/23 18:30

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-133757 Chain of Custody

Loc: 570
133757

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 001 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	**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: Neal Smith**	

									R	R	R	R	R	R	R/EP	R	R	R	R	C				
									ANALYSIS REQUIRED															
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.8): 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-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	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: (E200.8): Fe			Comments
1 Outfall 001	Outfall001_20230405_Comp	4/5/2023 0740	WM	500 mL Poly	1	HNO_3	90	Yes	X										X	X			Outfall 001 analyze for 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 hours 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								
2	Outfall001_20230405_Comp_Extra	4/5/2023 0740	WM	1 L Glass Amber	2	None	110	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, EP=Expert Panel, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	Company:
[signature]	4-5-2023/1210	EI:A	[signature]	4/5/23 1210	EC
[signature]	4/5/23 1830	EC	[signature]	4/5/23 18:30	EC

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__

2.9/2.9 2.4/2.4 3.1/3.1 SC11

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
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: 949-260-3218

ECI Project # 57013187

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: Neal Smith

Project:
Boeing-SSFL NPDES
Permit 2023
Quarterly 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)

									R	R	R	R	R	QRSW	QRSW	QRSW	C/EP			
									ANALYSIS REQUIRED											
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.8): Zn (E200.8): Cu, Pb, Cd, Se	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E908.0), 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)	Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)	Total Recoverable Metals: Hardness as CaCO3	Total Dissolved Metals: Hardness as CaCO3	Total Dissolved Metals: (E200.8): Fe			Comments
3	Outfall001_20230405_Comp_F	4/5/2023 0740	WM	1 L Poly	1	None	190	No								X				Filter and preserve w/in 24hrs of receipt at lab.
			WM	500 mL Poly	1	HNO_3	80	No							X					
			WM	1L Poly	1	None	200	Yes	X								X			Filter and preserve w/in 24hrs of receipt at lab Outfall 001 analyze for Fe.
Outfall 001			WM	1 L Glass Amber	2	None	250	No						X						Chlordane, DDD, DDE, DDT, dieldrin,PCBs,toxaphene at OF001.
			WM	borosilicate vials	2	None	320	No					X							Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
1	Outfall001_20230405_Comp	4/5/2023 0740	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												

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	4-5-2023/1210	ECI	[signature]	4/5/23 1210 EC
[signature]	4/5/23 1830	EC	[signature]	4/5/23 18:30 EC
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__

2019-2020 Rainy Season
Version 5

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-215545.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-133757-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 5/8/2023			
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 - Routine Outfall 001 - Comp	Project #: 57013187			
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
Y - Trizma
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:												
Outfall001_20230405_Comp (570-133757-1)	4/5/23	07:40 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation. Ok to Preserve

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our 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: 4/6/23 1425	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
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-215595.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-133757-2
Address: 880 Riverside Parkway,	Due Date Requested: 4/25/2023			
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 - Routine Outfall 001 - Comp	Project #: 57013187			
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, Y - Trizma, 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 (MOD) Standard List w/ Totals	1613B/1613B_Sox_Sep_P (MOD) Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20230405_Comp (570-133757-1)	4/5/23	07:40 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall001_20230405_Comp_Extra (570-133757-2)	4/5/23	07:40 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 Calscience places the ownership of method, analyte & accreditation compliance upon our 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
	4/6/23 1526				
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

5/21/2023

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-215545.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-133757-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 5/8/2023			
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 - Routine Outfall 001 - Comp	Project #: 57013187			
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, Y - Trizma, 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:												
Outfall001_20230405_Comp (570-133757-1)	4/5/23	07:40 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation. Ok to Preserve

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our 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:	Company	Received by:	Date/Time:	Company
FEDEX	4/6/23 1425		FEDEX		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
			Brianna Sharkey - Hanger	4/7/23 0915	EAST
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

5/21/2023

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-133757-3

Login Number: 133757
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
/ adioactiRty v awns chec' ed or iwk6< bac' =round awmeawured by a wurRey meter.	N6A	
ghe coolerswcuwtody weal, iTf rewent, iwintact.	grue	
pamf le cuwtody wealw, iTf rewent, are intact.	grue	
ghe cooler or wamf lewdo not af f ear to haRe been comf romiwed or tamf ered v ith.	grue	
pamf lewv ere receiRed on ice.	grue	
Cooler gemf erature iwaccef table.	grue	
Cooler gemf erature iwrecorded.	grue	
CSC iwf rewent.	grue	
CSC iwTilled out in in' and le=ible.	grue	
CSC iwTilled out v ith all f ertinent inTormation.	grue	
Iwthe Cield pamf lerswname f rewent on CSCF	grue	
ghere are no diwcref anciewbetv een the containerwreceiRed and the CSC.	grue	
pamf leware receiRed v ithin Holdin= gime ?e(cludin= tewtwv ith immediate Hgwx	grue	
pamf le containerwhaRe le=ible labelw.	grue	
Containerware not bro' en or lea' in=.	grue	
pamf le collection date6imeware f roRided.	grue	
Af f rof riate wamf le containerware uwed.	grue	
pamf le bottleware comf letely Tilled.	grue	
pamf le) rewerRation PeriTied.	grue	
ghere iwwuTTicient Rol. Tor all reVuewted analywew, incl. any reVuewted q p6q pMw	grue	
ContainerwreVuirin= Dero headwf ace haRe no headwf ace or bubble iw kzmm ?164"x.	grue	
q ultif hawic wamf leware not f rewent.	grue	
pamf lewdo not reVuire wf littin= or comf owitin=.	grue	
/ ewidual Chlorine Chec' ed.	N6A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-133757-3

Login Number: 133757
List Number: 2
Creator: Sharkey-Gonzalez, Briana L

List Source: Eurofins St. Louis
List Creation: 04/07/23 02:07 PM

Question	Answer	Comment
/ adioactiRty v awns chec' ed or iwk6< bac' =round awmeawured by a wurRey meter.	grue	
ghe coolerswcuwtody weal, iTf rewent, iwintact.	grue	
pamf le cuwtody wealw, iTf rewent, are intact.	grue	
ghe cooler or wamf lewdo not af f ear to haRe been comf romiwed or tamf ered v ith.	grue	
pamf lewv ere receiRed on ice.	grue	
Cooler gemf erature iwaccef table.	grue	
Cooler gemf erature iwrecorded.	grue	
CSC iwf rewent.	grue	
CSC iwTilled out in in' and le=ible.	grue	
CSC iwTilled out v ith all f ertinent inTormation.	grue	
Iwthe Cield pamf lerswname f rewent on CSCF	grue	
ghere are no diwcref anciewbetv een the containerwreceiRed and the CSC.	grue	
pamf leware receiRed v ithin Holdin= gime ?e(cludin= tewtwv ith immediate Hgwx	grue	
pamf le containerwhaRe le=ible labelw.	grue	
Containerware not bro' en or lea' in=.	grue	
pamf le collection date6imeware f roRided.	grue	
Af f rof riate wamf le containerware uwed.	grue	
pamf le bottleware comf letely Tilled.	grue	
pamf le) rewerRation PeriTied.	grue	
ghere iwwuTTicient Rol. Tor all reVuewted analywew, incl. any reVuewted q p6q pMw	grue	
ContainerwreVuirin= Dero headwf ace haRe no headwf ace or bubble iw kzmm ?164"x.	grue	
q ultif hawic wamf leware not f rewent.	grue	
pamf lewdo not reVuire wf littin= or comf owitin=.	grue	
/ ewidual Chlorine Chec' ed.	N6A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 7/24/2023 1:15:46 PM

JOB DESCRIPTION

Boeing NPDES SSFL - Routine Outfall 001 - Comp

JOB NUMBER

570-133757-4

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

myEOL

Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

Virendra R Patil

Generated
7/24/2023 1:15:46 PM

Authorized for release by
Virendra Patel, Project Manager I
Virendra.Patel@et.eurofinsus.com
(714)895-5494

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-4

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
BU	Sample was prepped beyond the specified 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: 570-133757-4

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-133757-4

Comments
No additional comments.

Receipt
The samples were received on 4/5/2023 6:30 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 2.4º C, 2.9º C and 3.1º C.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-4

Client Sample ID: Outfall001_20230405_Comp **Lab Sample ID: 570-133757-1**

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-4

Method: EPA 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	BU	0.0067	0.0044	ug/L		07/19/23 13:30	07/20/23 03:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*67*		*20 - 139*	*07/19/23 13:30*	*07/20/23 03:14*	*1*
DCB Decachlorobiphenyl (Surr)	*73*		*20 - 154*	*07/19/23 13:30*	*07/20/23 03:14*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-4

Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	TCX2 (20-139)	DCB1 (20-154)								
570-133757-1	Outfall001_20230405_Comp	67	73								
LCS 570-346698/2-A	Lab Control Sample	66	95								
LCSD 570-346698/3-A	Lab Control Sample Dup	60	98								

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl (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)	DCB1 (20-154)								
MB 570-346698/1-A	Method Blank	66	92								

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl (Surr)

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-346698/1-A
Matrix: Water
Analysis Batch: 347093

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 346698

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0067	0.0044	ug/L		07/18/23 18:07	07/20/23 02:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*66*		*20 - 139*	*07/18/23 18:07*	*07/20/23 02:32*	*1*
DCB Decachlorobiphenyl (Surr)	*92*		*20 - 154*	*07/18/23 18:07*	*07/20/23 02:32*	*1*

Lab Sample ID: LCS 570-346698/2-A
Matrix: Water
Analysis Batch: 347093

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 346698

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
4,4'-DDD			0.0333	0.0290		ug/L		87	31 - 141		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*66*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*95*		*20 - 154*

Lab Sample ID: LCSD 570-346698/3-A
Matrix: Water
Analysis Batch: 347093

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 346698

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
4,4'-DDD			0.0333	0.0315		ug/L		95	31 - 141	8	39

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*60*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*98*		*20 - 154*

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-4

GC Semi VOA

Prep Batch: 346698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	608	
MB 570-346698/1-A	Method Blank	Total/NA	Water	608	
LCS 570-346698/2-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-346698/3-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 347093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133757-1	Outfall001_20230405_Comp	Total/NA	Water	608.3	346698
MB 570-346698/1-A	Method Blank	Total/NA	Water	608.3	346698
LCS 570-346698/2-A	Lab Control Sample	Total/NA	Water	608.3	346698
LCSD 570-346698/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	346698

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-4

Client Sample ID: Outfall001_20230405_Comp
Date Collected: 04/05/23 07:40
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133757-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			1500 mL	1 mL	346698	07/19/23 13:30	TR8L	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	347093	07/20/23 03:14	N5Y3	EET CAL 4
	Instrument ID: GC52A									

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-133757-4
Project/Site: Boeing NPDES SSFL - Routine 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
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Kansas	NELAP	E-10420	07-31-23
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23 *
Washington	State	C916-18	10-11-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-133757-4

Method	Method Description	Protocol	Laboratory
608.3	Organochlorine Pesticides in Water	EPA	EET CAL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	EPA	EET CAL 4

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: Haley & Aldrich, Inc.
j ro/ectSite: goeinNEj DFB BBLR- u oQtine f Qtnall 001 -
Cop _

Job ID: 570-133757-P

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-133757-1	f Qtnall001240430P052Cop _	Water	0PS0559430 07:P0	0PS0559430 18:30

Virendra Patel

From: Miller, Katherine <KMiller@haleyaldrich.com>
Sent: Friday, June 30, 2023 3:30 PM
To: Virendra Patel
Subject: 5701337571 OUTFALL 001 4,4'-DDD

EXTERNAL EMAIL*

Hi Virendra,

Could you ask the lab to reanalyze 5701337571 OUTFALL 001 4,4'-DDD and ask QA to review the original result?

Katherine Miller
Project Manager

Haley & Aldrich, Inc.
600 South Meyer Ave | Suite 100
Tucson, AZ 85701

T: (520) 289-8606
C: (520) 904-6944

www.haleyaldrich.com

* WARNING - EXTERNAL: This email originated from outside of Eurofins Environment Testing America. Do not click any links or open any attachments unless you trust the sender and know that the content is safe!

Revised COC received from Mark Dominick (H&A) on 04/05/2023 at 14:18pm.
- Virendra (ECI)

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 2023, Quarterly Outfall [001, 002, 011, 018], Outfall 001, Comp
Eurofins Calscience Irvine Contact: Virendra Patel, 2841 Dow Avenue, Suite 100, Tustin, CA 92780, Tel: 949-260-3218, **ECI Project # 57013187**	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: Neal Smith	

ANALYSIS REQUIRED

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R Total Dissolved Metals: (E200.8): Zn, 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 Recoverable Hardness as CaCO3 ≥ 200.7 Ca, Mg	R Total Dissolved Metals: Mercury (E245.1)	QRSW Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)	QRSW Total Recoverable Metals: Hardness as CaCO3	QRSW Total Dissolved Metals: Hardness as CaCO3	C/EP Total Dissolved Metals: (E200.8): Fe			Comments
Outfall 001	Outfall001_20230405_Comp_F	4/5/2023 1040	WM	1 L Poly	1	None	190	No								X				Filter and preserve w/in 24hrs of receipt at lab
			~~WM~~	~~500 mL Poly~~	~~1~~	~~HNO_3~~	~~80~~	~~No~~							X					
			WM	1L Poly	1	None	200	Yes	X								X			Filter and preserve w/in 24hrs of receipt at lab Outfall 001 analyze for Fe.
			WM	1 L Glass Amber	2	None	250	No					X							Chlordane, DDD, DDE, DDT, dieldrin,PCBs,toxaphene at OF001.
			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_20230405_Comp	4/5/2023 1040	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	500 ml poly	1	HNO_3	80	No				X								

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time
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__

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-133757 Chain of Custody

Loc: 570
133757

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 001 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	**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: Neal Smith**	

									R	R	R	R	R	R	R/EP	R	R	R	R	C			
									ANALYSIS REQUIRED														
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.8): 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-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	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: (E200.8): Fe			Comments
1 Outfall 001	Outfall001_20230405_Comp	4/5/2023 0740	WM	500 mL Poly	1	HNO_3	90	Yes	X										X	X			Outfall 001 analyze for 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 hours 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								
2	Outfall001_20230405_Comp_Extra	4/5/2023 0740	WM	1 L Glass Amber	2	None	110	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, EP=Expert Panel, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	Company:
[signature]	4-5-2023/1210	ELA	[signature]	4/5/23 1210	EC
[signature]	4/5/23 1830	EC	[signature]	4/5/23 18:30	EC

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__

2.9/2.9 2.4/2.4 3.1/3.1 SC11

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:	Project Manager:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 001 Comp	Katherine Miller 520.289.8606, 520.904.6944 (cell)
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**		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: Neal Smith		

									ANALYSIS REQUIRED													
									R	R	R	R	R	QRSW	QRSW	QRSW	C/EP					
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.8): Zn (E200.8): Cu, Pb, Cd, Se	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E908.0), 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)	Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)	Total Recoverable Metals: Hardness as CaCO3	Total Dissolved Metals: Hardness as CaCO3	Total Dissolved Metals: (E200.8): Fe			Comments
3 Outfall 001	Outfall001_20230405_Comp_F	4/5/2023 1040	WM	1 L Poly	1	None	190	No									X					Filter and preserve w/in 24hrs of receipt at lab.
			WM	500 mL Poly	1	HNO_3	80	No								X						
			WM	1L Poly	1	None	200	Yes	X										X			Filter and preserve w/in 24hrs of receipt at lab Outfall 001 analyze for Fe.
			WM	1 L Glass Amber	2	None	250	No						X								Chlordane, DDD, DDE, DDT, dieldrin,PCBs,toxaphene at OF001.
			WM	borosilicate vials	2	None	320	No					X									Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
1	Outfall001_20230405_Comp	4/5/2023 1040	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														

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	4-5-2023/1210	H&A	[signature]	4/5/23 1210 EC
[signature]	4/5/23 1830	EC	[signature]	4/5/23 18:30 EC
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__

2019-2020 Rainy Season
Version 5

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-133757-6

Login Number: 133757
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 <4mm (1/6").	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

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 5/19/2023 7:34:08 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Outfall 002 - Grab

JOB NUMBER

570-137212-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

myEOL

Job Notes

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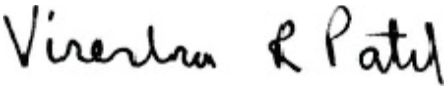

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Glossary

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: 570-137212-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-137212-1

Comments
No additional comments.

Receipt
The samples were received on 5/4/2023 4:16 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 1.7º C.

GC/MS VOA
Method 624.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-326489. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method 624.1: The preservative used in the sample containers provided is not compatible with the Method 624 analytes requested. The following samples were received preserved with hydrochloric acid: Outfall002_20230504_Grab (570-137212-1) and TB-20230504 (570-137212-3). The requested target analyte list contains 2-Chloroethyl vinyl ether and/or Acrolein, which are acid-labile compounds that degrade in an acidic medium.

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.

General Chemistry
Method SM 2540F: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with analytical batch 570-326867.

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

Organic Prep
Method 1664A: The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-327125.The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.
Method: 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: 570-137212-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Client Sample ID: Outfall002_20230504_Grab
Lab Sample ID: 570-137212-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	1300		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: TB-20230504
Lab Sample ID: 570-137212-3

No Detections.

This Detection Summary does not include radiochemical test results.

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall002_20230504_Grab
Lab Sample ID: 570-137212-1
Date Collected: 05/04/23 07:30
Matrix: Water
Date Received: 05/04/23 16:16

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			05/05/23 00:57	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			05/05/23 00:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			05/05/23 00:57	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			05/05/23 00:57	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			05/05/23 00:57	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			05/05/23 00:57	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			05/05/23 00:57	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			05/05/23 00:57	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			05/05/23 00:57	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			05/05/23 00:57	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			05/05/23 00:57	1
Acrolein	ND		5.0	4.6	ug/L			05/05/23 00:57	1
Acrylonitrile	ND		2.0	1.4	ug/L			05/05/23 00:57	1
Benzene	ND		0.50	0.28	ug/L			05/05/23 00:57	1
Bromoform	ND		1.0	0.25	ug/L			05/05/23 00:57	1
Bromomethane	ND		0.50	0.22	ug/L			05/05/23 00:57	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			05/05/23 00:57	1
Chlorobenzene	ND		0.50	0.19	ug/L			05/05/23 00:57	1
Dibromochloromethane	ND		0.50	0.15	ug/L			05/05/23 00:57	1
Chloroethane	ND		1.0	0.29	ug/L			05/05/23 00:57	1
Chloroform	ND		0.50	0.19	ug/L			05/05/23 00:57	1
Chloromethane	ND		0.50	0.30	ug/L			05/05/23 00:57	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			05/05/23 00:57	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			05/05/23 00:57	1
Bromodichloromethane	ND		0.50	0.19	ug/L			05/05/23 00:57	1
Ethylbenzene	ND		0.50	0.25	ug/L			05/05/23 00:57	1
Methylene Chloride	ND		2.0	0.57	ug/L			05/05/23 00:57	1
m,p-Xylene	ND		1.0	0.17	ug/L			05/05/23 00:57	1
Naphthalene	ND		1.0	0.33	ug/L			05/05/23 00:57	1
o-Xylene	ND		0.50	0.15	ug/L			05/05/23 00:57	1
Tetrachloroethene	ND		0.50	0.21	ug/L			05/05/23 00:57	1
Toluene	ND		0.50	0.23	ug/L			05/05/23 00:57	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			05/05/23 00:57	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			05/05/23 00:57	1
Trichloroethene	ND		0.50	0.17	ug/L			05/05/23 00:57	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			05/05/23 00:57	1
Vinyl chloride	ND		0.50	0.47	ug/L			05/05/23 00:57	1
Xylenes, Total	ND		1.0	0.17	ug/L			05/05/23 00:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*60 - 140*		*05/05/23 00:57*	*1*
Toluene-d8 (Surr)	*101*		*60 - 140*		*05/05/23 00:57*	*1*
Dibromofluoromethane (Surr)	*93*		*60 - 140*		*05/05/23 00:57*	*1*

Client Sample ID: TB-20230504
Lab Sample ID: 570-137212-3
Date Collected: 05/04/23 07:30
Matrix: Water
Date Received: 05/04/23 16:16

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			05/05/23 00:13	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			05/05/23 00:13	1

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: TB-20230504
Date Collected: 05/04/23 07:30
Date Received: 05/04/23 16:16

Lab Sample ID: 570-137212-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			05/05/23 00:13	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			05/05/23 00:13	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			05/05/23 00:13	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			05/05/23 00:13	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			05/05/23 00:13	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			05/05/23 00:13	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			05/05/23 00:13	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			05/05/23 00:13	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			05/05/23 00:13	1
Acrolein	ND		5.0	4.6	ug/L			05/05/23 00:13	1
Acrylonitrile	ND		2.0	1.4	ug/L			05/05/23 00:13	1
Benzene	ND		0.50	0.28	ug/L			05/05/23 00:13	1
Bromoform	ND		1.0	0.25	ug/L			05/05/23 00:13	1
Bromomethane	ND		0.50	0.22	ug/L			05/05/23 00:13	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			05/05/23 00:13	1
Chlorobenzene	ND		0.50	0.19	ug/L			05/05/23 00:13	1
Dibromochloromethane	ND		0.50	0.15	ug/L			05/05/23 00:13	1
Chloroethane	ND		1.0	0.29	ug/L			05/05/23 00:13	1
Chloroform	ND		0.50	0.19	ug/L			05/05/23 00:13	1
Chloromethane	ND		0.50	0.30	ug/L			05/05/23 00:13	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			05/05/23 00:13	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			05/05/23 00:13	1
Bromodichloromethane	ND		0.50	0.19	ug/L			05/05/23 00:13	1
Ethylbenzene	ND		0.50	0.25	ug/L			05/05/23 00:13	1
Methylene Chloride	ND		2.0	0.57	ug/L			05/05/23 00:13	1
m,p-Xylene	ND		1.0	0.17	ug/L			05/05/23 00:13	1
Naphthalene	ND		1.0	0.33	ug/L			05/05/23 00:13	1
o-Xylene	ND		0.50	0.15	ug/L			05/05/23 00:13	1
Tetrachloroethene	ND		0.50	0.21	ug/L			05/05/23 00:13	1
Toluene	ND		0.50	0.23	ug/L			05/05/23 00:13	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			05/05/23 00:13	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			05/05/23 00:13	1
Trichloroethene	ND		0.50	0.17	ug/L			05/05/23 00:13	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			05/05/23 00:13	1
Vinyl chloride	ND		0.50	0.47	ug/L			05/05/23 00:13	1
Xylenes, Total	ND		1.0	0.17	ug/L			05/05/23 00:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*60 - 140*		*05/05/23 00:13*	*1*
Toluene-d8 (Surr)	*103*		*60 - 140*		*05/05/23 00:13*	*1*
Dibromofluoromethane (Surr)	*96*		*60 - 140*		*05/05/23 00:13*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-137212-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

General Chemistry

Client Sample ID: Outfall002_20230504_Grab
Lab Sample ID: 570-137212-1
Date Collected: 05/04/23 07:30
Matrix: Water
Date Received: 05/04/23 16:16

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664A)	ND		0.97	0.50	mg/L		05/08/23 10:26	05/09/23 12:34	1
Specific Conductance (SM 2510B)	**1300**		1.0	1.0	umhos/cm			05/11/23 21:26	1
Settleable Solids (SM 2540F)	ND		0.10	0.10	mL/L			05/05/23 20:58	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Job ID: 570-137212-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	TOL	DBFM
Lab Sample ID	Client Sample ID	(60-140)	(60-140)	(60-140)
570-137212-1	Outfall002_20230504_Grab	98	101	93
570-137212-3	TB-20230504	101	103	96
LCS 570-326489/1003	Lab Control Sample	96	101	99
LCSD 570-326489/4	Lab Control Sample Dup	99	102	104
MB 570-326489/6	Method Blank	98	102	104

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-3264xW6
MatriP: T ater
z nalAsis Batch: 3264xW

Client Sample ID: Method Blank
y rep NApe: Notal/F z

z nalAte	MB Result	MB QualiHer	RL	MDL	%nit	D	y repared	z nalAf ed	Dil Uac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			05/09/23 23:90	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			05/09/23 23:90	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			05/09/23 23:90	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			05/09/23 23:90	1
1,1-Dichloroethane	ND		0.50	0.36	ug/L			05/09/23 23:90	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			05/09/23 23:90	1
1,2-Dichlorobenpene	ND		0.50	0.1z	ug/L			05/09/23 23:90	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			05/09/23 23:90	1
1,2-Dichloro4ro4ane	ND		0.50	0.17	ug/L			05/09/23 23:90	1
1,3-Dichlorobenpene	ND		0.50	0.1z	ug/L			05/09/23 23:90	1
1,9-Dichlorobenpene	ND		0.50	0.11	ug/L			05/09/23 23:90	1
Acrolein	ND		5.0	9.z	ug/L			05/09/23 23:90	1
Acrylonitrile	ND		2.0	1.9	ug/L			05/09/23 23:90	1
Benpene	ND		0.50	0.28	ug/L			05/09/23 23:90	1
Bromoform	ND		1.0	0.25	ug/L			05/09/23 23:90	1
Bromomethane	ND		0.50	0.22	ug/L			05/09/23 23:90	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			05/09/23 23:90	1
Chlorobenpene	ND		0.50	0.16	ug/L			05/09/23 23:90	1
Dibromochloromethane	ND		0.50	0.15	ug/L			05/09/23 23:90	1
Chloroethane	ND		1.0	0.26	ug/L			05/09/23 23:90	1
Chloroform	ND		0.50	0.16	ug/L			05/09/23 23:90	1
Chloromethane	ND		0.50	0.30	ug/L			05/09/23 23:90	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			05/09/23 23:90	1
cis-1,3-Dichloro4ro4ene	ND		0.50	0.30	ug/L			05/09/23 23:90	1
Bromodichloromethane	ND		0.50	0.16	ug/L			05/09/23 23:90	1
Ethylbenpene	ND		0.50	0.25	ug/L			05/09/23 23:90	1
Methylene Chloride	ND		2.0	0.57	ug/L			05/09/23 23:90	1
m,4-Xylene	ND		1.0	0.17	ug/L			05/09/23 23:90	1
Na4hthalene	ND		1.0	0.33	ug/L			05/09/23 23:90	1
o-Xylene	ND		0.50	0.15	ug/L			05/09/23 23:90	1
Tetrachloroethene	ND		0.50	0.21	ug/L			05/09/23 23:90	1
Toluene	ND		0.50	0.23	ug/L			05/09/23 23:90	1
trans-1,2-Dichloroethene	ND		0.50	0.29	ug/L			05/09/23 23:90	1
trans-1,3-Dichloro4ro4ene	ND		0.50	0.18	ug/L			05/09/23 23:90	1
Trichloroethene	ND		0.50	0.17	ug/L			05/09/23 23:90	1
Trichlorofluoromethane	ND		0.50	0.26	ug/L			05/09/23 23:90	1
Vinyl chloride	ND		0.50	0.97	ug/L			05/09/23 23:90	1
Xylenes, Total	ND		1.0	0.17	ug/L			05/09/23 23:90	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*60 - 140*		*05/04/23 23:40*	*1*
Toluene-d8 (Surr)	*102*		*60 - 140*		*05/04/23 23:40*	*1*
Dibromofluoromethane (Surr)	*104*		*60 - 140*		*05/04/23 23:40*	*1*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-3264xW1003
MatriP: T ater
z nalAsis Batch: 3264xW

Client Sample ID: Lab Control Sample
y rep NApe: Notal/F z

z nalAte	Spike z dded	LCS Result	LCS QualiHer	%nit	D	E Rec	E Rec Limits
1,1,1-Trichloroethane	10.0	10.1		ug/L		101	70 - 130
1,1,2,2-Tetrachloroethane	10.0	8.85		ug/L		88	z0 - 190
1,1,2-Trichloro-1,2,2-trifluoroetha ne	10.0	10.0		ug/L		100	z0 - 190
1,1,2-Trichloroethane	10.0	6.z7		ug/L		67	70 - 130
1,1-Dichloroethane	10.0	6.73		ug/L		67	70 - 130
1,1-Dichloroethene	10.0	10.7		ug/L		107	50 - 150
1,2-Dichlorobenpene	10.0	6.77		ug/L		68	z5 - 135
1,2-Dichloroethane	10.0	10.9		ug/L		109	70 - 130
1,2-Dichloro4ro4ane	10.0	10.0		ug/L		100	35 - 1z5
1,3-Dichlorobenpene	10.0	6.53		ug/L		65	70 - 130
1,9-Dichlorobenpene	10.0	6.38		ug/L		69	z5 - 135
Acrolein	20.0	21.8		ug/L		106	z0 - 190
Acrylonitrile	10.0	10.6		ug/L		106	z0 - 190
Benpene	10.0	6.66		ug/L		100	z5 - 135
Bromoform	10.0	6.7z		ug/L		68	70 - 130
Bromomethane	10.0	z.66		ug/L		70	15 - 185
Carbon tetrachloride	10.0	6.62		ug/L		66	70 - 130
Chlorobenpene	10.0	6.3z		ug/L		69	z5 - 135
Dibromochloromethane	10.0	10.2		ug/L		102	70 - 135
Chloroethane	10.0	6.65		ug/L		100	90 - 1z0
Chloroform	10.0	6.56		ug/L		6z	70 - 135
Chloromethane	10.0	6.20		ug/L		62	1 - 205
cis-1,2-Dichloroethene	10.0	6.83		ug/L		68	z0 - 190
cis-1,3-Dichloro4ro4ene	10.0	10.0		ug/L		100	25 - 175
Bromodichloromethane	10.0	10.1		ug/L		101	z5 - 135
Ethylbenpene	10.0	6.z6		ug/L		67	z0 - 190
Methylene Chloride	10.0	10.0		ug/L		100	z0 - 190
m,4-Xylene	20.0	20.1		ug/L		100	z0 - 190
Na4hthalene	10.0	10.0		ug/L		100	z0 - 190
o-Xylene	10.0	6.62		ug/L		66	z0 - 190
Tetrachloroethene	10.0	6.71		ug/L		67	70 - 130
Toluene	10.0	6.57		ug/L		6z	70 - 130
trans-1,2-Dichloroethene	10.0	10.1		ug/L		101	70 - 130
trans-1,3-Dichloro4ro4ene	10.0	6.52		ug/L		65	50 - 150
Trichloroethene	10.0	6.77		ug/L		68	z5 - 135
Trichlorofluoromethane	10.0	12.7		ug/L		127	50 - 150
Vinyl chloride	10.0	10.5		ug/L		105	5 - 165
Xylenes, Total	30.0	30.0		ug/L		100	z0 - 190

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*60 - 140*
Toluene-d8 (Surr)	*101*		*60 - 140*
Dibromofluoromethane (Surr)	*99*		*60 - 140*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 570-3264xW4
MatriP: T ater
z nalAsis Batch: 3264xW

Client Sample ID: Lab Control Sample Dup
y rep NApe: Notal/F z

z nalAte			Spike z dded	LCSD Result	LCSD QualiHer	%nit	D	E Rec	E Rec Limits	RyD	RyD Limit
1,1,1-Trichloroethane			10.0	11.0		ug/L		110	70 - 130	6	3z
1,1,2,2-Tetrachloroethane			10.0	8.88		ug/L		86	z0 - 190	0	z1
1,1,2-Trichloro-1,2,2-trifluoroetha ne			10.0	6.30		ug/L		63	z0 - 190	7	30
1,1,2-Trichloroethane			10.0	6.96		ug/L		65	70 - 130	2	95
1,1-Dichloroethane			10.0	10.9		ug/L		109	70 - 130	7	90
1,1-Dichloroethene			10.0	11.0		ug/L		110	50 - 150	2	32
1,2-Dichlorobenpene			10.0	6.78		ug/L		68	z5 - 135	0	57
1,2-Dichloroethane			10.0	10.7		ug/L		107	70 - 130	3	96
1,2-Dichloro4ro4ane			10.0	6.61		ug/L		66	35 - 1z5	1	55
1,3-Dichlorobenpene			10.0	6.70		ug/L		67	70 - 130	2	93
1,9-Dichlorobenpene			10.0	6.z8		ug/L		67	z5 - 135	3	57
Acrolein			20.0	16.9		ug/L		67	z0 - 190	12	z0
Acrylonitrile			10.0	10.7		ug/L		107	z0 - 190	1	z0
Benpene			10.0	10.9		ug/L		109	z5 - 135	9	z1
Bromoform			10.0	10.1		ug/L		101	70 - 130	3	92
Bromomethane			10.0	7.z1		ug/L		7z	15 - 185	6	z1
Carbon tetrachloride			10.0	10.2		ug/L		102	70 - 130	2	91
Chlorobenpene			10.0	6.83		ug/L		68	z5 - 135	5	53
Dibromochloromethane			10.0	10.z		ug/L		10z	70 - 135	9	50
Chloroethane			10.0	10.8		ug/L		108	90 - 1z0	8	78
Chloroform			10.0	10.2		ug/L		102	70 - 135	7	30
Chloromethane			10.0	10.2		ug/L		102	1 - 205	10	z0
cis-1,2-Dichloroethene			10.0	10.1		ug/L		101	z0 - 190	3	30
cis-1,3-Dichloro4ro4ene			10.0	10.3		ug/L		103	25 - 175	3	58
Bromodichloromethane			10.0	10.3		ug/L		103	z5 - 135	2	5z
Ethylbenpene			10.0	10.2		ug/L		102	z0 - 190	5	z3
Methylene Chloride			10.0	11.2		ug/L		112	z0 - 190	11	28
m,4-Xylene			20.0	20.3		ug/L		102	z0 - 190	1	30
Na4hthalene			10.0	10.1		ug/L		101	z0 - 190	1	30
o-Xylene			10.0	10.3		ug/L		103	z0 - 190	9	30
Tetrachloroethene			10.0	6.77		ug/L		68	70 - 130	1	36
Toluene			10.0	10.3		ug/L		103	70 - 130	7	91
trans-1,2-Dichloroethene			10.0	11.1		ug/L		111	70 - 130	6	95
trans-1,3-Dichloro4ro4ene			10.0	6.z2		ug/L		6z	50 - 150	1	8z
Trichloroethene			10.0	10.5		ug/L		105	z5 - 135	7	98
Trichlorofluoromethane			10.0	12.6		ug/L		126	50 - 150	1	89
Vinyl chloride			10.0	11.9		ug/L		119	5 - 165	6	zz
Xylenes, Total			30.0	30.z		ug/L		102	z0 - 190	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*60 - 140*
Toluene-d8 (Surr)	*102*		*60 - 140*
Dibromofluoromethane (Surr)	*104*		*60 - 140*

Method: 1664z - 89M and SGN-89M

Lab Sample ID: MB 570-327125/1-z
MatriP: T ater
z nalAsis Batch: 327532

Client Sample ID: Method Blank
yrep NApe: Notal/Fz
yrep Batch: 327125

z nalAte	MB Result	MB QualiHer	RL	MDL	%nit	D	yrepared	z nalAfed	Dil Uac
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		05/08/23 10:2z	05/06/23 12:39	1

Lab Sample ID: LCS 570-327125/2-z
MatriP: T ater
z nalAsis Batch: 327532

Client Sample ID: Lab Control Sample
yrep NApe: Notal/Fz
yrep Batch: 327125

z nalAte			Spike zdded	LCS Result	LCS QualiHer	%nit	D	E Rec	E Rec Limits		
HEM (Oil & Grease)			90.0	35.7		mg/L		86	78 - 119		

Lab Sample ID: LCSD 570-327125/3-z
MatriP: T ater
z nalAsis Batch: 327532

Client Sample ID: Lab Control Sample Dup
yrep NApe: Notal/Fz
yrep Batch: 327125

z nalAte			Spike zdded	LCSD Result	LCSD QualiHer	%nit	D	E Rec	E Rec Limits	RyD	RyD Limit
HEM (Oil & Grease)			90.0	38.5		mg/L		6z	78 - 119	8	18

Method: SM 2510B - ConductivitA, SpeciHc Conductance

Lab Sample ID: MB 570-32x44x/W
MatriP: T ater
z nalAsis Batch: 32x44x

Client Sample ID: Method Blank
yrep NApe: Notal/Fz

z nalAte	MB Result	MB QualiHer	RL	MDL	%nit	D	yrepared	z nalAfed	Dil Uac
S4ecific Conductance	ND		1.0	1.0	umhos/cm			05/11/23 20:03	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-137212-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

GC/MS VOA

Analysis Batch: 326489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137212-1	Outfall002_20230504_Grab	Total/NA	Water	624.1	
570-137212-3	TB-20230504	Total/NA	Water	624.1	
MB 570-326489/6	Method Blank	Total/NA	Water	624.1	
LCS 570-326489/1003	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-326489/4	Lab Control Sample Dup	Total/NA	Water	624.1	

General Chemistry

Analysis Batch: 326867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137212-1	Outfall002_20230504_Grab	Total/NA	Water	SM 2540F	

Prep Batch: 327125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137212-1	Outfall002_20230504_Grab	Total/NA	Water	1664A	
MB 570-327125/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-327125/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-327125/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

Analysis Batch: 327532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137212-1	Outfall002_20230504_Grab	Total/NA	Water	1664A	327125
MB 570-327125/1-A	Method Blank	Total/NA	Water	1664A	327125
LCS 570-327125/2-A	Lab Control Sample	Total/NA	Water	1664A	327125
LCSD 570-327125/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	327125

Analysis Batch: 328448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137212-1	Outfall002_20230504_Grab	Total/NA	Water	SM 2510B	
MB 570-328448/9	Method Blank	Total/NA	Water	SM 2510B	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-137616-1
Project/Site: Boeing NPDES SSFL - QutCall 006 - f rab

Client Sample ID: Outfall002_20230504_Grab
Lab Sample ID: 570-137212-1
Date Collected: 05/04/23 07:30
Matrix: Water
Date Received: 05/04/23 16:16

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
4otal/NA	AnalyGG	s62.1		1	10 ML	10 ML	36s2Tm	05/05/63 00:57	N1A	EE4 CAL 2
	InGruMent ID: f Cp SJJ									
4otal/NA	Pre8	1ss2A			1030 ML	1000 ML	367165	05/0T/63 10:6s	RY2P	EE4 CAL 2
4otal/NA	AnalyGG	1ss2A		1			367536	05/0m/63 16:32	9S9L	EE4 CAL 2
	InGruMent ID: NQ EU9IU									
4otal/NA	AnalyGG	Sp 6510B		1			36T22T	05/11/63 61:6s	BDHm	EE4 CAL 2
	InGruMent ID: p anScip antech									
4otal/NA	AnalyGG	Sp 6520F		1	1000 ML	1 L	36sTs7	05/05/63 60:5T	4XAT	EE4 CAL 2
	InGruMent ID: NQEU9IP									

Client Sample ID: TB-20230504
Lab Sample ID: 570-137212-3
Date Collected: 05/04/23 07:30
Matrix: Water
Date Received: 05/04/23 16:16

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
4otal/NA	AnalyGG	s62.1		1	10 ML	10 ML	36s2Tm	05/05/63 00:13	N1A	EE4 CAL 2
	InGruMent ID: f Cp SJJ									

Laboratory References:
EE4 CAL 2 = EuroGnGCalGcience 4uGin, 6T21 Dow Avenue, 4uGin, CA m67T0, 4EL (712)Tm5-52m2

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
9roRectj/ ite: SoeinB g 9DN/ / / EF - L utrall 006 - Urab

Job ID: 570-137616-1

Laboratory: Eurofins Calscience

All accreditationpjcertimcationp held by thip laboratory are lipted. g ot all accreditationpjcertimcationp are asslicable to thip resort.

Authority	Program	Identification Number	Expiration Date
AriGona	/ tate	AW0f 30	11-1z-63
Calimrnia	Fop AnBelep County / anitation Diptrictp	1010Z	07-31-63
Calimrnia	/ CA8 2 D FA9	17FA0Z1Z	11-30-63
Calimrnia	/ tate	30f 6	07-31-6Q
Manpap	g NFA9	N-10Q60	07-31-63
g e4ada	/ tate	CA00111	0f -01-63
L reBon	g NFA9	Q175	06-06-6Q
K/ DA	K/ Eederal 9roBrav p	9330-66-0005Z	05-6Q-63
O aphinBton	/ tate	CZ1z-1f	10-11-63

Nurorimp Calpcience

5/19/2023

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-137212-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	EPA	EET CAL 4
1664A	HEM and SGT-HEM	1664A	EET CAL 4
SM 2510B	Conductivity, Specific Conductance	SM	EET CAL 4
SM 2540F	Solids, Settleable	SM	EET CAL 4
1664A	HEM and SGT-HEM (Aqueous)	1664A	EET CAL 4

Protocol References:

1664A = EPA-821-98-002

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET CAL 4 = 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 002 - Grab

Job ID: 570-137212-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-137212-1	Outfall002_20230504_Grab	Water	05/04/23 07:30	05/04/23 16:16
570-137212-3	TB-20230504	Water	05/04/23 07:30	05/04/23 16:16

Virendra Patel

From: Pehlivan, Victoria <VPehlivan@haleyaldrich.com>
Sent: Thursday, May 11, 2023 12:01 PM
To: Tina Nguyen; Virendra Patel
Cc: Miller, Katherine; Rapp, Kerry; Dallalah, Michelle
Subject: RE: Eurofins Calscience sample confirmation files from 570-137212-1 Boeing NPDES SSFL - Outfall 002 - Grab

EXTERNAL EMAIL*

Hello Tina and Virendra,

Can we please add analysis of Acrolein and Acrylonitrile to this login (method 624.1_LL)?

Thank you,
Victoria Pehlivan
Technical Specialist, Geologist

Haley & Aldrich, Inc.
3131 Elliott Avenue | Suite 600
Seattle, WA 98121

C: (916) 303.0301
vpehlivan@haleyaldrich.com

www.haleyaldrich.com

From: Tina Nguyen <Tina.Nguyen@et.eurofinsus.com>
Sent: Friday, May 5, 2023 10:01 AM
To: Miller, Katherine <KMiller@haleyaldrich.com>; Rapp, Kerry <KRapp@haleyaldrich.com>; Dallalah, Michelle <MDallalah@haleyaldrich.com>; Pehlivan, Victoria <VPehlivan@haleyaldrich.com>
Subject: Eurofins Calscience sample confirmation files from 570-137212-1 Boeing NPDES SSFL - Outfall 002 - Grab

CAUTION: External Email

Hello,

Attached please find the sample confirmation files for job 570-137212-1; Boeing NPDES SSFL - Outfall 002 - Grab

Please feel free to contact me or your PM Virendra Patel if you have any questions.

Thank you.

Tina Nguyen

Project Manager

Eurofins Calscience
Phone: 657-210-6301

E-mail: Tina.Nguyen@et.eurofinsus.com
www.eurofinsus.com/env

Reference: [570-460713]
Attachments: 3

> > Bank information has changed, please refer to remittance information on invoice. < <

* WARNING - EXTERNAL: This email originated from outside of Eurofins Environment Testing America. Do not click any links or open any attachments unless you trust the sender and know that the content is safe!

137-212

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

EDBPJ6UX

Client Name/Address:	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 002 Grab
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	
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: Adrien Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									R	Q/S	R	R									Field Readings	Meter serial #
									ANALYSIS REQUIRED													
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Oil & Grease (E1664A-HEM)	VOCs + 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) (E624)	Settleable Solids (E160.5 (SM2540F))	Conductivity (SM2510B / E120.1)									Field Readings: (Include units) Time of Readings: 0715 DO 6.22 mg/L pH 6.59 pH unit Temp 53.6 °C (F)	
Outfall 002	Outfall002_20230504_Grab	5/4/2023 0730	WM	1 L Glass Amber	2	HCl	15	No	X													
			WM	40 mL VOA	3	HCl	20	No		X												
			WM	1 L Poly	1	None	70	No			X											
			WM	500 mL Poly	1	None	75	No				X										
	Outfall002_20230504_Grab_Extra	5/4/2023 0730	WM	1 L Glass Amber	2	HCl	15	No	H												Hold	
			WM	40 mL VOA	3	HCl	20	No		H											Hold	
			WM	500 mL Poly	1	None	75	No				H									Hold	
Trip Blank	TB-20230504	5/4/2023 0730	WQ	40 mL VOA	2	HCl	20	No		X												


570-137212 Chain of Custody

Legend: R=Routine, Q=Quarterly, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	5-4-2023	1125 IH,A		5/4/23 1125 EC
	5/4/23	1616 EC		5/4/23 1616

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___

1.5/1.7 SC6

2019-2020 Rainy Season
Version 5

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-137212-1

Login Number: 137212
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

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 5/19/2023 7:47:36 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Quarterly Outfall - 002 Comp

JOB NUMBER

570-137456-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

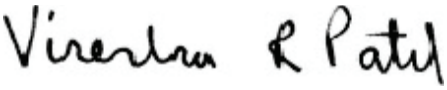
myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization



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Authorized for release by
Virendra Patel, Project Manager I
Virendra.Patel@et.eurofinsus.com
(714)895-5494

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Metals

Qualifier	Qualifier Description
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank

General Chemistry

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: 570-137456-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-137456-1

Comments
No additional comments.

Receipt
The samples were received on 5/5/2023 3:23 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 1.5º C, 1.7º C and 2.0º C.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

HPLC/IC
Method 300.0: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with analytical batch 570-326893 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Sulfate in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

Method 314.0: The following sample was diluted due to the nature of the sample matrix: Outfall002_20230505_Comp (570-137456-1). Elevated reporting limits (RLs) are provided.

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

GC Semi VOA
Method 608.3: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 570-327173 and analytical batch 570-327200 recovered outside control limits for the following analytes: delta-BHC.

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

Metals
Method 200.8: The method blank for preparation batch 570-327392 and analytical batch 570-327563 contained Copper above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 245.1: The following samples were not filtered within 15 minutes of sample collection as required by the method: Outfall002_20230505_Comp_F (570-137456-3), (570-137456-A-3-B MS) and (570-137456-B-3-A MSD). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the methodOutfall002_20230505_Comp_F (570-137456-3) The sample was filtered prior to analysis at the laboratory, and the results have been reported.

Method Filtration: The following samples were not filtered within 15 minutes of sample collection as required by the method: Outfall002_20230505_Comp_F (570-137456-3), Outfall002_20230505_Comp_F (570-137456-3[MS]) and Outfall002_20230505_Comp_F (570-137456-3[MSD]) . The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

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

General Chemistry
Method SM 2540D: The sample duplicate (DUP) precision for analytical batch 570-327857 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample

Job ID: 570-137456-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

duplicate (LCS/LCSD) precision was within acceptance limits.

Method SM 5540C: Sample result concentrations for methylene blue active substances (MBAS) are calculated as LAS, mol. wt. 320.

Method Kelada 01: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 570-329771 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: The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-327173.608_Prep_LL

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-328144. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 625 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.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Job ID: 570-137456-1

Client Sample ID: Outfall002_20230505_Comp — Lab Sample ID: 570-137456-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
alpha-BHC	0.0033		0.0013	0.0012	ug/L	1		608.3	Total/NA
Chloride	44		1.0	0.36	mg/L	1		300.0	Total/NA
Sulfate - DL	380		10	2.4	mg/L	10		300.0	Total/NA
Cadmium	0.19	J,DX	1.0	0.13	ug/L	1		200.8	Total Recoverable
Copper	1.2	J,DX MB	2.0	0.32	ug/L	1		200.8	Total Recoverable
Lead	0.44	J,DX	1.0	0.12	ug/L	1		200.8	Total Recoverable
Selenium	0.71	J,DX	2.0	0.52	ug/L	1		200.8	Total Recoverable
Zinc	3.6	J,DX	20	2.8	ug/L	1		200.8	Total Recoverable
Hardness as calcium carbonate	520		7.1	0.50	mg/L	1		SM 2340B	Total Recoverable
Turbidity	2.0		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Dissolved Solids	940		10	8.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	3.1		1.0	0.83	mg/L	1		SM 2540D	Total/NA
Biochemical Oxygen Demand	2.2		2.0	1.0	mg/L	1		SM 5210B	Total/NA
MBAS	0.073	J,DX	0.20	0.050	mg/L	1		SM 5540C	Total/NA

Client Sample ID: Outfall002_20230505_Comp_F — Lab Sample ID: 570-137456-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	0.82	J,DX BU	2.0	0.32	ug/L	1		200.8	Dissolved
Lead	0.13	J,DX BU	1.0	0.12	ug/L	1		200.8	Dissolved
Selenium	0.58	J,DX BU	2.0	0.52	ug/L	1		200.8	Dissolved
Hardness as calcium carbonate	490		7.1	0.50	mg/L	1		SM 2340B	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Job ID: 570-137456-1

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: Outfall002_20230505_Comp
Date Collected: 05/05/23 07:05
Date Received: 05/05/23 15:23

Lab Sample ID: 570-137456-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		0.95	0.13	ug/L		05/11/23 08:25	05/15/23 13:02	1
2,4-Dinitrotoluene	ND		0.19	0.11	ug/L		05/11/23 08:25	05/15/23 13:02	1
Bis(2-ethylhexyl) phthalate	ND		4.7	3.4	ug/L		05/11/23 08:25	05/15/23 13:02	1
N-Nitrosodimethylamine	ND		0.19	0.18	ug/L		05/11/23 08:25	05/15/23 13:02	1
Pentachlorophenol	ND		0.95	0.80	ug/L		05/11/23 08:25	05/15/23 13:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*59*		*31 - 120*	*05/11/23 08:25*	*05/15/23 13:02*	*1*
Phenol-d6 (Surr)	*21*		*10 - 120*	*05/11/23 08:25*	*05/15/23 13:02*	*1*
p-Terphenyl-d14 (Surr)	*85*		*45 - 120*	*05/11/23 08:25*	*05/15/23 13:02*	*1*
2,4,6-Tribromophenol	*58*		*28 - 127*	*05/11/23 08:25*	*05/15/23 13:02*	*1*
2-Fluorophenol	*33*		*17 - 120*	*05/11/23 08:25*	*05/15/23 13:02*	*1*
Nitrobenzene-d5	*64*		*27 - 120*	*05/11/23 08:25*	*05/15/23 13:02*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Method: EPA 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall002_20230505_Comp
Date Collected: 05/05/23 07:05
Date Received: 05/05/23 15:23

Lab Sample ID: 570-137456-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	**0.0033**		0.0013	0.0012	ug/L		05/08/23 12:09	05/09/23 14:42	1
Chlordane (technical)	ND		0.033	0.026	ug/L		05/08/23 12:09	05/09/23 14:42	1
4,4'-DDD	ND		0.0067	0.0044	ug/L		05/08/23 12:09	05/09/23 14:42	1
4,4'-DDE	ND		0.0033	0.0019	ug/L		05/08/23 12:09	05/09/23 14:42	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		05/08/23 12:09	05/09/23 14:42	1
Dieldrin	ND		0.0033	0.0013	ug/L		05/08/23 12:09	05/09/23 14:42	1
Toxaphene	ND		0.067	0.054	ug/L		05/08/23 12:09	05/09/23 14:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*47*		*20 - 139*	*05/08/23 12:09*	*05/09/23 14:42*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Method: EPA 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall002_20230505_Comp
Lab Sample ID: 570-137456-1
Date Collected: 05/05/23 07:05
Matrix: Water
Date Received: 05/05/23 15:23

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**44**		1.0	0.36	mg/L			05/06/23 08:26	1
Nitrite as N	ND		0.10	0.043	mg/L			05/06/23 08:26	1
Nitrate as N	ND		0.10	0.020	mg/L			05/06/23 08:26	1

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Client Sample ID: Outfall002_20230505_Comp
Lab Sample ID: 570-137456-1
Date Collected: 05/05/23 07:05
Matrix: Water
Date Received: 05/05/23 15:23

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	380		10	2.4	mg/L			05/06/23 12:09	10

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Method: EPA 314.0 - Perchlorate (IC) - DL

Client Sample ID: Outfall002_20230505_Comp
Lab Sample ID: 570-137456-1
Date Collected: 05/05/23 07:05
Matrix: Water
Date Received: 05/05/23 15:23

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	9.1	ug/L			05/08/23 09:46	10

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Method: EPA NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall002_20230505_Comp
Lab Sample ID: 570-137456-1
Date Collected: 05/05/23 07:05
Matrix: Water
Date Received: 05/05/23 15:23

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	0.020	mg/L			05/09/23 10:12	1

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall002_20230505_Comp
Lab Sample ID: 570-137456-1
Date Collected: 05/05/23 07:05
Matrix: Water
Date Received: 05/05/23 15:23

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.19	J,DX	1.0	0.13	ug/L		05/09/23 06:50	05/09/23 11:32	1
Copper	1.2	J,DX MB	2.0	0.32	ug/L		05/09/23 06:50	05/09/23 11:32	1
Lead	0.44	J,DX	1.0	0.12	ug/L		05/09/23 06:50	05/09/23 11:32	1
Selenium	0.71	J,DX	2.0	0.52	ug/L		05/09/23 06:50	05/09/23 11:32	1
Zinc	3.6	J,DX	20	2.8	ug/L		05/09/23 06:50	05/09/23 11:32	1

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall002_20230505_Comp_F
Lab Sample ID: 570-137456-3
Date Collected: 05/05/23 07:05
Matrix: Water
Date Received: 05/05/23 15:23

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	BU	1.0	0.13	ug/L			05/09/23 13:09	1
Copper	**0.82**	**J,DX BU**	2.0	0.32	ug/L			05/09/23 13:09	1
Lead	**0.13**	**J,DX BU**	1.0	0.12	ug/L			05/09/23 13:09	1
Selenium	**0.58**	**J,DX BU**	2.0	0.52	ug/L			05/09/23 13:09	1
Zinc	ND	BU	20	2.8	ug/L			05/09/23 13:09	1

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: Outfall002_20230505_Comp
Lab Sample ID: 570-137456-1
Date Collected: 05/05/23 07:05
Matrix: Water
Date Received: 05/05/23 15:23

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		05/05/23 20:19	05/08/23 17:57	1

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Method: EPA 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall002_20230505_Comp_F
Date Collected: 05/05/23 07:05
Date Received: 05/05/23 15:23

Lab Sample ID: 570-137456-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.20	0.12	ug/L		05/05/23 20:22	05/08/23 14:52	1

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Client Sample ID: Outfall002_20230505_Comp
Lab Sample ID: 570-137456-1
Date Collected: 05/05/23 07:05
Matrix: Water
Date Received: 05/05/23 15:23

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	520		7.1	0.50	mg/L			05/12/23 17:25	1

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Client Sample ID: Outfall002_20230505_Comp_F
Lab Sample ID: 570-137456-3
Date Collected: 05/05/23 07:05
Matrix: Water
Date Received: 05/05/23 15:23

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	490		7.1	0.50	mg/L			05/13/23 17:58	1

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

General Chemistry

Client Sample ID: Outfall002_20230505_Comp
Date Collected: 05/05/23 07:05
Date Received: 05/05/23 15:23

Lab Sample ID: 570-137456-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.075	0.032	mg/L		05/16/23 11:08	05/16/23 12:56	1
Cyanide, Total (EPA Kelada 01)	ND		5.0	2.5	ug/L			05/16/23 13:34	1
Turbidity (SM 2130B)	**2.0**		0.05	0.05	NTU			05/05/23 21:46	1
Total Dissolved Solids (SM 2540C)	**940**		10	8.7	mg/L			05/11/23 13:52	1
Total Suspended Solids (SM 2540D)	**3.1**		1.0	0.83	mg/L			05/10/23 11:33	1
Biochemical Oxygen Demand (SM 5210B)	**2.2**		2.0	1.0	mg/L		05/06/23 08:17	05/06/23 10:40	1
MBAS (SM 5540C)	**0.073**	**J,DX**	0.20	0.050	mg/L		05/05/23 18:30	05/05/23 20:18	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Job ID: 570-137456-1

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	FBP (31-120)	PHL6 (10-120)	TPHd14 (45-120)	TBP (28-127)	2FP (17-120)	NBZ (27-120)
570-137456-1	Outfall002_20230505_Comp	59	21	85	58	33	64
LCS 570-328144/2-A	Lab Control Sample	61	28	73	62	40	55
LCSD 570-328144/3-A	Lab Control Sample Dup	64	29	75	65	44	57
MB 570-328144/1-A	Method Blank	59	25	86	42	39	62

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)
Lab Sample ID	Client Sample ID	TCX2 (20-139)
570-137456-1	Outfall002_20230505_Comp	47

Surrogate Legend

TCX = Tetrachloro-m-xylene

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)
LCS 570-327173/2-A	Lab Control Sample	102
LCSD 570-327173/3-A	Lab Control Sample Dup	82
MB 570-327173/1-A	Method Blank	56

Surrogate Legend

TCX = Tetrachloro-m-xylene

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-329144/1-A
Matrix: Water
Analysis Batch: 329F9F

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 329144

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.14	ug/L		05/11/23 08:24	05/15/23 11:57	1
2,4-Dinitrotoluene	ND		0.20	0.12	ug/L		05/11/23 08:24	05/15/23 11:57	1
Bis(2-ethylhexyl) phthalate	ND		5.0	3.6	ug/L		05/11/23 08:24	05/15/23 11:57	1
N-Nitrosodimethylamine	ND		0.20	0.19	ug/L		05/11/23 08:24	05/15/23 11:57	1
Pentachlorophenol	0.841	J,DX	1.0	0.84	ug/L		05/11/23 08:24	05/15/23 11:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*59*		*31 - 120*	*05/11/23 08:24*	*05/15/23 11:57*	*1*
6henol-T4 (Surr)	*25*		*10 - 120*	*05/11/23 08:24*	*05/15/23 11:57*	*1*
p-, erphenyl-T1d (Surr)	*P4*		*d5 - 120*	*05/11/23 08:24*	*05/15/23 11:57*	*1*
2rdn4-, ribro7 ophenol	*d2*		*2P - 12:*	*05/11/23 08:24*	*05/15/23 11:57*	*1*
2-Fluorophenol	*39*		*1: - 120*	*05/11/23 08:24*	*05/15/23 11:57*	*1*
Nitrobenzene-T5	*42*		*2: - 120*	*05/11/23 08:24*	*05/15/23 11:57*	*1*

Lab Sample ID: LCS 570-329144/2-A
Matrix: Water
Analysis Batch: 329F9F

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 329144

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	8 Rec	8 Rec Limits		
2,4,6-Trichlorophenol			20.0	11.6		ug/L		58	52 - 129		
2,4-Dinitrotoluene			20.0	14.8		ug/L		74	48 - 127		
Bis(2-ethylhexyl) phthalate			20.0	13.1		ug/L		65	29 - 137		
N-Nitrosodimethylamine			20.0	8.79		ug/L		44	20 - 120		
Pentachlorophenol			20.0	10.8		ug/L		54	38 - 152		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*41*		*31 - 120*
6henol-T4 (Surr)	*2P*		*10 - 120*
p-, erphenyl-T1d (Surr)	*: 3*		*d5 - 120*
2rdn4-, ribro7 ophenol	*42*		*2P - 12:*
2-Fluorophenol	*d0*		*1: - 120*
Nitrobenzene-T5	*55*		*2: - 120*

Lab Sample ID: LCSD 570-329144/3-A
Matrix: Water
Analysis Batch: 329F9F

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 329144

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	8 Rec	8 Rec Limits	RPD	RPD Limit
2,4,6-Trichlorophenol			20.0	13.1		ug/L		65	52 - 129	12	35
2,4-Dinitrotoluene			20.0	15.5		ug/L		78	48 - 127	5	25
Bis(2-ethylhexyl) phthalate			20.0	14.6		ug/L		73	29 - 137	11	50
N-Nitrosodimethylamine			20.0	9.55		ug/L		48	20 - 120	8	21
Pentachlorophenol			20.0	12.5		ug/L		62	38 - 152	14	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*4d*		*31 - 120*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-329144/3-A
Matrix: Water
Analysis Batch: 329F9F

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 329144

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
6henol-T4 (Surr)	29		10 - 120
p-, erphenyl-T1d (Surr)	: 5		d5 - 120
2rdn4-, ribro7 ophenol	45		2P - 12:
2-Fluorophenol	dd		1: - 120
Nitrobenzene-T5	5:		2: - 120

Method: 609.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-327173/1-A
Matrix: Water
Analysis Batch: 327200

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 327173

Analyte	MB Result	MB Quali%er	RL	MDL	f nit	D	Prepared	AnalyUed	Dil zac
alpha-BHC	ND		0.0013	0.0012	ug/L		05/08/23 12:09	05/09/23 12:19	1
Chlordane (technical)	ND		0.033	0.026	ug/L		05/08/23 12:09	05/09/23 12:19	1
4,4'-DDD	ND		0.0067	0.0044	ug/L		05/08/23 12:09	05/09/23 12:19	1
4,4'-DDE	ND		0.0033	0.0019	ug/L		05/08/23 12:09	05/09/23 12:19	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		05/08/23 12:09	05/09/23 12:19	1
Dieldrin	ND		0.0033	0.0013	ug/L		05/08/23 12:09	05/09/23 12:19	1
Toxaphene	ND		0.067	0.054	ug/L		05/08/23 12:09	05/09/23 12:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
, etrachloro-7 -xylene	54		20 - 139	05/0P/23 128:09	05/09/23 128:19	1

Lab Sample ID: LCS 570-327173/2-A
Matrix: Water
Analysis Batch: 327200

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 327173

Analyte			Spike Added	LCS Result	LCS Quali%er	f nit	D	8 Rec	8 Rec Limits		
alpha-BHC			0.0333	0.0342		ug/L		103	37 - 140		
4,4'-DDD			0.0333	0.0300		ug/L		90	31 - 141		
4,4'-DDE			0.0333	0.0318		ug/L		95	30 - 145		
4,4'-DDT			0.0333	0.0303		ug/L		91	25 - 160		
Dieldrin			0.0333	0.0317		ug/L		95	36 - 146		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
, etrachloro-7 -xylene	102		20 - 139

Lab Sample ID: LCSD 570-327173/3-A
Matrix: Water
Analysis Batch: 327200

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 327173

Analyte			Spike Added	LCSD Result	LCSD Quali%er	f nit	D	8 Rec	8 Rec Limits	RPD	RPD Limit
alpha-BHC			0.0333	0.0262		ug/L		79	37 - 140	26	36
4,4'-DDD			0.0333	0.0228		ug/L		68	31 - 141	28	39
4,4'-DDE			0.0333	0.0256		ug/L		77	30 - 145	22	35
4,4'-DDT			0.0333	0.0223		ug/L		67	25 - 160	30	42

Method: 609.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: LCSD 570-327173/3-A
Matrix: Water
Analysis Batch: 327200

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 327173

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dieldrin			0.0333	0.0244		ug/L		73	36 - 146	26	49

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
, etrachloro-7 -xylene	*P2*		*20 - 139*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-3269F2/5
Matrix: Water
Analysis Batch: 3269F2

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	0.043	mg/L			05/06/23 03:20	1
Nitrate as N	ND		0.10	0.020	mg/L			05/06/23 03:20	1

Lab Sample ID: LCS 570-3269F2/6
Matrix: Water
Analysis Batch: 3269F2

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	2.54		mg/L		102	90 - 110		
Nitrate as N			5.00	4.99		mg/L		100	90 - 110		

Lab Sample ID: LCSD 570-3269F2/7
Matrix: Water
Analysis Batch: 3269F2

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	2.54		mg/L		102	90 - 110	0	15
Nitrate as N			5.00	4.99		mg/L		100	90 - 110	0	15

Lab Sample ID: MB 570-3269F3/5
Matrix: Water
Analysis Batch: 3269F3

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			05/06/23 03:20	1
Sulfate	ND		1.0	0.24	mg/L			05/06/23 03:20	1

Lab Sample ID: LCS 570-3269F3/6
Matrix: Water
Analysis Batch: 3269F3

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	49.3		mg/L		99	90 - 110		
Sulfate			50.0	50.0		mg/L		100	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 570-3269F3/7
Matrix: Water
Analysis Batch: 3269F3

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	49.3		mg/L		99	90 - 110	0	15
Sulfate			50.0	50.0		mg/L		100	90 - 110	0	15

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-327020/7
Matrix: Water
Analysis Batch: 327020

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			05/08/23 05:03	1

Lab Sample ID: LCS 570-327020/9
Matrix: Water
Analysis Batch: 327020

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	24.3		ug/L		97	85 - 115		

Lab Sample ID: LCSD 570-327020/F
Matrix: Water
Analysis Batch: 327020

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	24.7		ug/L		99	85 - 115	2	15

Method: 200.9 - Metals (ICP/MS)

Lab Sample ID: MB 570-3273F2/1-A
Matrix: Water
Analysis Batch: 327563

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 3273F2

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		05/09/23 06:50	05/09/23 11:25	1
Copper	0.354	J,DX	2.0	0.32	ug/L		05/09/23 06:50	05/09/23 11:25	1
Lead	ND		1.0	0.12	ug/L		05/09/23 06:50	05/09/23 11:25	1
Selenium	ND		2.0	0.52	ug/L		05/09/23 06:50	05/09/23 11:25	1
Zinc	ND		20	2.8	ug/L		05/09/23 06:50	05/09/23 11:25	1

Lab Sample ID: LCS 570-3273F2/2-A
Matrix: Water
Analysis Batch: 327563

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 3273F2

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec Limits		
Cadmium			80.0	76.4		ug/L		95	85 - 115		
Copper			80.0	84.6		ug/L		106	85 - 115		
Lead			80.0	79.2		ug/L		99	85 - 115		
Selenium			80.0	80.3		ug/L		100	85 - 115		
Zinc			80.0	82.7		ug/L		103	85 - 115		

Method: 200.9 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 570-3273F2/3-A
Matrix: Water
Analysis Batch: 327563

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 3273F2

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium			80.0	80.5		ug/L		101	85 - 115	5	20
Copper			80.0	82.9		ug/L		104	85 - 115	2	20
Lead			80.0	81.2		ug/L		102	85 - 115	3	20
Selenium			80.0	83.7		ug/L		105	85 - 115	4	20
Zinc			80.0	81.6		ug/L		102	85 - 115	1	20

Lab Sample ID: 570-137456-1 MS
Matrix: Water
Analysis Batch: 327563

Client Sample ID: Outfall002_20230505_Comp
Prep Type: Total Recoverable
Prep Batch: 3273F2

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	0.19	J,DX	80.0	79.3		ug/L		99	80 - 120
Copper	1.2	J,DX MB	80.0	77.0		ug/L		95	80 - 120
Lead	0.44	J,DX	80.0	76.0		ug/L		94	80 - 120
Selenium	0.71	J,DX	80.0	80.8		ug/L		100	80 - 120
Zinc	3.6	J,DX	80.0	76.2		ug/L		91	80 - 120

Lab Sample ID: 570-137456-1 MSD
Matrix: Water
Analysis Batch: 327563

Client Sample ID: Outfall002_20230505_Comp
Prep Type: Total Recoverable
Prep Batch: 3273F2

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	0.19	J,DX	80.0	80.2		ug/L		100	80 - 120	1	20
Copper	1.2	J,DX MB	80.0	76.1		ug/L		94	80 - 120	1	20
Lead	0.44	J,DX	80.0	75.9		ug/L		94	80 - 120	0	20
Selenium	0.71	J,DX	80.0	82.2		ug/L		102	80 - 120	2	20
Zinc	3.6	J,DX	80.0	76.2		ug/L		91	80 - 120	0	20

Lab Sample ID: MB 570-327179/1-A
Matrix: Water
Analysis Batch: 327563

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L			05/09/23 13:02	1
Copper	ND		2.0	0.32	ug/L			05/09/23 13:02	1
Lead	ND		1.0	0.12	ug/L			05/09/23 13:02	1
Selenium	ND		2.0	0.52	ug/L			05/09/23 13:02	1
Zinc	ND		20	2.8	ug/L			05/09/23 13:02	1

Lab Sample ID: LCS 570-327179/2-A
Matrix: Water
Analysis Batch: 327563

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium			80.0	76.4		ug/L		96	85 - 115
Copper			80.0	80.6		ug/L		101	85 - 115
Lead			80.0	77.9		ug/L		97	85 - 115
Selenium			80.0	77.8		ug/L		97	85 - 115

Method: 200.9 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 570-327179/2-A
Matrix: Water
Analysis Batch: 327563

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Zinc			80.0	78.8		ug/L		98	85 - 115		

Lab Sample ID: LCSD 570-327179/3-A
Matrix: Water
Analysis Batch: 327563

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium			80.0	76.6		ug/L		96	85 - 115	0	20
Copper			80.0	81.8		ug/L		102	85 - 115	1	20
Lead			80.0	78.6		ug/L		98	85 - 115	1	20
Selenium			80.0	78.9		ug/L		99	85 - 115	1	20
Zinc			80.0	79.4		ug/L		99	85 - 115	1	20

Lab Sample ID: 570-137456-3 MS
Matrix: Water
Analysis Batch: 327563

Client Sample ID: Out%all002_20230505_Comp_z
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Cadmium	ND	BU	80.0	69.4	BU	ug/L		87	80 - 120		
Copper	0.82	J,DX BU	80.0	64.7	BU	ug/L		80	80 - 120		
Lead	0.13	J,DX BU	80.0	66.0	BU	ug/L		82	80 - 120		
Selenium	0.58	J,DX BU	80.0	75.6	BU	ug/L		94	80 - 120		
Zinc	ND	BU	80.0	64.7	BU	ug/L		81	80 - 120		

Lab Sample ID: 570-137456-3 MSD
Matrix: Water
Analysis Batch: 327563

Client Sample ID: Out%all002_20230505_Comp_z
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	ND	BU	80.0	70.6	BU	ug/L		88	80 - 120	2	20
Copper	0.82	J,DX BU	80.0	66.2	BU	ug/L		82	80 - 120	2	20
Lead	0.13	J,DX BU	80.0	67.3	BU	ug/L		84	80 - 120	2	20
Selenium	0.58	J,DX BU	80.0	78.9	BU	ug/L		98	80 - 120	4	20
Zinc	ND	BU	80.0	66.4	BU	ug/L		83	80 - 120	3	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-326957/1-A
Matrix: Water
Analysis Batch: 327291

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 326957

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		05/05/23 20:19	05/08/23 17:52	1

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 570-326957/2-A
Matrix: Water
Analysis Batch: 327291

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 326957

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury			8.00	7.67		ug/L		96	85 - 115		

Lab Sample ID: LCSD 570-326957/3-A
Matrix: Water
Analysis Batch: 327291

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 326957

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury			8.00	7.41		ug/L		93	85 - 115	4	10

Lab Sample ID: 570-137456-1 MS
Matrix: Water
Analysis Batch: 327291

Client Sample ID: Outfall002_20230505_Comp
Prep Type: Total/NA
Prep Batch: 326957

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury	ND		8.00	7.47		ug/L		93	85 - 115		

Lab Sample ID: 570-137456-1 MSD
Matrix: Water
Analysis Batch: 327291

Client Sample ID: Outfall002_20230505_Comp
Prep Type: Total/NA
Prep Batch: 326957

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		8.00	7.33		ug/L		92	85 - 115	2	10

Lab Sample ID: MB 570-326959/1-B
Matrix: Water
Analysis Batch: 327291

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 32695F

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		05/05/23 20:22	05/08/23 14:46	1

Lab Sample ID: LCS 570-326959/2-B
Matrix: Water
Analysis Batch: 327291

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 32695F

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury			8.00	7.94		ug/L		99	85 - 115		

Lab Sample ID: LCSD 570-326959/3-B
Matrix: Water
Analysis Batch: 327291

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 32695F

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury			8.00	8.07		ug/L		101	85 - 115	2	10

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 570-137456-3 MS
Matrix: Water
Analysis Batch: 327291
Client Sample ID: Out%all002_20230505_Comp_z
Prep Type: Dissolved
Prep Batch: 32695F

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec Limits
Mercury	ND	BU	8.00	7.95		ug/L		99	85 - 115

Lab Sample ID: 570-137456-3 MSD
Matrix: Water
Analysis Batch: 327291
Client Sample ID: Out%all002_20230505_Comp_z
Prep Type: Dissolved
Prep Batch: 32695F

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec Limits	RPD	RPD Limit
Mercury	ND	BU	8.00	7.93		ug/L		99	85 - 115	0	10

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 570-32F439/5-A
Matrix: Water
Analysis Batch: 32F445
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32F439

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.075	0.032	mg/L		05/16/23 11:08	05/16/23 12:50	1

Lab Sample ID: LCS 570-32F439/6-A
Matrix: Water
Analysis Batch: 32F445
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32F439

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec Limits
Ammonia	0.500	0.506		mg/L		101	90 - 110

Lab Sample ID: LCSD 570-32F439/7-A
Matrix: Water
Analysis Batch: 32F445
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 32F439

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec Limits	RPD	RPD Limit
Ammonia	0.500	0.499		mg/L		100	90 - 110	1	20

Lab Sample ID: 570-137456-1 MS
Matrix: Water
Analysis Batch: 32F445
Client Sample ID: Out%all002_20230505_Comp
Prep Type: Total/NA
Prep Batch: 32F439

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec Limits
Ammonia	ND		0.500	0.529		mg/L		106	90 - 110

Lab Sample ID: 570-137456-1 MSD
Matrix: Water
Analysis Batch: 32F445
Client Sample ID: Out%all002_20230505_Comp
Prep Type: Total/NA
Prep Batch: 32F439

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec Limits	RPD	RPD Limit
Ammonia	ND		0.500	0.521		mg/L		104	90 - 110	2	25

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Job ID: 570-137456-1

Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate

Lab Sample ID: MB 570-32F771/11
Matrix: Water
Analysis Batch: 32F771

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L			05/16/23 12:22	1

Lab Sample ID: LCS 570-32F771/12
Matrix: Water
Analysis Batch: 32F771

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Cyanide, Total			250	268		ug/L		107	90 - 110		

Lab Sample ID: LCSD 570-32F771/13
Matrix: Water
Analysis Batch: 32F771

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
Cyanide, Total			250	260		ug/L		104	90 - 110	3	20

Lab Sample ID: MRL 570-32F771/10
Matrix: Water
Analysis Batch: 32F771

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Cyanide, Total			5.00	4.95	J,DX	ug/L		99	50 - 150		

Method: SM 2130B - Turbidity

Lab Sample ID: LCSSRM 570-326695/1
Matrix: Water
Analysis Batch: 326695

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
Turbidity			1000	1000		NTU		100.0	99.0 - 101.0		

Lab Sample ID: LCSSRM 570-326695/2
Matrix: Water
Analysis Batch: 326695

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
Turbidity			10.0	9.9		NTU		99.2	99.0 - 101.0		

Lab Sample ID: LCSSRM 570-326695/3
Matrix: Water
Analysis Batch: 326695

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
Turbidity			0.0200	ND		NTU		100.0	0.0 - 200.0		

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 570-329300/1
Matrix: Water
Analysis Batch: 329300

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	8.7	mg/L			05/11/23 13:52	1

Lab Sample ID: LCS 570-329300/2
Matrix: Water
Analysis Batch: 329300

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	978		mg/L		98	84 - 108

Lab Sample ID: LCSD 570-329300/3
Matrix: Water
Analysis Batch: 329300

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 Dissolved Solids	1000	988		mg/L		99	84 - 108	1	10

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-327957/1
Matrix: Water
Analysis Batch: 327957

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			05/10/23 11:33	1

Lab Sample ID: LCS 570-327957/2
Matrix: Water
Analysis Batch: 327957

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	104		mg/L		104	77 - 116

Lab Sample ID: LCSD 570-327957/3
Matrix: Water
Analysis Batch: 327957

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	113		mg/L		113	77 - 116	8	10

Method: SM 5210B - BOD, 5-Day

Lab Sample ID: LCS 570-326F1F/2-A
Matrix: Water
Analysis Batch: 329307

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 326F1F

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	199	208		mg/L		105	84.6 - 115.4

Method: SM 5210B - BOD, 5-Day (Continued)

Lab Sample ID: f SB 570-329307/2
Matrix: Water
Analysis Batch: 329307

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	f SB Result	f SB Qualifier	RL	MDL	f nit	D	Prepared	Analyzed	Dil zac
Biochemical Oxygen Demand	ND		2.0	1.0	mg/L			05/06/23 09:27	1

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 570-326965/5-A
Matrix: Water
Analysis Batch: 326964

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 326965

Analyte	MB Result	MB Qualifier	RL	MDL	f nit	D	Prepared	Analyzed	Dil zac
MBAS	ND		0.20	0.050	mg/L		05/05/23 18:30	05/05/23 20:07	1

Lab Sample ID: LCS 570-326965/6-A
Matrix: Water
Analysis Batch: 326964

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 326965

Analyte			Spike Added	LCS Result	LCS Qualifier	f nit	D	8 Rec	8 Rec Limits		
MBAS			0.500	0.433		mg/L		87	83 - 122		

Lab Sample ID: LCSD 570-326965/7-A
Matrix: Water
Analysis Batch: 326964

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 326965

Analyte			Spike Added	LCSD Result	LCSD Qualifier	f nit	D	8 Rec	8 Rec Limits	RPD	RPD Limit
MBAS			0.500	0.431		mg/L		86	83 - 122	0	10

GC/MS Semi VOA

Prep Batch: 328144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	625	
MB 570-328144/1-A	Method Blank	Total/NA	Water	625	
LCS 570-328144/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-328144/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 328989

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	625.1 SIM	328144
MB 570-328144/1-A	Method Blank	Total/NA	Water	625.1 SIM	328144
LCS 570-328144/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	328144
LCSD 570-328144/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	328144

GC Semi VOA

Prep Batch: 327173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	608	
MB 570-327173/1-A	Method Blank	Total/NA	Water	608	
LCS 570-327173/2-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-327173/3-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 327200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	608.3	327173
MB 570-327173/1-A	Method Blank	Total/NA	Water	608.3	327173
LCS 570-327173/2-A	Lab Control Sample	Total/NA	Water	608.3	327173
LCSD 570-327173/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	327173

HPLC/IC

Analysis Batch: 326892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	300.0	
MB 570-326892/5	Method Blank	Total/NA	Water	300.0	
LCS 570-326892/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-326892/7	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 326893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	300.0	
570-137456-1 - DL	Outfall002_20230505_Comp	Total/NA	Water	300.0	
MB 570-326893/5	Method Blank	Total/NA	Water	300.0	
LCS 570-326893/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-326893/7	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 327020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1 - DL	Outfall002_20230505_Comp	Total/NA	Water	314.0	
MB 570-327020/7	Method Blank	Total/NA	Water	314.0	
LCS 570-327020/8	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-327020/9	Lab Control Sample Dup	Total/NA	Water	314.0	

HPLC/IC

Analysis Batch: 327485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	NO2NO3 Calc	

Metals

Analysis Batch: 325408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-3	Outfall002_20230505_Comp_F	Dissolved	Water	SM 2340B	

Analysis Batch: 326128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total Recoverable	Water	SM 2340B	

Prep Batch: 326857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	245.1	
MB 570-326857/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-326857/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-326857/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-137456-1 MS	Outfall002_20230505_Comp	Total/NA	Water	245.1	
570-137456-1 MSD	Outfall002_20230505_Comp	Total/NA	Water	245.1	

Filtration Batch: 326858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-3	Outfall002_20230505_Comp_F	Dissolved	Water	Filtration	
MB 570-326858/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-326858/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-326858/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-137456-3 MS	Outfall002_20230505_Comp_F	Dissolved	Water	Filtration	
570-137456-3 MSD	Outfall002_20230505_Comp_F	Dissolved	Water	Filtration	

Prep Batch: 326859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-3	Outfall002_20230505_Comp_F	Dissolved	Water	245.1	326858
MB 570-326858/1-B	Method Blank	Dissolved	Water	245.1	326858
LCS 570-326858/2-B	Lab Control Sample	Dissolved	Water	245.1	326858
LCSD 570-326858/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	326858
570-137456-3 MS	Outfall002_20230505_Comp_F	Dissolved	Water	245.1	326858
570-137456-3 MSD	Outfall002_20230505_Comp_F	Dissolved	Water	245.1	326858

Filtration Batch: 327178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-3	Outfall002_20230505_Comp_F	Dissolved	Water	Filtration	
MB 570-327178/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-327178/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-327178/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-137456-3 MS	Outfall002_20230505_Comp_F	Dissolved	Water	Filtration	
570-137456-3 MSD	Outfall002_20230505_Comp_F	Dissolved	Water	Filtration	

Metals

Analysis Batch: 327281

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	245.1	326857
570-137456-3	Outfall002_20230505_Comp_F	Dissolved	Water	245.1	326859
MB 570-326857/1-A	Method Blank	Total/NA	Water	245.1	326857
MB 570-326858/1-B	Method Blank	Dissolved	Water	245.1	326859
LCS 570-326857/2-A	Lab Control Sample	Total/NA	Water	245.1	326857
LCS 570-326858/2-B	Lab Control Sample	Dissolved	Water	245.1	326859
LCSD 570-326857/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	326857
LCSD 570-326858/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	326859
570-137456-1 MS	Outfall002_20230505_Comp	Total/NA	Water	245.1	326857
570-137456-1 MSD	Outfall002_20230505_Comp	Total/NA	Water	245.1	326857
570-137456-3 MS	Outfall002_20230505_Comp_F	Dissolved	Water	245.1	326859
570-137456-3 MSD	Outfall002_20230505_Comp_F	Dissolved	Water	245.1	326859

Prep Batch: 327392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total Recoverable	Water	200.8	
MB 570-327392/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-327392/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-327392/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-137456-1 MS	Outfall002_20230505_Comp	Total Recoverable	Water	200.8	
570-137456-1 MSD	Outfall002_20230505_Comp	Total Recoverable	Water	200.8	

Analysis Batch: 327563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total Recoverable	Water	200.8	327392
570-137456-3	Outfall002_20230505_Comp_F	Dissolved	Water	200.8	327178
MB 570-327178/1-A	Method Blank	Dissolved	Water	200.8	327178
MB 570-327392/1-A	Method Blank	Total Recoverable	Water	200.8	327392
LCS 570-327178/2-A	Lab Control Sample	Dissolved	Water	200.8	327178
LCS 570-327392/2-A	Lab Control Sample	Total Recoverable	Water	200.8	327392
LCSD 570-327178/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	327178
LCSD 570-327392/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	327392
570-137456-1 MS	Outfall002_20230505_Comp	Total Recoverable	Water	200.8	327392
570-137456-1 MSD	Outfall002_20230505_Comp	Total Recoverable	Water	200.8	327392
570-137456-3 MS	Outfall002_20230505_Comp_F	Dissolved	Water	200.8	327178
570-137456-3 MSD	Outfall002_20230505_Comp_F	Dissolved	Water	200.8	327178

General Chemistry

Analysis Batch: 326685

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	SM 2130B	
LCSSRM 570-326685/1	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-326685/2	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-326685/3	Lab Control Sample	Total/NA	Water	SM 2130B	

Analysis Batch: 326864

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	SM 5540C	326865
MB 570-326865/5-A	Method Blank	Total/NA	Water	SM 5540C	326865

General Chemistry (Continued)

Analysis Batch: 326864 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-326865/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	326865
LCSD 570-326865/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	326865

Prep Batch: 326865

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	SM 5540C	
MB 570-326865/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-326865/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-326865/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	

Prep Batch: 326919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	BOD Prep	
LCS 570-326919/2-A	Lab Control Sample	Total/NA	Water	BOD Prep	

Analysis Batch: 327857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	SM 2540D	
MB 570-327857/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-327857/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-327857/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 328300

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	SM 2540C	
MB 570-328300/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 570-328300/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 570-328300/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

Analysis Batch: 328307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	SM 5210B	326919
USB 570-328307/2	Method Blank	Total/NA	Water	SM 5210B	
LCS 570-326919/2-A	Lab Control Sample	Total/NA	Water	SM 5210B	326919

Prep Batch: 329438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	Distill/Ammonia	
MB 570-329438/5-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 570-329438/6-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	
LCSD 570-329438/7-A	Lab Control Sample Dup	Total/NA	Water	Distill/Ammonia	
570-137456-1 MS	Outfall002_20230505_Comp	Total/NA	Water	Distill/Ammonia	
570-137456-1 MSD	Outfall002_20230505_Comp	Total/NA	Water	Distill/Ammonia	

Analysis Batch: 329445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	350.1	329438
MB 570-329438/5-A	Method Blank	Total/NA	Water	350.1	329438
LCS 570-329438/6-A	Lab Control Sample	Total/NA	Water	350.1	329438
LCSD 570-329438/7-A	Lab Control Sample Dup	Total/NA	Water	350.1	329438

General Chemistry (Continued)

Analysis Batch: 329445 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1 MS	Outfall002_20230505_Comp	Total/NA	Water	350.1	329438
570-137456-1 MSD	Outfall002_20230505_Comp	Total/NA	Water	350.1	329438

Analysis Batch: 329771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	Kelada 01	
MB 570-329771/11	Method Blank	Total/NA	Water	Kelada 01	
LCS 570-329771/12	Lab Control Sample	Total/NA	Water	Kelada 01	
LCSD 570-329771/13	Lab Control Sample Dup	Total/NA	Water	Kelada 01	
MRL 570-329771/10	Lab Control Sample	Total/NA	Water	Kelada 01	

Client Sample ID: Outfall002_20230505_Comp

Date Collected: 05/05/23 07:05
Date Received: 05/05/23 15:23

Lab Sample ID: 570-137456-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
TotalBF A	/ re4	j 65			105j .8 2 u	6 2 u	3681PP	05B1 1B63 08:65	mAJ3	LLT CAu P
TotalBF A	Analy9i9	j 65.1 gIs		1	1 2 u	1 2 u	368M8M	05B1 5B63 13:06	UuuI	LLT CAu P
	In9trf 2 ent ID:	GCs gLLL								
TotalBF A	/ re4	j 08			1500 2 u	1 2 u	367173	05B8 8B63 16:0M	UgUu	LLT CAu P
TotalBF A	Analy9i9	j 08.3		1	1 2 u	1 2 u	367600	05B0 MB63 1P:P6	F5Y3	LLT CAu P
	In9trf 2 ent ID:	GC56A								
TotalBF A	Analy9i9	300.0		1	P 2 u	P 2 u	36j 8M6	05B0 j B63 08:6j	/ g	LLT CAu P
	In9trf 2 ent ID:	ICM								
TotalBF A	Analy9i9	300.0		1	P 2 u	P 2 u	36j 8M8	05B0 j B63 08:6j	/ g	LLT CAu P
	In9trf 2 ent ID:	ICM								
TotalBF A	Analy9i9	300.0	Du	10	P 2 u	P 2 u	36j 8M8	05B0 j B63 16:0M	/ g	LLT CAu P
	In9trf 2 ent ID:	ICM								
TotalBF A	Analy9i9	31P.0	Du	10	P 2 u	P 2 u	367060	05B0 8B63 0MPj	Ym8u	LLT CAu P
	In9trf 2 ent ID:	IC8								
TotalBF A	Analy9i9	F m6F m3 Calc		1			367P85	05B0 MB63 10:16	WHj J	LLT CAu P
	In9trf 2 ent ID:	F mL OUI/								
Total Qecoverable	/ re4	600.8			50 2 u	50 2 u	3673M6	05B0 MB63 0j :50	J/ 8F	LLT CAu P
Total Qecoverable	Analy9i9	600.8		1			3675j 3	05B0 MB63 11:36	Y6Wg	LLT CAu P
	In9trf 2 ent ID:	IC/ s g0M								
TotalBF A	/ re4	6P5.1			65 2 u	50 2 u	36j 857	05B0 5B63 60:1M	Cg5Z	LLT CAu P
TotalBF A	Analy9i9	6P5.1		1			367681	05B0 8B63 17:57	C0YH	LLT CAu P
	In9trf 2 ent ID:	HG8								
Total Qecoverable	Analy9i9	gs 63P0N		1			36j 168	05B1 6B63 17:65	/ 1Q	LLT CAu P
	In9trf 2 ent ID:	F mL OUI/								
TotalBF A	/ re4	Di9tillBA2 2 onia			5 2 u	5 2 u	36MP38	05B1 j B63 11:08	UXCH	LLT CAu P
TotalBF A	Analy9i9	350.1		1	5 2 u	5 2 u	36MPP5	05B1 j B63 16:5j	UXCH	LLT CAu P
	In9trf 2 ent ID:	ACA6								
TotalBF A	Analy9i9	Kelada 01		1	8 2 u	8 2 u	36M771	05B1 j B63 13:3P	GG0N	LLT CAu P
	In9trf 2 ent ID:	uACHAT01								
TotalBF A	Analy9i9	gs 6130N		1			36j j 85	05B0 5B63 61:Pj	ZVN7	LLT CAu P
	In9trf 2 ent ID:	TUQP								
TotalBF A	Analy9i9	gs 65P0C		1	100 2 u	1000 2 u	368300	05B1 1B63 13:56	Zu7u	LLT CAu P
	In9trf 2 ent ID:	NAu100								
TotalBF A	Analy9i9	gs 65P0D		1	1000 2 u	1000 2 u	367857	05B1 0B63 11:33	UWCT	LLT CAu P
	In9trf 2 ent ID:	NAu71								
TotalBF A	/ re4	NmD / re4					36j MtM	05B0 j B63 08:17	TF8Z	LLT CAu P
TotalBF A	Analy9i9	gs 5610N		1	300 2 u	300 2 u	368307	05B0 j B63 10:P0	U7UQ	LLT CAu P
	In9trf 2 ent ID:	NmD3								
TotalBF A	/ re4	gs 55P0C			100 2 u	100 2 u	36j 8j 5	05B0 5B63 18:30	TXA8	LLT CAu P
TotalBF A	Analy9i9	gs 55P0C		1	100 2 u	100 2 u	36j 8j P	05B0 5B63 60:18	TXA8	LLT CAu P
	In9trf 2 ent ID:	UV8								

Lab Chronicle

Client: Haley & Aldrich, Inc.
/ roSctBite: NoeinE F/ DLg ggRu - Of arterly mf tpall - 006
Co2 4

Job ID: 570-137P5j -1

Client Sample ID: Outfall002_20230505_Comp_F

Date Collected: 05/05/23 07:05
Date Received: 05/05/23 15:23

Lab Sample ID: 570-137456-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Di99olved	Riltration	Riltration			50 2 u	50 2 u	367178	05B08B63 16:65	J/ 8F	LLT CAu P
Di99olved	Analy9i9	600.8		1			3675j 3	05B0M63 13:0M	Y6Wg	LLT CAu P
	In9trf 2 ent ID:	IC/ s g0M								
Di99olved	Riltration	Riltration			65 2 u	65 2 u	36j 858	05B05B63 60:00	Cg5Z	LLT CAu P
Di99olved	/ re4	6P5.1			65 2 u	50 2 u	36j 85M	05B05B63 60:66	Cg5Z	LLT CAu P
Di99olved	Analy9i9	6P5.1		1			367681	05B08B63 1P:56	C0YH	LLT CAu P
	In9trf 2 ent ID:	HG8								
Di99olved	Analy9i9	gs 63P0N		1			365P08	05B13B63 17:58	/ 1Q	LLT CAu P
	In9trf 2 ent ID:	FmLOUI/								

Laboratory References:
LLT CAu P = Lf ropin9 Cal9cience Tf 9tin, 68P1 Dow Avenf e, Tf 9tin, CA M6780, TLu (71P)8M5-5PMP

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-1
Project/Site: Boeing NPDES SSFL - Quarterly 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
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Kansas	NELAP	E-10420	07-31-23
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Method	Method Description	Protocol	Laboratory
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	EPA	EET CAL 4
608.3	Organochlorine Pesticides in Water	EPA	EET CAL 4
300.0	Anions, Ion Chromatography	EPA	EET CAL 4
314.0	Perchlorate (IC)	EPA	EET CAL 4
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	EET CAL 4
200.8	Metals (ICP/MS)	EPA	EET CAL 4
245.1	Mercury (CVAA)	EPA	EET CAL 4
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	EET CAL 4
350.1	Nitrogen, Ammonia	EPA	EET CAL 4
Kelada 01	Cyanide, Total, Acid Dissociable and Thiocyanate	EPA	EET CAL 4
SM 2130B	Turbidity	SM	EET CAL 4
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CAL 4
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CAL 4
SM 5210B	BOD, 5-Day	SM	EET CAL 4
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	EET CAL 4
200.8	Preparation, Total Recoverable Metals	EPA	EET CAL 4
245.1	Preparation, Mercury	EPA	EET CAL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	EPA	EET CAL 4
625	Liquid-Liquid Extraction	EPA	EET CAL 4
BOD Prep	Preparation, BOD	SM	EET CAL 4
Distill/Ammonia	Distillation, Ammonia	None	EET CAL 4
Filtration	Sample Filtration	None	EET CAL 4
SM 5540C	Preparation, Methylene Blue Active Substances (MBAS)	SM	EET CAL 4

Protocol References:

EPA = US Environmental Protection Agency
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Job ID: 570-137456-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-137456-1	Outfall002_20230505_Comp	Water	05/05/23 07:05	05/05/23 15:23
570-137456-3	Outfall002_20230505_Comp_F	Water	05/05/23 07:05	05/05/23 15:23

All metals to be analyzed by E200.8 (M. Dominick, 5/8/2023)

add: Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene, + PCBs only (E608) (M. Dominick, 5/8/2023)

137456

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 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	**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: Adrien Mobeka	

									ANALYSIS REQUIRED																
									R	R	R	R	R	R	R/EP	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-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	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)					Comments
1	Outfall002_20230505_Comp	5/5/2023 0705	WM	500 mL Poly	1	HNO_3	90	Yes	X										X					
			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 hours Holding Time for Turbidity
Outfall 002			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									
2	Outfall002_20230505_Comp_Extra	5/5/2023 0705	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, EP=Expert Panel, R=Routine

Relinquished By: [signature]	Date/Time: 5-5-2023/1150	Company: H:A	Received By: [signature]	Date/Time: 5/5/23 1150	EC
Relinquished By: [signature]	Date/Time: 5/5/23 1523	Company: EC	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__

1.8/1.9 7 H 1.6/1.7 5 H 2.1/2.2 0 H SC6

570-137456 Chain of Custody

2019-2020 Rainy Season
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5/19/2023

137456

All metals to be analyzed by E200.8 (M. Dominick, 5/8/2023)

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:	Project Manager:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 002 Comp	Katherine Miller 520.289.8606, 520.904.6944 (cell)
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**		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: Adrien Mobeka		

									ANALYSIS REQUIRED													
									R	R	R	R	R	QRSW	QRSW	QRSW	C/EP					
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: ~~(E200.8)~~ 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)	Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)	Total Recoverable Metals: Hardness as CaCO3	Total Dissolved Metals: Hardness as CaCO3				Comments
3	Outfall002_20230505_Comp_F	5/5/2023 0705	WM	1 L Poly	1	None	190	No									X					
			WM	500 mL Poly	1	HNO_3	80	No								X						
			WM	1L Poly	1	None	200	Yes	X													
			~~WM~~	~~1 L Glass Amber~~	~~2~~	~~None~~	~~250~~	~~No~~						X								Chlordane, DDD, DDE, DDT, dieldrin,PCBs,toxaphene at OF002
Outfall 002			WM	borosilicate vials	2	None	320	No					X									Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
			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	Outfall002_20230505_Comp	5/5/2023 0705	WM	1 L Glass Amber	1	None	230	No														

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	5-5-2023/1150	H; A	[signature]	5/5/23 1150 EC
[signature]	5/5/23 1523	EC		

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__

5/19/2023

2019-2020 Rainy Season
Version 5

137456

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 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	
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: 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	ANALYSIS REQUIRED: Total Recoverable Metals: (E200.7): Zn (E200.7): Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	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)				Comments
									R	R	R	R	R	R	R/EP	R	R	R	R	C			
1	Outfall002_20230505_Comp	5/5/2023 0705	WM	500 mL Poly	1	HNO_3	90	Yes	X										X				
			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 hours Holding Time for Turbidity
Outfall 002			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								
2	Outfall002_20230505_Comp_Extra	5/5/2023 0705	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, EP=Expert Panel, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	5-5-2023 / 1150	H:A	[signature]	5/5/23 1150 EC
[signature]	5/5/23 1523 EC		[signature]	5/5/23 1523

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___

1.8/1.9 1.6/1.7 2.1/2.2 SC6

570-137456 Chain of Custody

2019-2020 Rainy Season
Version 5

137456

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

									R	R	R	R	R	QRSW	QRSW	QRSW	C/EP				
Client Name/Address: Haley & Aldrich, 5333 Mission Center Rd Suite 300, San Diego, CA 92108				Project: Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 002 Comp					ANALYSIS REQUIRED												Comments
Eurofins Calscience Irvine Contact: Virendra Patel, 2841 Dow Avenue, Suite 100, Tustin, CA 92780, Tel: 949-260-3218 **ECI Project # 57013187**									Total Dissolved Metals: (E200.7): Zn (E200.7): 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)	Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)	Total Recoverable Metals: Hardness as CaCO3	Total Dissolved Metals: Hardness as CaCO3				
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: 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													
3 Outfall 002	Outfall002_20230505_Comp_F	5/5/2023 0705	WM	1 L Poly	1	None	190	No									X				
			WM	500 mL Poly	1	HNO_3	80	No								X					
			WM	1L Poly	1	None	200	Yes	X												
			WM	1 L Glass Amber	2	None	250	No						X							Chlordane, DDD, DDE, DDT, dieldrin,PCBs,toxaphene at OF002
			WM	borosilicate vials	2	None	320	No					X								Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
1	Outfall002_20230505_Comp	5/5/2023 0705	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 workorcer. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No													

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	5-5-2023 1150	H; A	[signature]	5/5/23 1150 EC
[signature]	5/5/23 1523	EC	[signature]	5/5/23 1523
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__

2019-2020 Rainy Season
Version 5

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 570-13765/ -1

Login Number: 137456 **List Source: Eurofins Calscience**
List Number: 1
Creator: Patel, Jayesh

Question	Answer	Comment
v adioactiwity s a' nlt chec<ed or i' =Rg bac<Tround a' mea' ured by a ' urwey meter.	NRA	
f he coolerlk cu' tody ' eal, ipSre' ent, i' intact.	f rue	
OamSle cu' tody ' eal' , ipSre' ent, are intact.	f rue	
f he cooler or ' amSle' do not aSSear to hawe been comSromi' ed or tamSered s ith.	f rue	
OamSle' s ere receiwed on ice.	f rue	
Cooler f emSerature i' acceStable.	f rue	
Cooler f emSerature i' recorded.	f rue	
CF C i' Sre' ent.	f rue	
CF C i' pilled out in in< and leTible.	f rue	
CF C i' pilled out s ith all Sertinent inpormation.	f rue	
I' the ?ield OamSlerlk name Sre' ent on CF C(	f rue	
f here are no di' creSancie' bets een the container' receiwed and the CF C.	f rue	
OamSle' are receiwed s ithin HoldinT f ime xe) cludinT te' t' s ith immediate Hf ' P	f rue	
OamSle container' hawe leTible label' .	f rue	
Container' are not bro<en or lea<inT.	f rue	
OamSle collection dateRime' are Srowided.	f rue	
ASSroSriate ' amSle container' are u' ed.	f rue	
OamSle bottle' are comSletely pilled.	f rue	
OamSle Vre' erwation qeripied.	f rue	
f here i' ' upicient wol. por all reMue' ted analy' e' , incl. any reMue' ted DORDOz '	f rue	
Container' reMuirinT 4ero head' Sace hawe no head' Sace or bubble i' =/ mm x1R6"P.	f rue	
DultiSha' ic ' amSle' are not Sre' ent.	f rue	
OamSle' do not reMuire ' SlittinT or comSo' itinT.	f rue	
v e' idual Chlorine Chec<ed.	NRA	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

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JOB DESCRIPTION

Boeing NPDES SSFL - Quarterly Outfall - 002 Comp

JOB NUMBER

570-137456-2

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

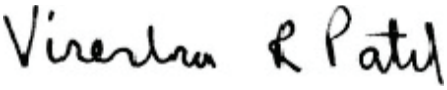
myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization



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5/25/2023 11:18:11 AM

Authorized for release by
Virendra Patel, Project Manager I
Virendra.Patel@et.eurofinsus.com
(714)895-5494

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Certification Summary 18
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Qualifiers

Dioxin

Qualifier	Qualifier Description
J.DX	FsHenyHr vyiOn; vyiOn < iownsHsHyt r yor (Mu Q). bOH>H,yt MDQ
Mg	dt yi&Hi pcnsnt He H,n mnH,or biyt U
k	¤, n onpodHr onsOHs H,n nsHenyHr my"emOm possebin hot hnt HdyHebt o2H,es yt yi&Hi. kOyt HeyHr Ose NH,n H,nooHenyi eot oyHebP¤, n mnysOonr eot oyHeb r ons t oHmnnHkOyieyHevn e nt HeenyHebt hoeHoey yt r e r enyHs y possebin e Hc2nont hnP

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
%	QesHr Ot r ncH,n RDRhoiOmt Ho r nseNt yHi H,yHH,n onsOHes onpodHr ot y r o&wneN, Hbyses
q z	j ndhnt Hz nhovno&
I LQ	I ot Hyes LOnn QekOer
I Lx	I oiot & Loome Nx t eH
I EL	I ot Hyes Eo LOnn QekOer
DFz	DQpiehyHi Fooocz yHeb (t oomyieGnr ybsoiOHi r e2hont hn)
De Lyh	DeOHebt LyhHoc
DQ	DnHhHebt QemeH(DoDSDf F)
DQ z d. z F. IE	It r enyHs y DeOHebt . z n-yt yi&ses. z n-n" HdyHebt . ocyr r eHebt yi It eHyi mnHyisSyt eot yt yi&ses o2H,n sympin
DQI	Dnheseot Qnvni I ot hnt HdyHebt (z yr eoh, nmesHe&)
FDQ	FsHenyHr DnHhHebt QemeH(Deo"e)
Qf D	QemeHo2DnHhHebt (DoDSDf F)
Qf u	QemeHo2u Oyt HeyHebt (DoDSDf F)
MI Q	Fj d onhommnt r nr RMy"emOm I ot Hyme yt HQnvniR
MDd	Me emOm DnHhHybin d hHeve&(z yr eoh, nmesHe&)
MDI	Me emOm DnHhHybin I ot hnt HdyHebt (z yr eoh, nmesHe&)
MDQ	MnH,or DnHhHebt QemeH
MQ	Me emOm Qnvni (Deo"e)
Mj E	MosHj oobybin EOmbnc
Mu Q	MnH,or u Oyt HeyHebt QemeH
EI	EoHyihOyHr
ED	EoHDnHhHr yHH,n onpode NiemeH(ocMDQocFDQe2s, owt)
EFT	EnNyHevn Sdbsnt H
j f B	j oseHevn Sj onsnt H
j u Q	j oyhHenyi u Oyt HeyHebt QemeH
j z FB	j onsOmpHevn
u I	u Oyie&I ot Hoi
z Fz	z niyHevn Foooz yHeb (z yr eoh, nmesHe&)
z Q	z npode NQemeHocz nkOnsHr QemeH(z yr eoh, nmesHe&)
z j D	z niyHevn j ndhnt HDe2hont hn. y mnysOon o2H,n oiyHevn r e2hont hn bnHwnnt Hwo pode Hs
¤FL	¤o"ehe&FkOevyint HLyhHoc(Deo"e)
¤Fu	¤o"ehe&FkOevyint Hu OoHent H(Deo"e)
¤E¤I	¤oo EOmnooOs ¤o I oOt H

FOoo2e s I yishent hn

Job ID: 570-137456-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-137456-2

Comments
No additional comments.

Receipt
The samples were received on 5/5/2023 3:23 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 1.5º C, 1.7º C and 2.0º 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 12D5 exceeded this criteria: Outfall002_20230505_Comp (570-137456-1), (CCV 320-676633/2), (LCS 320-673873/2-A), (LCSD 320-673873/3-A) and (MB 320-673873/1-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: 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: Outfall002_20230505_Comp (570-137456-1) and (CCV 320-677005/2). 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: 570-137456-2
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Client Sample ID: Outfall002_20230505_Comp
Lab Sample ID: 570-137456-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDF	0.00000060	J,DX	0.000047	0.00000014	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000018	J,DX MB q	0.000047	0.00000036	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.00000070	J,DX MB	0.000047	0.00000020	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000020	J,DX MB	0.000047	0.00000019	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.00000070	J,DX MB q	0.000047	0.00000047	ug/L	1		1613B	Total/NA
OCDD	0.000011	J,DX MB	0.000094	0.00000032	ug/L	1		1613B	Total/NA
OCDF	0.00000085	J,DX MB q	0.000094	0.00000024	ug/L	1		1613B	Total/NA
Total TCDD	0.0000021	J,DX MB	0.0000094	0.00000020	ug/L	1		1613B	Total/NA
Total PeCDF	0.00000060	J,DX	0.000047	0.00000014	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000022	J,DX MB q	0.000047	0.00000035	ug/L	1		1613B	Total/NA
Total HxCDF	0.00000070	J,DX MB	0.000047	0.00000020	ug/L	1		1613B	Total/NA
Total HpCDD	0.0000043	J,DX MB	0.000047	0.00000019	ug/L	1		1613B	Total/NA
Total HpCDF	0.00000070	J,DX MB q	0.000047	0.00000047	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall002_20230505_Comp
Date Collected: 05/05/23 07:05
Date Received: 05/05/23 15:23

Lab Sample ID: 570-137456-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000094	0.00000020	ug/L		05/11/23 12:51	05/22/23 15:18	1
2,3,7,8-TCDF	ND		0.0000094	0.00000012	ug/L		05/11/23 12:51	05/22/23 15:18	1
1,2,3,7,8-PeCDD	ND		0.000047	0.00000027	ug/L		05/11/23 12:51	05/22/23 15:18	1
1,2,3,7,8-PeCDF	**0.00000060**	**J,DX**	0.000047	0.00000014	ug/L		05/11/23 12:51	05/22/23 15:18	1
2,3,4,7,8-PeCDF	ND		0.000047	0.00000016	ug/L		05/11/23 12:51	05/22/23 15:18	1
1,2,3,4,7,8-HxCDD	**0.0000018**	**J,DX MB q**	0.000047	0.00000036	ug/L		05/11/23 12:51	05/22/23 15:18	1
1,2,3,6,7,8-HxCDD	ND		0.000047	0.00000035	ug/L		05/11/23 12:51	05/22/23 15:18	1
1,2,3,7,8,9-HxCDD	ND		0.000047	0.00000035	ug/L		05/11/23 12:51	05/22/23 15:18	1
1,2,3,4,7,8-HxCDF	ND		0.000047	0.00000026	ug/L		05/11/23 12:51	05/22/23 15:18	1
1,2,3,6,7,8-HxCDF	ND		0.000047	0.00000024	ug/L		05/11/23 12:51	05/22/23 15:18	1
1,2,3,7,8,9-HxCDF	**0.00000070**	**J,DX MB**	0.000047	0.00000020	ug/L		05/11/23 12:51	05/22/23 15:18	1
2,3,4,6,7,8-HxCDF	ND		0.000047	0.00000020	ug/L		05/11/23 12:51	05/22/23 15:18	1
1,2,3,4,6,7,8-HpCDD	**0.0000020**	**J,DX MB**	0.000047	0.00000019	ug/L		05/11/23 12:51	05/22/23 15:18	1
1,2,3,4,6,7,8-HpCDF	**0.00000070**	**J,DX MB q**	0.000047	0.00000047	ug/L		05/11/23 12:51	05/22/23 15:18	1
1,2,3,4,7,8,9-HpCDF	ND		0.000047	0.00000049	ug/L		05/11/23 12:51	05/22/23 15:18	1
OCDD	**0.000011**	**J,DX MB**	0.000094	0.00000032	ug/L		05/11/23 12:51	05/22/23 15:18	1
OCDF	**0.00000085**	**J,DX MB q**	0.000094	0.00000024	ug/L		05/11/23 12:51	05/22/23 15:18	1
Total TCDD	**0.0000021**	**J,DX MB**	0.0000094	0.00000020	ug/L		05/11/23 12:51	05/22/23 15:18	1
Total TCDF	ND		0.0000094	0.00000012	ug/L		05/11/23 12:51	05/22/23 15:18	1
Total PeCDD	ND		0.000047	0.00000027	ug/L		05/11/23 12:51	05/22/23 15:18	1
Total PeCDF	**0.00000060**	**J,DX**	0.000047	0.00000014	ug/L		05/11/23 12:51	05/22/23 15:18	1
Total HxCDD	**0.0000022**	**J,DX MB q**	0.000047	0.00000035	ug/L		05/11/23 12:51	05/22/23 15:18	1
Total HxCDF	**0.00000070**	**J,DX MB**	0.000047	0.00000020	ug/L		05/11/23 12:51	05/22/23 15:18	1
Total HpCDD	**0.0000043**	**J,DX MB**	0.000047	0.00000019	ug/L		05/11/23 12:51	05/22/23 15:18	1
Total HpCDF	**0.00000070**	**J,DX MB q**	0.000047	0.00000047	ug/L		05/11/23 12:51	05/22/23 15:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*75*		*26 - 154*	*06/11/23 12:61*	*06/22/23 16:18*	*1*
13C-2,3,7,8-TCDF	*77*		*24 - 159*	*06/11/23 12:61*	*06/22/23 16:18*	*1*
13C-1,2,3,7,8-PeCDD	*73*		*26 - 181*	*06/11/23 12:61*	*06/22/23 16:18*	*1*

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall002_20230505_Comp
Date Collected: 05/05/23 07:05
Date Received: 05/05/23 15:23

Lab Sample ID: 570-137456-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	77		24 - 186	06/11/23 12:61	06/22/23 16:18	1
13C-2,3,4,7,8-PeCDF	71		21 - 178	06/11/23 12:61	06/22/23 16:18	1
13C-1,2,3,4,7,8-HxCDD	70		32 - 141	06/11/23 12:61	06/22/23 16:18	1
13C-1,2,3,5,7,8-HxCDD	70		28 - 130	06/11/23 12:61	06/22/23 16:18	1
13C-1,2,3,4,7,8-HxCDF	71		25 - 162	06/11/23 12:61	06/22/23 16:18	1
13C-1,2,3,5,7,8-HxCDF	74		25 - 123	06/11/23 12:61	06/22/23 16:18	1
13C-1,2,3,7,8,9-HxCDF	83		29 - 147	06/11/23 12:61	06/22/23 16:18	1
13C-2,3,4,5,7,8-HxCDF	82		28 - 135	06/11/23 12:61	06/22/23 16:18	1
13C-1,2,3,4,5,7,8-HpCDD	98		23 - 140	06/11/23 12:61	06/22/23 16:18	1
13C-1,2,3,4,5,7,8-HpCDF	83		28 - 143	06/11/23 12:61	06/22/23 16:18	1
13C-1,2,3,4,7,8,9-HpCDF	98		25 - 138	06/11/23 12:61	06/22/23 16:18	1
13C-OCDD	122		17 - 167	06/11/23 12:61	06/22/23 16:18	1
13C-OCDF	121		17 - 167	06/11/23 12:61	06/22/23 16:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	99		36 - 197	06/11/23 12:61	06/22/23 16:18	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Job ID: 570-137456-2

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)								
570-137456-1	Outfall002_20230505_Comp	99								
MB 320-673873/1-A	Method Blank	101								

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 320-673873/2-A	Lab Control Sample	103								
LCSD 320-673873/3-A	Lab Control Sample Dup	98								

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Job ID: 570-137456-2

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)
570-137456-1	Outfall002_20230505_Comp	76	77	73	77	71	70	70	71
MB 320-673873/1-A	Method Blank	66	69	65	68	66	60	62	64

		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)	OCDF (17-157)
570-137456-1	Outfall002_20230505_Comp	74	83	82	98	83	98	122	121
MB 320-673873/1-A	Method Blank	64	70	69	86	75	88	110	112

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
OCDF = 13C-OCDF

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 320-673873/2-A	Lab Control Sample	72	75	69	73	68	60	63	63
LCSD 320-673873/3-A	Lab Control Sample Dup	68	70	66	70	66	63	67	66

		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)	OCDF (13-199)
LCS 320-673873/2-A	Lab Control Sample	64	75	74	90	75	92	112	117
LCSD 320-673873/3-A	Lab Control Sample Dup	69	77	77	90	77	91	110	112

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: 570-137456-2
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
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
OCDF = 13C-OCDF

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-673873/1-A
Matrix: Water
Analysis Batch: 676633

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 673873

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000038	ug/L		05/11/23 12:51	05/22/23 08:58	1
2,3,7,8-TCDF	ND		0.000010	0.00000013	ug/L		05/11/23 12:51	05/22/23 08:58	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000046	ug/L		05/11/23 12:51	05/22/23 08:58	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000022	ug/L		05/11/23 12:51	05/22/23 08:58	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000025	ug/L		05/11/23 12:51	05/22/23 08:58	1
1,2,3,4,7,8-HxCDD	0.00000220	J,DX q	0.000050	0.00000051	ug/L		05/11/23 12:51	05/22/23 08:58	1
1,2,3,6,7,8-HxCDD	0.00000128	J,DX	0.000050	0.00000047	ug/L		05/11/23 12:51	05/22/23 08:58	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.00000048	ug/L		05/11/23 12:51	05/22/23 08:58	1
1,2,3,4,7,8-HxCDF	0.000000963	J,DX q	0.000050	0.00000035	ug/L		05/11/23 12:51	05/22/23 08:58	1
1,2,3,6,7,8-HxCDF	0.000000903	J,DX	0.000050	0.00000033	ug/L		05/11/23 12:51	05/22/23 08:58	1
1,2,3,7,8,9-HxCDF	0.00000171	J,DX	0.000050	0.00000030	ug/L		05/11/23 12:51	05/22/23 08:58	1
2,3,4,6,7,8-HxCDF	0.000000880	J,DX	0.000050	0.00000028	ug/L		05/11/23 12:51	05/22/23 08:58	1
1,2,3,4,6,7,8-HpCDD	0.00000308	J,DX	0.000050	0.00000026	ug/L		05/11/23 12:51	05/22/23 08:58	1
1,2,3,4,6,7,8-HpCDF	0.00000350	J,DX q	0.000050	0.00000045	ug/L		05/11/23 12:51	05/22/23 08:58	1
1,2,3,4,7,8,9-HpCDF	0.00000100	J,DX q	0.000050	0.00000046	ug/L		05/11/23 12:51	05/22/23 08:58	1
OCDD	0.0000119	J,DX	0.00010	0.00000047	ug/L		05/11/23 12:51	05/22/23 08:58	1
OCDF	0.00000659	J,DX	0.00010	0.00000035	ug/L		05/11/23 12:51	05/22/23 08:58	1
Total TCDD	0.00000137	J,DX	0.000010	0.00000038	ug/L		05/11/23 12:51	05/22/23 08:58	1
Total TCDF	ND		0.000010	0.00000013	ug/L		05/11/23 12:51	05/22/23 08:58	1
Total PeCDD	ND		0.000050	0.00000046	ug/L		05/11/23 12:51	05/22/23 08:58	1
Total PeCDF	ND		0.000050	0.00000022	ug/L		05/11/23 12:51	05/22/23 08:58	1
Total HxCDD	0.00000348	J,DX q	0.000050	0.00000047	ug/L		05/11/23 12:51	05/22/23 08:58	1
Total HxCDF	0.00000445	J,DX q	0.000050	0.00000028	ug/L		05/11/23 12:51	05/22/23 08:58	1
Total HpCDD	0.00000538	J,DX	0.000050	0.00000026	ug/L		05/11/23 12:51	05/22/23 08:58	1
Total HpCDF	0.00000450	J,DX q	0.000050	0.00000045	ug/L		05/11/23 12:51	05/22/23 08:58	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*55*		*26 - 154*	*06/11/23 12:61*	*06/22/23 08:68*	*1*
13C-2,3,7,8-TCD9	*5F*		*24 - 15F*	*06/11/23 12:61*	*06/22/23 08:68*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-673873/1-A
Matrix: Water
Analysis Batch: 676633

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 673873

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDD	56		26 - 181	06/11/23 12:61	06/22/23 08:68	1
13C-1,2,3,7,8-PeCD9	58		24 - 186	06/11/23 12:61	06/22/23 08:68	1
13C-2,3,4,7,8-PeCD9	55		21 - 178	06/11/23 12:61	06/22/23 08:68	1
13C-1,2,3,4,7,8-HxCDD	50		32 - 141	06/11/23 12:61	06/22/23 08:68	1
13C-1,2,3,5,7,8-HxCDD	52		28 - 130	06/11/23 12:61	06/22/23 08:68	1
13C-1,2,3,4,7,8-HxCD9	54		25 - 162	06/11/23 12:61	06/22/23 08:68	1
13C-1,2,3,5,7,8-HxCD9	54		25 - 123	06/11/23 12:61	06/22/23 08:68	1
13C-1,2,3,7,8,F-HxCD9	70		2F - 147	06/11/23 12:61	06/22/23 08:68	1
13C-2,3,4,5,7,8-HxCD9	5F		28 - 135	06/11/23 12:61	06/22/23 08:68	1
13C-1,2,3,4,5,7,8-HpCDD	85		23 - 140	06/11/23 12:61	06/22/23 08:68	1
13C-1,2,3,4,5,7,8-HpCD9	76		28 - 143	06/11/23 12:61	06/22/23 08:68	1
13C-1,2,3,4,7,8,F-HpCD9	88		25 - 138	06/11/23 12:61	06/22/23 08:68	1
13C-OCDD	110		17 - 167	06/11/23 12:61	06/22/23 08:68	1
13C-OCD9	112		17 - 167	06/11/23 12:61	06/22/23 08:68	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	101		36 - 1F7	06/11/23 12:61	06/22/23 08:68	1

Lab Sample ID: LCS 320-673873/2-A
Matrix: Water
Analysis Batch: 676633

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 673873

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,3,7,8-TCDD	0.000200	0.000191		ug/L		95	67 - 158
2,3,7,8-TCDF	0.000200	0.000195		ug/L		97	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.000944		ug/L		94	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.000919		ug/L		92	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000903		ug/L		90	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000918		ug/L		92	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000934		ug/L		93	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.00106		ug/L		106	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000968		ug/L		97	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000995		ug/L		99	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.000946		ug/L		95	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000986		ug/L		99	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000914		ug/L		91	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000890		ug/L		89	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000900		ug/L		90	78 - 138
OCDD	0.00200	0.00179		ug/L		90	78 - 144
OCDF	0.00200	0.00190		ug/L		95	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	72		20 - 176
13C-2,3,7,8-TCD9	76		22 - 162
13C-1,2,3,7,8-PeCDD	5F		21 - 227
13C-1,2,3,7,8-PeCD9	73		21 - 1F2
13C-2,3,4,7,8-PeCD9	58		13 - 328

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-673873/2-A
Matrix: Water
Analysis Batch: 676633

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 673873

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,4,7,8-HxCDD	50		21 - 1F3
13C-1,2,3,5,7,8-HxCDD	53		26 - 153
13C-1,2,3,4,7,8-HxCD9	53		1F - 202
13C-1,2,3,5,7,8-HxCD9	54		21 - 16F
13C-1,2,3,7,8,F-HxCD9	76		17 - 206
13C-2,3,4,5,7,8-HxCD9	74		22 - 175
13C-1,2,3,4,5,7,8-HpCDD	F0		25 - 155
13C-1,2,3,4,5,7,8-HpCD9	76		21 - 168
13C-1,2,3,4,7,8,F-HpCD9	F2		20 - 185
13C-OCDD	112		13 - 1FF
13C-OCD9	117		13 - 1FF

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	103		31 - 1F1

Lab Sample ID: LCSD 320-673873/3-A
Matrix: Water
Analysis Batch: 676633

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 673873

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000204		ug/L		102	67 - 158	7	50
2,3,7,8-TCDF			0.000200	0.000209		ug/L		105	75 - 158	7	50
1,2,3,7,8-PeCDD			0.00100	0.00100		ug/L		100	70 - 142	6	50
1,2,3,7,8-PeCDF			0.00100	0.000975		ug/L		98	80 - 134	6	50
2,3,4,7,8-PeCDF			0.00100	0.000961		ug/L		96	68 - 160	6	50
1,2,3,4,7,8-HxCDD			0.00100	0.000958		ug/L		96	70 - 164	4	50
1,2,3,6,7,8-HxCDD			0.00100	0.000974		ug/L		97	76 - 134	4	50
1,2,3,7,8,9-HxCDD			0.00100	0.00109		ug/L		109	64 - 162	3	50
1,2,3,4,7,8-HxCDF			0.00100	0.00103		ug/L		103	72 - 134	6	50
1,2,3,6,7,8-HxCDF			0.00100	0.00103		ug/L		103	84 - 130	3	50
1,2,3,7,8,9-HxCDF			0.00100	0.00100		ug/L		100	78 - 130	5	50
2,3,4,6,7,8-HxCDF			0.00100	0.00105		ug/L		105	70 - 156	7	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.000953		ug/L		95	70 - 140	4	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.000923		ug/L		92	82 - 122	4	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000929		ug/L		93	78 - 138	3	50
OCDD			0.00200	0.00187		ug/L		94	78 - 144	4	50
OCDF			0.00200	0.00200		ug/L		100	63 - 170	5	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	58		20 - 176
13C-2,3,7,8-TCD9	70		22 - 162
13C-1,2,3,7,8-PeCDD	55		21 - 227
13C-1,2,3,7,8-PeCD9	70		21 - 1F2
13C-2,3,4,7,8-PeCD9	55		13 - 328
13C-1,2,3,4,7,8-HxCDD	53		21 - 1F3
13C-1,2,3,5,7,8-HxCDD	57		26 - 153
13C-1,2,3,4,7,8-HxCD9	55		1F - 202

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-673873/3-A
Matrix: Water
Analysis Batch: 676633

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 673873

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-1,2,3,5,7,8-HxCD9	5F		21 - 16F
13C-1,2,3,7,8,F-HxCD9	77		17 - 206
13C-2,3,4,5,7,8-HxCD9	77		22 - 175
13C-1,2,3,4,5,7,8-HpCDD	F0		25 - 155
13C-1,2,3,4,5,7,8-HpCD9	77		21 - 168
13C-1,2,3,4,7,8,F-HpCD9	F1		20 - 185
13C-OCDD	110		13 - 1FF
13C-OCD9	112		13 - 1FF

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	F8		31 - 1F1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-2
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002 Comp

Specialty Organics

Prep Batch: 673873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	1613B	
MB 320-673873/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-673873/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-673873/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 676633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	1613B	673873
MB 320-673873/1-A	Method Blank	Total/NA	Water	1613B	673873
LCS 320-673873/2-A	Lab Control Sample	Total/NA	Water	1613B	673873
LCSD 320-673873/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	673873

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-2
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002 Comp

Client Sample ID: Outfall002_20230505_Comp
Lab Sample ID: 570-137456-1
Date Collected: 05/05/23 07:05
Matrix: Water
Date Received: 05/05/23 15:23

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			1062.9 mL	20.0 uL	673873	05/11/23 12:51	CGB	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	676633	05/22/23 15:18	DB	EET SAC
	Instrument ID: 12D5									

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-2
Project/Site: Boeing NPDES SSFL - Quarterly 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	08-11-23
Arkansas DEQ	State	88-0691	06-17-23
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-23
Florida	NELAP	E87570	06-30-23
Georgia	State	4040	01-29-24
Hawaii	State	<cert No.>	01-29-24
Illinois	NELAP	200060	03-17-24
Kansas	NELAP	E-10375	10-31-23
Louisiana	NELAP	01944	06-30-23
Louisiana (All)	NELAP	01944	06-30-23
Maine	State	CA00004	04-14-24
Michigan	State	9947	06-01-23
Nevada	State	CA00044	07-31-23
New Hampshire	NELAP	2997	04-18-24
New Jersey	NELAP	CA005	06-30-23
New York	NELAP	11666	04-01-24
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-24
Texas	NELAP	T104704399-19-13	05-31-23
US Fish & Wildlife	US Federal Programs	58448	04-30-24
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442021-12	02-28-24
Virginia	NELAP	460278	03-14-24
Washington	State	C581	05-05-23 *
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-23
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-2
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	EET SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
j ro/ectSBite: goeinNEj DFB BBLQ- u Carterly f Ct2all - 00P Comp

Job ID: 570-137456-P

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-137456-1	f Ct2all00P_P0P30505_Comp	Water	05S05SP3 07:05	05S05SP3 15:P3

All metals to be analyzed by E200.8 (M. Dominick, 5/8/2023)

add: Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene, + PCBs only (E608) (M. Dominick, 5/8/2023)

137456

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 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	
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: Adrien Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									ANALYSIS REQUIRED																				
									R	R	R	R	R	R	R/EP	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-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	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)					Comments
1	Outfall002_20230505_Comp	5/5/2023 0705	WM	500 mL Poly	1	HNO_3	90	Yes	X										X					
			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 hours Holding Time for Turbidity
Outfall 002			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									
2	Outfall002_20230505_Comp_Extra	5/5/2023 0705	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, EP=Expert Panel, R=Routine

Relinquished By: [signature]	Date/Time: 5-5-2023/1150	Company: H&A	Received By: [signature]	Date/Time: 5/5/23 1150 EC
Relinquished By: [signature]	Date/Time: 5/5/23 1523 EC	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__

1.8/1.9 7 H 1.6/1.7 5 H 2.1/2.X 0 H SC6

570-137456 Chain of Custody

2019-2020 Rainy Season
Version 5

5/25/2023

137456

All metals to be analyzed by E200.8 (M. Dominick, 5/8/2023)

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 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	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: Adrien Mobeka	

									ANALYSIS REQUIRED														
									R	R	R	R	R	QRSW	QRSW	QRSW	C/EP						
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 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)		Total Dissolved Metals: Mercury (E245.1)	Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)	Total Recoverable Metals: Hardness as CaCO3	Total Dissolved Metals: Hardness as CaCO3				Comments
3	Outfall002_20230505_Comp_F	5/5/2023 0705	WM	1 L Poly	1	None	190	No									X						
			WM	500 mL Poly	1	HNO_3	80	No										X					
			WM	1L Poly	1	None	200	Yes	X														
			~~WM~~	~~1 L Glass Amber~~	~~2~~	~~None~~	~~250~~	~~No~~							X								Chlordane, DDD, DDE, DDT, dieldrin,PCBs,toxaphene at OF002
Outfall 002			WM	borosilicate vials	2	None	320	No					X										Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
			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	Outfall002_20230505_Comp	5/5/2023 0705	WM	1 L Glass Amber	1	None	230	No															

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Mark Dominick	5-5-2023/1150	H;A		5/5/23 1150 EC
	5/5/23 1523	EC		

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__

5/25/2023

137456

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 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	**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: Adrien Mobeka	

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 (E200.7): 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/EP 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				Comments
1 Outfall 002	Outfall002_20230505_Comp	5/5/2023 0705	WM	500 mL Poly	1	HNO_3	90	Yes	X										X				
			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 hours 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								
2	Outfall002_20230505_Comp_Extra	5/5/2023 0705	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, EP=Expert Panel, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	5-5-2023 1150	H:A	[signature]	5/5/23 1150 EC
[signature]	5/5/23 1523 EC		[signature]	5/5/23 1523

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__

1.8/1.9 1.6/1.7 2.1/2.2 SC6

570-137456 Chain of Custody

2019-2020 Rainy Season
Version 5

137456

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

									R	R	R	R	R	QRSW	QRSW	QRSW	C/EP				
Client Name/Address: Haley & Aldrich, 5333 Mission Center Rd Suite 300, San Diego, CA 92108				Project: Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 002 Comp					ANALYSIS REQUIRED												Comments
Eurofins Calscience Irvine Contact: Virendra Patel, 2841 Dow Avenue, Suite 100, Tustin, CA 92780, Tel: 949-260-3218 **ECI Project # 57013187**				Project Manager: Katherine Miller, 520.289.8606, 520.904.6944 (cell)					Total Dissolved Metals: (E200.7): Zn (E200.7): 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)	Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT; Dieldrin, Toxaphene + PCBs only (E608)	Total Recoverable Metals: Hardness as CaCO3	Total Dissolved Metals: Hardness as CaCO3				
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: Adrien Mobeka																					
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD													
3 Outfall 002	Outfall002_20230505_Comp_F	5/5/2023 0705	WM	1 L Poly	1	None	190	No									X				
			WM	500 mL Poly	1	HNO_3	80	No								X					
			WM	1L Poly	1	None	200	Yes	X												
			WM	1 L Glass Amber	2	None	250	No						X							Chlordane, DDD, DDE, DDT, dieldrin,PCBs,toxaphene at OF002
			WM	borosilicate vials	2	None	320	No					X								Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
1	Outfall002_20230505_Comp	5/5/2023 0705	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 workorcer. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No													

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	5-5-2023 1150	H; A	[signature]	5/5/23 1150 EC
[signature]	5/5/23 1523	EC	[signature]	5/5/23 1523
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__

2019-2020 Rainy Season
Version 5

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-223447.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-137456-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 5/18/2023			
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 - Quarterly Outfall - 002 Comp	Project #: 57013187			
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
Y - Trizma
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 (MOD) Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall002_20230505_Comp (570-137456-1)	5/5/23	07:05 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 Calscience places the ownership of method, analyte & accreditation compliance upon our 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: 05/08/23 6:51	Company EC	Received by:	Date/Time: 05.08 930	Company EEFLMO	
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: 2.9C			

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-137456-2

Login Number: 137456
List Number: 1
Creator: Patel, Jayesh

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: 570-137456-2

Login Number: 137456
List Number: 3
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 05/09/23 02:25 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	2.9c
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	

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

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JOB DESCRIPTION

Boeing NPDES SSFL - Quarterly Outfall - 002 Comp

JOB NUMBER

570-137456-3

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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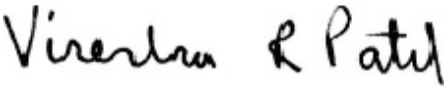

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Authorized for release by
Virendra Patel, Project Manager I
Virendra.Patel@et.eurofinsus.com
(714)895-5494

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-3
Project/Site: Boeing NPDES SSFL - Quarterly 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: 570-137456-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-137456-3

Comments
No additional comments.

Receipt
The samples were received on 5/5/2023 3:23 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 1.5º C, 1.7º C and 2.0º C.

RAD
Method 900.0: Gross Alpha and Gross Beta batch 614041
The detection goal was not met for the following samples due to a reduction of the sample size attributed to high residual mass: Outfall002_20230505_Comp (570-137456-1) and (860-49974-L-1-A). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross Alpha and Gross Beta batch 614041
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_20230505_Comp (570-137456-1), (LCS 160-614041/2-A), (LCSB 160-614041/3-A), (MB 160-614041/1-A), (860-49974-L-1-A), (860-49974-L-1-B MS), (860-49974-L-1-D MSBT), (860-49974-L-1-E MSBTD) and (860-49974-L-1-C MSD)

Method 901.1: Gamma Prep Batch 160-613790
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_20230505_Comp (570-137456-1), (LCS 160-613790/2-A), (MB 160-613790/1-A) and (570-137456-R-1-H DU)

Job ID: 570-137456-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Method 903.0: Radium-226 batch 612737
The Ba Carrier recovery is outside the upper control limit (110%) for the following samples: (240-185518-C-3-A MS) and (240-185518-G-3-A MSD). . Affected samples had a barium correction applied, however there was physical evidence of matrix interference apparent during the initial preparation of the sample. The samples have been truncated to 100% to reduce any potential bias a high carrier recovery may have. The data have been qualified and reported.

Method 903.0: Radium-226 batch 612737
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_20230505_Comp (570-137456-1), (LCS 160-612737/2-A), (MB 160-612737/1-A), (240-185518-L-3-A), (240-185518-C-3-A MS) and (240-185518-G-3-A MSD)

Method 904.0: Radium-228 batch 612738
The Ba Carrier recovery is outside the upper control limit (110%) for the following samples: (240-185518-C-3-B MS) and (240-185518-G-3-B MSD). Affected samples had a barium correction applied, however, there was physical evidence of matrix interference apparent during the initial preparation of the sample. The samples have been truncated to 100% to reduce any potential bias a high carrier recovery may have. The data have been qualified and reported.

Method 904.0: Radium-228 batch 612738
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_20230505_Comp (570-137456-1), (LCS 160-612738/2-A), (MB 160-612738/1-A), (240-185518-L-3-B), (240-185518-C-3-B MS) and (240-185518-G-3-B MSD)

Method 905: Strontium-90 batch 613087
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_20230505_Comp (570-137456-1), (LCS 160-613087/2-A), (LCSD 160-613087/3-A) and (MB 160-613087/1-A)

Method 906.0: Tritium 612276
The detection goal was not met for the following samples due to a shortened count time, which can be attributed to high activity: (880-28321-A-1-A) and (880-28321-A-1-C DU). Analytical results are reported with the detection limit achieved.

Method 906.0: Tritium 612276
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 decay corrected to sample date and time as the Activity Reference Date. Outfall002_20230505_Comp (570-137456-1), (LCS 160-612276/2-A), (MB 160-612276/1-A), (880-28321-A-1-A), (880-28321-A-1-C DU), (880-28321-A-2-A) and (880-28321-A-2-C MS)

Method A-01-R: Isotopic Uranium batch 614279
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_20230505_Comp (570-137456-1), (LCS 160-614279/2-A), (LCSD 160-614279/3-A) and (MB 160-614279/1-A)

Method ExtChrom:

Method ExtChrom: Uranium Prep Batch 160-614279:
Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: Outfall002_20230505_Comp (570-137456-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Job ID: 570-137456-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Method LSC_Dist_Susp:

Method PrecSep_0:

Method PrecSep-21:

Method PrecSep-7: Strontium-90 Prep Batch 160-613087

The following sample was prepared at a reduced aliquot due to Matrix: Outfall002_20230505_Comp (570-137456-1). 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: 570-137456-3
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Client Sample ID: Outfall002_20230505_Comp
Lab Sample ID: 570-137456-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-3
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: _ ut2all004x40430505xComp
Lab Sample ID: 570-137C5f -1
Date Collected: 058058 43 07:05
MatriW / ater
Date Received: 058058 43 15:43

Analyte	Result	Qualifier	Count Uncert. (4σ+8)	Total Uncert. (4σ+8)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.378	U G	7.94	7.94	3.00	15.0	pCi/L	06/01/23 09:24	06/07/23 06:52	1
Gross Beta	**10.O**	**G**	3.55	3.70	4.00	4.75	pCi/L	06/01/23 09:24	06/07/23 06:52	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Job ID: 570-137456-3

Method: EPA 901.1 - Cesium 137 & _ther Gamma Emitters (GS)

Client Sample ID: _ut2all004x40430505xComp
Date Collected: 058058 43 07:05
Date Received: 058058 43 15:43

Lab Sample ID: 570-137C5f -1
MatriW / ater

Analyte	Result	Quali2er	Count Uncert. (4σ+8)	Total Uncert. (4σ+8)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	4.58	U	8.92	8.94	20.0	15.2	pCi/L	05/30/23 14:18	06/02/23 23:18	1
Potassium-40	-38.2	U	138	138		184	pCi/L	05/30/23 14:18	06/02/23 23:18	1

Method: EPA 903.0 - Radium-44f (GFPC)

Client Sample ID: _ ut2all004x40430505xComp
Lab Sample ID: 570-137C5f -1
Date Collected: 058058 43 07:05
Matri W / ater
Date Received: 058058 43 15:43

Analyte	Result	Quali2er	Count Uncert. (4σ+8)	Total Uncert. (4σ+8)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.242	U	0.234	0.235	1.00	0.354	pCi/L	05/23/23 12:17	06/15/23 22:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*61.5*		*30 - 110*	*04/83/83 182 1:*	*05/14/83 882 44*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Job ID: 570-137456-3

Method: EPA 900.0 - Radium-446 (GFPC)

Client Sample ID: _ ut2all004x40430505xComp
Date Collected: 05/05/23 07:05
Date Received: 05/05/23 15:43

Lab Sample ID: 570-137055-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (4σ+8)	Total Uncert. (4σ+8)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.114	U	0.402	0.402	1.00	0.730	pCi/L	05/23/23 12:28	06/15/23 12:27	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*61.5*		*30 - 110*	*05/23/23 12:36*	*06/14/23 18:3:*	*1*
Y Carrier	*60.7*		*30 - 110*	*05/23/23 12:36*	*06/14/23 18:3:*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Job ID: 570-137456-3

Method: EPA 905 - Strontium-90 (GFPC)

Client Sample ID: _ ut2all004x40430505xComp
Date Collected: 058058 43 07:05
Date Received: 058058 43 15:43

Lab Sample ID: 570-137C5f -1
MatriW / ater

Analyte	Result	Quali2er	Count Uncert. (4σ+8)	Total Uncert. (4σ+8)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	-0.260	U	0.325	0.326	3.00	0.646	pCi/L	05/25/23 10:02	06/06/23 16:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*5: .8*		*30 - 110*	*04/84/83 10208*	*05/05/83 152/5*	*1*
9 Carrier	*71.8*		*30 - 110*	*04/84/83 10208*	*05/05/83 152/5*	*1*

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Job ID: 570-137456-3

Method: EPA 90f .0 - Tritium, Total (LSC)

Client Sample ID: _ ut2all004x40430505xComp
Date Collected: 058058 43 07:05
Date Received: 058058 43 15:43

Lab Sample ID: 570-137C5f -1
MatriW / ater

Analyte	Result	Quali2er	Count Uncert. (4σ+8)	Total Uncert. (4σ+8)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-91.0	U	150	150	500	289	pCi/L	05/19/23 09:02	05/22/23 17:53	1

Method: D_ E A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: _ ut2all004x40430505xComp
Lab Sample ID: 570-137C5f -1
Date Collected: 058058 43 07:05
Matri W / ater
Date Received: 058058 43 15:43

Analyte	Result	Quali2er	Count Uncert. (4σ+8)	Total Uncert. (4σ+8)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	**3.71**		0.852	0.879	1.00	0.252	pCi/L	06/02/23 10:58	06/07/23 22:01	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-838	*: 3.1*		*30 - 110*	*05/08/83 102 46*	*05/0: /83 882 01*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Job ID: 570-137456-3

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (30-110)
570-137456-1	Outfall002_20230505_Comp	81.6
LCS 160-612737/2-A	Lab Control Sample	96.4
MB 160-612737/1-A	Method Blank	89.3

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
570-137456-1	Outfall002_20230505_Comp	81.6	80.4
LCS 160-612738/2-A	Lab Control Sample	96.4	81.9
MB 160-612738/1-A	Method Blank	89.3	86.4

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Sr (30-110)	Y (30-110)
570-137456-1	Outfall002_20230505_Comp	67.2	91.2
LCS 160-613087/2-A	Lab Control Sample	81.4	93.1
LCSD 160-613087/3-A	Lab Control Sample Dup	82.7	89.3
MB 160-613087/1-A	Method Blank	81.4	82.6

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)
Lab Sample ID	Client Sample ID	U-232 (30-110)
570-137456-1	Outfall002_20230505_Comp	73.1
LCS 160-614279/2-A	Lab Control Sample	52.1
LCSD 160-614279/3-A	Lab Control Sample Dup	76.5
MB 160-614279/1-A	Method Blank	62.3

Tracer/Carrier Legend

U-232 = Uranium-232

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-3
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-614041/1-A
Matrix: Water
Analysis Batch: 614768

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 614041

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
8 roUAlpha	-0.05673	G	0.705	0.705	3.00	1.34	pCi/L	06/01/23 09:24	06/07/23 07:00	1
8 roUBeta	0.1s75	G	0.4s0	0.4s0	4.00	0.s30	pCi/L	06/01/23 09:24	06/07/23 07:00	1

Lab Sample ID: LCS 160-614041/2-A
Matrix: Water
Analysis Batch: 614768

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 614041

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
8 roUAlpha	49.6	45.9s		6.67	3.00	1.49	pCi/L	93	75 - 125

Lab Sample ID: LCSB 160-614041/3-A
Matrix: Water
Analysis Batch: 614768

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 614041

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
8 roUBeta	73.1	66.39		7.16	4.00	0.915	pCi/L	91	75 - 125

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-613790/1-A
Matrix: Water
Analysis Batch: 614403

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 613790

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
CeUum-137	2.s94	G	7.10	7.11	20.0	12.4	pCi/L	05/30/23 14:1s	06/02/23 20:34	1
PotaUium-40	-9.614	G	73.s	73.s		137	pCi/L	05/30/23 14:1s	06/02/23 20:34	1

Lab Sample ID: LCS 160-613790/2-A
Matrix: Water
Analysis Batch: 614403

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 613790

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Americium-241	135000	141000		16s00		443	pCi/L	104	79 - 121
CeUum-137	40700	42090		5020	20.0	113	pCi/L	103	s7 - 115
Cobalt-60	17400	1s240		21s0		29.2	pCi/L	105	ss - 116

Lab Sample ID: 570-137456-1 DU
Matrix: Water
Analysis Batch: 614754

Client Sample ID: Outfall002_20230505_Comp
Prep Type: Total/NA
Prep Batch: 613790

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
CeUum-137	4.5s	G	-6.469	G 8	12.4	20.0	20.s	pCi/L	0.52	1
PotaUium-40	-3s.2	G	-152.7	G	219		220	pCi/L	0.32	1

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Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-612737/1-A
Matrix: Water
Analysis Batch: 616150

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 612737

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.01994	G	0.177	0.177	1.00	0.344	pCi/L	05/23/23 12:17	06/15/23 22:53	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*67.3*		*30 - 110*	*04/83/83 1821:*	*05/14/83 8824:3*	*1*

Lab Sample ID: LCS 160-612737/2-A
Matrix: Water
Analysis Batch: 616150

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 612737

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			11.3	10.56		1.32	1.00	0.306	pCi/L	93	75 - 113		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*75.9*		*30 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-612738/1-A
Matrix: Water
Analysis Batch: 616174

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 612738

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-22s	-0.13s9	G	0.252	0.252	1.00	0.514	pCi/L	05/23/23 12:2s	06/15/23 12:27	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*67.3*		*30 - 110*	*04/83/83 1823:6*	*05/14/83 1823:*	*1*
Y Carrier	*65.9*		*30 - 110*	*04/83/83 1823:6*	*05/14/83 1823:*	*1*

Lab Sample ID: LCS 160-612738/2-A
Matrix: Water
Analysis Batch: 616174

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 612738

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-22s			s.12	s.401		1.17	1.00	0.454	pCi/L	103	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*75.9*		*30 - 110*
Y Carrier	*61.7*		*30 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-613087/1-A
Matrix: Water
Analysis Batch: 614548

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 613087

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	-0.0s226	G	0.163	0.163	3.00	0.310	pCi/L	05/25/23 10:02	06/06/23 16:43	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*61.9*		*30 - 110*	*04/84/83 1020*	*05/05/83 1523*	*1*
Y Carrier	*68.5*		*30 - 110*	*04/84/83 1020*	*05/05/83 1523*	*1*

Lab Sample ID: LCS 160-613087/2-A
Matrix: Water
Analysis Batch: 614548

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 613087

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Strontium-90			7.31	6.s7s		0.74s	3.00	0.24s	pCi/L	94	77 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*61.9*		*30 - 110*
Y Carrier	*73.1*		*30 - 110*

Lab Sample ID: LCSD 160-613087/3-A
Matrix: Water
Analysis Batch: 614548

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 613087

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Strontium-90			7.31	7.002		0.762	3.00	0.254	pCi/L	96	77 - 125	0.0s	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*68.:*		*30 - 110*
Y Carrier	*67.3*		*30 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-612276/1-A
Matrix: Water
Analysis Batch: 612710

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 612276

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-9.459	G	151	151	500	271	pCi/L	05/19/23 09:02	05/22/23 13:16	1

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: LCS 160-612276/2-A
Matrix: Water
Analysis Batch: 612710

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 612276

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Tritium	20s0	1925		351	500	2s6	pCi/L	93	75 - 125

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-614279/1-A
Matrix: Water
Analysis Batch: 614791

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 614279

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Granium	0.07ss0	G	0.1061	0.1062	1.00	0.170	pCi/L	06/02/23 10:5s	06/07/23 22:01	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-838	*58.3*		*30 - 110*	*05/08/83 1024*6	*05/0: /83 882*1	*1*

Lab Sample ID: LCS 160-614279/2-A
Matrix: Water
Analysis Batch: 614792

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 614279

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Granium-234	12.7	11.s6		1.64	1.00	0.1s4	pCi/L	93	75 - 125
Granium-23s	13.0	12.90		1.73	1.00	0.1s4	pCi/L	99	75 - 125

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-838	*48.1*		*30 - 110*

Lab Sample ID: LCSD 160-614279/3-A
Matrix: Water
Analysis Batch: 614796

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 614279

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Granium-234	12.7	13.5s		1.62	1.00	0.165	pCi/L	107	75 - 125	0.53	1
Granium-23s	13.0	12.33		1.51	1.00	0.126	pCi/L	95	75 - 125	0.1s	1

Tracer	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Uranium-838	*: 5.4*		*30 - 110*

Rad

Prep Batch: 612276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-612276/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-612276/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 612737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	PrecSep-21	
MB 160-612737/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-612737/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 612738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	PrecSep_0	
MB 160-612738/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-612738/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 613087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	PrecSep-7	
MB 160-613087/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-613087/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-613087/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Prep Batch: 613790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-613790/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-613790/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-137456-1 DU	Outfall002_20230505_Comp	Total/NA	Water	Fill_Geo-0	

Prep Batch: 614041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	Evaporation	
MB 160-614041/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-614041/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-614041/3-A	Lab Control Sample	Total/NA	Water	Evaporation	

Prep Batch: 614279

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	Outfall002_20230505_Comp	Total/NA	Water	ExtChrom	
MB 160-614279/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-614279/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
LCSD 160-614279/3-A	Lab Control Sample Dup	Total/NA	Water	ExtChrom	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-3
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002 Comp

Client Sample ID: Outfall002_20230505_Comp
Lab Sample ID: 570-137456-1
Date Collected: 05/05/23 07:05
Matrix: Water
Date Received: 05/05/23 15:23

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			40.16 mL	1.0 g	614041	06/01/23 09:24	CTH	EET SL
Total/NA	Analysis	900.0		1			614733	06/07/23 06:52	FLC	EET SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	613790	05/30/23 14:18	SAC	EET SL
Total/NA	Analysis	901.1		1			614403	06/02/23 23:18	CAH	EET SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			748.18 mL	1.0 g	612737	05/23/23 12:17	KAC	EET SL
Total/NA	Analysis	903.0		1			616149	06/15/23 22:55	FLC	EET SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			748.18 mL	1.0 g	612738	05/23/23 12:28	KAC	EET SL
Total/NA	Analysis	904.0		1			616174	06/15/23 12:27	FLC	EET SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	PrecSep-7			500.39 mL	1.0 g	613087	05/25/23 10:02	KAC	EET SL
Total/NA	Analysis	905		1			614548	06/06/23 16:46	FLC	EET SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	LSC_Dist_Susp			99.94 mL	1.0 g	612276	05/19/23 09:02	DJP	EET SL
Total/NA	Analysis	906.0		1			612710	05/22/23 17:53	REV	EET SL
	Instrument ID: LSCAQUA									
Total/NA	Prep	ExtChrom			254.3 mL	1.0 mL	614279	06/02/23 10:58	SEH	EET SL
Total/NA	Analysis	A-01-R		1			614797	06/07/23 22:01	FLC	EET SL
	Instrument ID: ALPHAVISION									

Laboratory References:
EET 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: 570-137456-3
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Laboratory: Eurofins Stl 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	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-23
North Dakota	State	R-207	06-30-23
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-24
Washington	State	C592	08-30-23
West Virginia DEP	State	381	10-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-3
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	EET SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	EET SL
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
905	Strontium-90 (GFPC)	EPA	EET SL
906.0	Tritium, Total (LSC)	EPA	EET SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	EET SL
Evaporation	Preparation, Evaporation	None	EET SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	EET SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	EET SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	EET SL

Protocol References:

DOE = U.S. Department of Energy
EPA = US Environmental Protection Agency
None = None

Laboratory References:

EET 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 - Quarterly Outfall - 002
Comp

Job ID: 570-137456-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-137456-1	Outfall002_20230505_Comp	Water	05/05/23 07:05	05/05/23 15:23

All metals to be analyzed by E200.8 (M. Dominick, 5/8/2023)

add: Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene, + PCBs only (E608) (M. Dominick, 5/8/2023)

137456

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 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	
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: Adrien Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									ANALYSIS REQUIRED																
									R	R	R	R	R	R	R/EP	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-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	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)					Comments
1	Outfall002_20230505_Comp	5/5/2023 0705	WM	500 mL Poly	1	HNO_3	90	Yes	X										X					
			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 hours Holding Time for Turbidity
Outfall 002			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									
2	Outfall002_20230505_Comp_Extra	5/5/2023 0705	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, EP=Expert Panel, R=Routine

Relinquished By: Mark Dominick	Date/Time: 5-5-2023 1150	Company: H&A	Received By: [illegible]	Date/Time: 5/5/23 1150	EC
Relinquished By: [illegible]	Date/Time: 5/5/23 1523	Company: EC	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__

1.8/1.9 7 H 1.6/1.7 5 H 2.1/2.X 0 H SC6

570-137456 Chain of Custody

2019-2020 Rainy Season
Version 5

6/19/2023

137456

All metals to be analyzed by E200.8 (M. Dominick, 5/8/2023)

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:	Project Manager:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 002 Comp	Katherine Miller 520.289.8606, 520.904.6944 (cell)
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**		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: Adrien Mobeka		

									ANALYSIS REQUIRED													
									R	R	R	R	R	QRSW	QRSW	QRSW	C/EP					
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: ~~(E200.8)~~ 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)	Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)	Total Recoverable Metals: Hardness as CaCO3	Total Dissolved Metals: Hardness as CaCO3				Comments
3	Outfall002_20230505_Comp_F	5/5/2023 0705	WM	1 L Poly	1	None	190	No									X					
			WM	500 mL Poly	1	HNO_3	80	No										X				
			WM	1L Poly	1	None	200	Yes	X													
			~~WM~~	~~1 L Glass Amber~~	~~2~~	~~None~~	~~250~~	~~No~~							X							Chlordane, DDD, DDE, DDT, dieldrin,PCBs,toxaphene at OF002
Outfall 002			WM	borosilicate vials	2	None	320	No					X									Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
			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	Outfall002_20230505_Comp	5/5/2023 0705	WM	1 L Glass Amber	1	None	230	No														

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Matt Dominick	5-5-2023/1150	H;A	[signature]	5/5/23 1150 EC
[signature]	5/5/23 1523	EC		

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__

6/19/2023

2019-2020 Rainy Season
Version 5

137456

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 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	**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: Adrien Mobeka	

									ANALYSIS REQUIRED																
									R	R	R	R	R	R	R/EP	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 (E200.7): Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	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)					Comments
Outfall 002	Outfall002_20230505_Comp	5/5/2023 1705	WM	500 mL Poly	1	HNO_3	90	Yes	X										X					
			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 hours 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									
2	Outfall002_20230505_Comp_Extra	5/5/2023 1705	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, EP=Expert Panel, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Mark Dominick	5-5-2023 1150	H:A		5/5/23 1150 EC
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	5/5/23 1523 EC			5/5/23 1523
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__

1.8/1.9 1.6/1.7 2.1/2.2 SC6

570-137456 Chain of Custody

2019-2020 Rainy Season
Version 5

137456

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

									R	R	R	R	R	QRSW	QRSW	QRSW	C/EP				
Client Name/Address: Haley & Aldrich, 5333 Mission Center Rd Suite 300, San Diego, CA 92108				Project: Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 002 Comp					ANALYSIS REQUIRED												Comments
Eurofins Calscience Irvine Contact: Virendra Patel, 2841 Dow Avenue, Suite 100, Tustin, CA 92780, Tel: 949-260-3218 **ECI Project # 57013187**				Project Manager: Katherine Miller, 520.289.8606, 520.904.6944 (cell)					Total Dissolved Metals: (E200.7): Zn (E200.7): 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)	Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)	Total Recoverable Metals: Hardness as CaCO3	Total Dissolved Metals: Hardness as CaCO3				
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Sampler: Adrien Mobeka																					
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD													
3 Outfall 002	Outfall002_20230505_Comp_F	5/5/2023 0705	WM	1 L Poly	1	None	190	No									X				
			WM	500 mL Poly	1	HNO_3	80	No								X					
			WM	1L Poly	1	None	200	Yes	X												
			WM	1 L Glass Amber	2	None	250	No						X							Chlordane, DDD, DDE, DDT, dieldrin,PCBs,toxaphene at OF002
			WM	borosilicate vials	2	None	320	No					X								Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
1	Outfall002_20230505_Comp	5/5/2023 0705	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 workorcer. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No													

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	5-5-2023 1150	H; A	[signature]	5/5/23 1150 EC
[signature]	5/5/23 1523	EC	[signature]	5/5/23 1523
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__

2019-2020 Rainy Season
Version 5

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-223625.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-137456-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 6/12/2023			
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 - Quarterly Outfall - 002 Comp	Project #: 57013187			
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, Y - Trizma, 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_20230505_Comp (570-137456-1)	5/5/23	07:05 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 Calscience places the ownership of method, analyte & accreditation compliance upon our 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:	Company	Received by:	Date/Time:	Company
fedex	05/08/23 13:25	EC	fedex		
Relinquished by: fedex	Date/Time:	Company	Received by: Brenda Sharkey - Hazard	Date/Time: 5/9/23 0845	Company ETAS TC
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: 570-13765/ -3

Login Number: 137456
List Number: 1
Creator: Patel, Jayesh

List Source: Eurofins Calscience

Question	Answer	Comment
v adioactiwity s a' nlk chec<ed or i' =Rg bac<Tround a' mea' ured by a ' urwey meter.	NRA	
f he coolerlk cu' tody ' eal, ipSre' ent, i' intact.	f rue	
OamSle cu' tody ' eal' , ipSre' ent, are intact.	f rue	
f he cooler or ' amSle' do not aSSear to hawe been comSromi' ed or tamSered s ith.	f rue	
OamSle' s ere receiwed on ice.	f rue	
Cooler f emSerature i' acceStable.	f rue	
Cooler f emSerature i' recorded.	f rue	
CF C i' Sre' ent.	f rue	
CF C i' pilled out in in< and leTible.	f rue	
CF C i' pilled out s ith all Sertinent inpormation.	f rue	
I' the ?ield OamSlerlk name Sre' ent on CF C(	f rue	
f here are no di' creSancie' bets een the container' receiwed and the CF C.	f rue	
OamSle' are receiwed s ithin HoldinT f ime xe) cludinT te' t' s ith immediate Hf ' P	f rue	
OamSle container' hawe leTible label' .	f rue	
Container' are not bro<en or lea<inT.	f rue	
OamSle collection dateRime' are Srowided.	f rue	
ASSroSriate ' amSle container' are u' ed.	f rue	
OamSle bottle' are comSletely pilled.	f rue	
OamSle Vre' erwation qeripied.	f rue	
f here i' ' upicient wol. por all reMue' ted analy' e' , incl. any reMue' ted DORDOz '	f rue	
Container' reMuirinT 4ero head' Sace hawe no head' Sace or bubble i' =/ mm x1R6"P.	f rue	
DultiSha' ic ' amSle' are not Sre' ent.	f rue	
OamSle' do not reMuire ' SlittinT or comSo' itinT.	f rue	
v e' idual Chlorine Chec<ed.	NRA	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-13765/ -3

Login Number: 137456
List Number: 2
Creator: Sharkey-Gonzalez, Briana L

List Source: Eurofins St. Louis
List Creation: 05/09/23 01:28 PM

Question	Answer	Comment
v adioactiwity s a' nlt chec<ed or i' =Rg bac<Tround a' mea' ured by a ' urwey meter.	f rue	
f he coolerlk cu' tody ' eal, ipSre' ent, i' intact.	f rue	
OamSle cu' tody ' eal' , ipSre' ent, are intact.	f rue	
f he cooler or ' amSle' do not aSSear to hawe been comSromi' ed or tamSered s ith.	f rue	
OamSle' s ere receiwed on ice.	f rue	
Cooler f emSerature i' acceStable.	f rue	
Cooler f emSerature i' recorded.	f rue	
CF C i' Sre' ent.	f rue	
CF C i' pilled out in in< and leTible.	f rue	
CF C i' pilled out s ith all Sertinent inpormation.	f rue	
I' the ?ield OamSlerlk name Sre' ent on CF C(	f rue	
f here are no di' creSancie' bets een the container' receiwed and the CF C.	f rue	
OamSle' are receiwed s ithin HoldinT f ime xe) cludinT te' t' s ith immediate Hf ' P	f rue	
OamSle container' hawe leTible label' .	f rue	
Container' are not bro<en or lea<inT.	f rue	
OamSle collection dateRime' are Srowided.	f rue	
ASSroSriate ' amSle container' are u' ed.	f rue	
OamSle bottle' are comSletely pilled.	f rue	
OamSle Vre' erwation qeripied.	f rue	
f here i' ' upicient wol. por all reMue' ted analy' e' , incl. any reMue' ted DORDOz '	f rue	
Container' reMuirinT 4ero head' Sace hawe no head' Sace or bubble i' =/ mm x1R6"P.	f rue	
DultiSha' ic ' amSle' are not Sre' ent.	f rue	
OamSle' do not reMuire ' SlittinT or comSo' itinT.	f rue	
v e' idual Chlorine Chec<ed.	NRA	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 6/13/2023 11:28:55 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Quarterly Outfall - 002 Comp

JOB NUMBER

570-137456-4

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

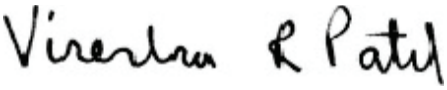
myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization



Generated
6/13/2023 11:28:55 AM

Authorized for release by
Virendra Patel, Project Manager I
Virendra.Patel@et.eurofinsus.com
(714)895-5494

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QC Sample Results 9
QC Association Summary 10
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Sample Summary 14
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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-4
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

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: 570-137456-4
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002 Comp

Job ID: 570-137456-4

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-137456-4

Comments
No additional comments.

Receipt
The samples were received on 5/5/2023 3:23 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 1.5º C, 1.7º C and 2.0º C.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic 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: 570-137456-4
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Client Sample ID: Outfall002_20230505_Comp **Lab Sample ID: 570-137456-1**

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-4
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Method: EPA 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: Outfall002_20230505_Comp
Date Collected: 05/05/23 07:05
Date Received: 05/05/23 15:23

Lab Sample ID: 570-137456-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		05/08/23 12:09	06/12/23 11:53	1
Aroclor 1221	ND		0.10	0.044	ug/L		05/08/23 12:09	06/12/23 11:53	1
Aroclor 1232	ND		0.10	0.044	ug/L		05/08/23 12:09	06/12/23 11:53	1
Aroclor 1242	ND		0.10	0.044	ug/L		05/08/23 12:09	06/12/23 11:53	1
Aroclor 1248	ND		0.10	0.044	ug/L		05/08/23 12:09	06/12/23 11:53	1
Aroclor 1254	ND		0.10	0.052	ug/L		05/08/23 12:09	06/12/23 11:53	1
Aroclor 1260	ND		0.10	0.052	ug/L		05/08/23 12:09	06/12/23 11:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*42*		*20 - 154*	*05/08/23 12:09*	*06/12/23 11:53*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002 Comp

Job ID: 570-137456-4

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)**
570-137456-1	Outfall002_20230505_Comp	42
LCS 570-327173/4-A	Lab Control Sample	62
LCSD 570-327173/5-A	Lab Control Sample Dup	57
MB 570-327173/1-A	Method Blank	94

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-4
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 570-327173/1-A
Matrix: Water
Analysis Batch: 327917

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 327173

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		05/08/23 12:09	05/11/23 00:17	1
Aroclor 1221	ND		0.10	0.044	ug/L		05/08/23 12:09	05/11/23 00:17	1
Aroclor 1232	ND		0.10	0.044	ug/L		05/08/23 12:09	05/11/23 00:17	1
Aroclor 1242	ND		0.10	0.044	ug/L		05/08/23 12:09	05/11/23 00:17	1
Aroclor 1248	ND		0.10	0.044	ug/L		05/08/23 12:09	05/11/23 00:17	1
Aroclor 1254	ND		0.10	0.052	ug/L		05/08/23 12:09	05/11/23 00:17	1
Aroclor 1260	ND		0.10	0.052	ug/L		05/08/23 12:09	05/11/23 00:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*94*		*20 - 154*	*05/08/23 12:09*	*05/11/23 00:17*	*1*

Lab Sample ID: LCS 570-327173/4-A
Matrix: Water
Analysis Batch: 327917

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 327173

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Aroclor 1016			0.133	0.0884	J,DX	ug/L		66	50 - 140		
Aroclor 1260			0.133	0.111		ug/L		83	8 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*62*		*20 - 154*

Lab Sample ID: LCSD 570-327173/5-A
Matrix: Water
Analysis Batch: 327917

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 327173

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aroclor 1016			0.133	0.122		ug/L		91	50 - 140	32	36
Aroclor 1260			0.133	0.0998	J,DX	ug/L		75	8 - 140	11	38

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*57*		*20 - 154*

2 Cl en t HCa y &Cdr chler ,
. dbPr rj/ lri : Soi leB g . DN/ / / EF - L CHdri dCa u QnHC- 00f
2 omp

Job ID: 570-137456-4

GC Semi VOA

Prep Batch: 327173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	u QnHC00f Tf 0f 30505T2 omp	MbrHQg &	WHri d	60_	
8 S 570-3f 7173j1-&	8 i ncoA SCHek	MbrHQg &	WHri d	60_	
F2 / 570-3f 7173j4-&	FHb 2 oendbC' HmpC	MbrHQg &	WHri d	60_	
F2 / D 570-3f 7173j5-&	FHb 2 oendbC' HmpC DQp	MbrHQg &	WHri d	60_	

Analysis Batch: 327917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
8 S 570-3f 7173j1-&	8 i ncoA SCHek	MbrHQg &	WHri d	60_,3	3f 7173
F2 / 570-3f 7173j4-&	FHb 2 oendbC' HmpC	MbrHQg &	WHri d	60_,3	3f 7173
F2 / D 570-3f 7173j5-&	FHb 2 oendbC' HmpC DQp	MbrHQg &	WHri d	60_,3	3f 7173

Analysis Batch: 336399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-137456-1	u QnHC00f Tf 0f 30505T2 omp	MbrHQg &	WHri d	60_,3	3f 7173

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002 Comp

Job ID: 570-137456-4

Client Sample ID: Outfall002_20230505_Comp
Date Collected: 05/05/23 07:05
Date Received: 05/05/23 15:23

Lab Sample ID: 570-137456-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			1500 mL	1 mL	327173	05/08/23 12:09	USUL	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	336399	06/12/23 11:53	OM8W	EET CAL 4
	Instrument ID: GC66									

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-4
Project/Site: Boeing NPDES SSFL - Quarterly 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
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Kansas	NELAP	E-10420	07-31-23
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23 *
Washington	State	C916-18	10-11-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-137456-4
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Method	Method Description	Protocol	Laboratory
608.3	Polychlorinated Biphenyls (PCBs) (GC)	EPA	EET CAL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	EPA	EET CAL 4

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall - 002
Comp

Job ID: 570-137456-4

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-137456-1	Outfall002_20230505_Comp	Water	05/05/23 07:05	05/05/23 15:23

All metals to be analyzed by E200.8 (M. Dominick, 5/8/2023)

add: Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene, + PCBs only (E608) (M. Dominick, 5/8/2023)

137456

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 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	**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: Adrien Mobeka	

									ANALYSIS REQUIRED																
									R	R	R	R	R	R	R/EP	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-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	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)					Comments
1	Outfall002_20230505_Comp	5/5/2023 0705	WM	500 mL Poly	1	HNO_3	90	Yes	X										X					
			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 hours Holding Time for Turbidity
Outfall 002			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									
2	Outfall002_20230505_Comp_Extra	5/5/2023 0705	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, EP=Expert Panel, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	5-5-2023/1150	H&A	[signature]	5/5/23 1150 EC
[signature]	5/5/23 1523	EC		

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__

1.8/1.9 7 H 1.6/1.7 5 H 2.1/2.2 0 H SC6

570-137456 Chain of Custody

2019-2020 Rainy Season
Version 5

6/13/2023

137456

All metals to be analyzed by E200.8 (M. Dominick, 5/8/2023)

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
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: 949-260-3218
ECI Project # 57013187

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: Adrien Mobeka

Project:
Boeing-SSFL NPDES
Permit 2023
Quarterly Outfall [001, 002, 011, 018]
Outfall 002
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	R: Total Dissolved Metals: ([illegible]) Zn ([illegible]) 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	R: Total Dissolved Metals: Mercury (E245.1)	QRSW: Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)	QRSW: Total Recoverable Metals: Hardness as CaCO3	QRSW: Total Dissolved Metals: Hardness as CaCO3	C/EP			Comments
Outfall 002 (3)	Outfall002_20230505_Comp_F	5/5/2023 /0705	WM	1 L Poly	1	None	190	No								X				
			WM	500 mL Poly	1	HNO_3	80	No							X					
			WM	1L Poly	1	None	200	Yes	X											
			~~WM~~	~~1 L Glass Amber~~	~~2~~	~~None~~	~~250~~	~~No~~						X						Chlordane, DDD, DDE, DDT, dieldrin,PCBs,toxaphene at OF002
			WM	borosilicate vials	2	None	320	No					X							Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
(1)	Outfall002_20230505_Comp	5/5/2023 /0705	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												

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
M Dominick	5-5-2023/1150	H; A	[signature]	5/5/23 1150 EC
[signature]	5/5/23 1523	EC		

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__

137456

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 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	**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: Adrien Mobeka	

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 (E200.7): 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/EP 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				Comments
1	Outfall002_20230505_Comp	5/5/2023 0705	WM	500 mL Poly	1	HNO_3	90	Yes	X										X				
			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 hours Holding Time for Turbidity
Outfall 002			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								
2	Outfall002_20230505_Comp_Extra	5/5/2023 0705	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, EP=Expert Panel, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	5-5-2023 1150	H:A	[signature]	5/5/23 1150 EC
[signature]	5/5/23 1523 EC		[signature]	5/5/23 1523

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__

1.8/1.9 1.6/1.7 2.1/2.2 SC6

570-137456 Chain of Custody

2019-2020 Rainy Season
Version 5

137456

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:	Project Manager:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 002 Comp	Katherine Miller 520.289.8606, 520.904.6944 (cell)
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**		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: Adrien Mobeka		

									ANALYSIS REQUIRED												
									R	R	R	R	R	QRSW	QRSW	QRSW	C/EP				
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.7): Zn (E200.7): 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)	Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)	Total Recoverable Metals: Hardness as CaCO3	Total Dissolved Metals: Hardness as CaCO3				Comments
3 Outfall 002	Outfall002_20230505_Comp_F	5/5/2023 0705	WM	1 L Poly	1	None	190	No										X				
			WM	500 mL Poly	1	HNO_3	80	No									X					
			WM	1L Poly	1	None	200	Yes	X													
			WM	1 L Glass Amber	2	None	250	No							X							Chlordane, DDD, DDE, DDT, dieldrin,PCBs,toxaphene at OF002
			WM	borosilicate vials	2	None	320	No					X									Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
1	Outfall002_20230505_Comp	5/5/2023 0705	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 workorcer. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No														

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	5-5-2023 1150	H; A	[signature]	5/5/23 1150 EC
[signature]	5/5/23 1523	EC	[signature]	5/5/23 1523

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__

2019-2020 Rainy Season
Version 5

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 570-13765/ -6

Login Number: 137456 **List Source: Eurofins Calscience**
List Number: 1
Creator: Patel, Jayesh

Question	Answer	Comment
v adioactiwity s a' nlt chec<ed or i' =Rg bac<Tround a' mea' ured by a ' urwey meter.	NRA	
f he coolerlk cu' tody ' eal, ipSre' ent, i' intact.	f rue	
OamSle cu' tody ' eal' , ipSre' ent, are intact.	f rue	
f he cooler or ' amSle' do not aSSear to hawe been comSromi' ed or tamSered s ith.	f rue	
OamSle' s ere receiwed on ice.	f rue	
Cooler f emSerature i' acceStable.	f rue	
Cooler f emSerature i' recorded.	f rue	
CF C i' Sre' ent.	f rue	
CF C i' pilled out in in< and leTible.	f rue	
CF C i' pilled out s ith all Sertinent inpormation.	f rue	
I' the ?ield OamSlerlk name Sre' ent on CF C(	f rue	
f here are no di' creSancie' bets een the container' receiwed and the CF C.	f rue	
OamSle' are receiwed s ithin HoldinT f ime xe) cludinT te' t' s ith immediate Hf ' P	f rue	
OamSle container' hawe leTible label' .	f rue	
Container' are not bro<en or lea<inT.	f rue	
OamSle collection dateRime' are Srowided.	f rue	
ASSroSriate ' amSle container' are u' ed.	f rue	
OamSle bottle' are comSletely pilled.	f rue	
OamSle Vre' erwation qeripied.	f rue	
f here i' ' upicient wol. por all reMue' ted analy' e' , incl. any reMue' ted DORDOz '	f rue	
Container' reMuirinT 4ero head' Sace hawe no head' Sace or bubble i' =/ mm x1R6"P.	f rue	
DultiSha' ic ' amSle' are not Sre' ent.	f rue	
OamSle' do not reMuire ' SlittinT or comSo' itinT.	f rue	
v e' idual Chlorine Chec<ed.	NRA	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 6/23/2023 8:15:43 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Outfall 002 - Grab

JOB NUMBER

570-140562-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

Virendra R Patil

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Authorized for release by
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(714)895-5494

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-140562-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Qualifiers

GC/MS mV O

Qualifier	Qualifier DesAriction
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

General Cpeh istry

Qualifier	Qualifier DesAriction
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Glossary

Obbreviation	Tpese Aoh h only used abbreviations h ay or h ay not be cresent in tpis recort.
¤	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: 570-140562-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-140562-1

Comments
No additional comments.

Receipt
The samples were received on 6/6/2023 6:08 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 1.7º C.

GC/MS VOA
Method 624.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-334860. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

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.

General Chemistry
Method SM 2540F: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with analytical batch 570-335277.

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

Organic Prep
Method 1664A: The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.
Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-335118.
Method 1664A.

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.
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Job ID: 570-140562-1

Client Sample ID: Outfall001_10120303_4 raG — baG Sample ID: L507- 60L317-

Analyte	Result	Qualifier	Rb	MDb	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.77	J,DX	1.0	0.35	ug/L	2		624.1	Total/NA
HEM (Oil & Grease)	0.80	J,DX	1.0	0.51	mg/L	1		1664A	Total/NA
Specific Conductance	730		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: TB710120303 — baG Sample ID: L507- 60L3172

No Detections.

This Detection Summary does not include radiochemical test results.

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall002_20230606_Grab
Lab Sample ID: 570-140562-1
Date Collected: 06/06/23 07:25
Matrix: Water
Date Received: 06/06/23 18:08

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		1.0	0.67	ug/L			06/06/23 21:53	2
1,2-Dichloroethane	ND		1.0	0.30	ug/L			06/06/23 21:53	2
Trichloroethene	**0.77**	**J,DX**	1.0	0.35	ug/L			06/06/23 21:53	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*60 - 140*		*06/06/23 21:53*	*2*
4-Bromofluorobenzene (Surr)	*97*		*60 - 140*		*06/06/23 21:53*	*2*
Dibromofluoromethane (Surr)	*96*		*60 - 140*		*06/06/23 21:53*	*2*
Toluene-d8 (Surr)	*103*		*60 - 140*		*06/06/23 21:53*	*2*

Client Sample ID: TB-20230606
Lab Sample ID: 570-140562-3
Date Collected: 06/06/23 07:25
Matrix: Water
Date Received: 06/06/23 18:08

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			06/06/23 21:31	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			06/06/23 21:31	1
Trichloroethene	ND		0.50	0.17	ug/L			06/06/23 21:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 140*		*06/06/23 21:31*	*1*
4-Bromofluorobenzene (Surr)	*98*		*60 - 140*		*06/06/23 21:31*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 140*		*06/06/23 21:31*	*1*
Toluene-d8 (Surr)	*109*		*60 - 140*		*06/06/23 21:31*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-140562-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

General Chemistry

Client Sample ID: Outfall002_20230606_Grab
Lab Sample ID: 570-140562-1
Date Collected: 06/06/23 07:25
Matrix: Water
Date Received: 06/06/23 18:08

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664A)	**0.80**	**J,DX**	1.0	0.51	mg/L		06/07/23 08:28	06/07/23 12:56	1
Specific Conductance (SM 2510B)	**730**		1.0	1.0	umhos/cm			06/17/23 00:21	1
Settleable Solids (SM 2540F)	ND		0.10	0.10	mL/L			06/07/23 15:20	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-140562-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(60-140)	(60-140)	(60-140)	(60-140)
570-140562-1	Outfall002_20230606_Grab	99	97	96	103
570-140562-3	TB-20230606	97	98	101	109
LCS 570-334860/1003	Lab Control Sample	101	95	98	100
LCSD 570-334860/4	Lab Control Sample Dup	107	99	97	105
MB 570-334860/6	Method Blank	105	100	100	104

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-334x60/6
Matrix: Water
Analysis Batch: 334x60

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			06/06/23 15:20	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			06/06/23 15:20	1
Trichloroethene	ND		0.50	0.17	ug/L			06/06/23 15:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*60 - 140*		*06/06/23 15:20*	*1*
4-Bromofluorobenzene (Surr)	*100*		*60 - 140*		*06/06/23 15:20*	*1*
Dibromofluoromethane (Surr)	*100*		*60 - 140*		*06/06/23 15:20*	*1*
Toluene-d8 (Surr)	*104*		*60 - 140*		*06/06/23 15:20*	*1*

Lab Sample ID: LCS 570-334x60/1003
Matrix: Water
Analysis Batch: 334x60

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			10.0	12.7		ug/L		127	50 - 150		
1,2-Dichloroethane			10.0	10.2		ug/L		102	70 - 130		
Trichloroethene			10.0	9.90		ug/L		99	65 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*60 - 140*
4-Bromofluorobenzene (Surr)	*95*		*60 - 140*
Dibromofluoromethane (Surr)	*98*		*60 - 140*
Toluene-d8 (Surr)	*100*		*60 - 140*

Lab Sample ID: LCSD 570-334x60/4
Matrix: Water
Analysis Batch: 334x60

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RTD	RTD Limit
1,1-Dichloroethene			10.0	11.8		ug/L		118	50 - 150	8	32
1,2-Dichloroethane			10.0	10.4		ug/L		104	70 - 130	3	49
Trichloroethene			10.0	10.6		ug/L		106	65 - 135	7	48

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*107*		*60 - 140*
4-Bromofluorobenzene (Surr)	*99*		*60 - 140*
Dibromofluoromethane (Surr)	*97*		*60 - 140*
Toluene-d8 (Surr)	*105*		*60 - 140*

Method: 1664F - E8M and SGy-E8M

Lab Sample ID: MB 570-33511x/1-F
Matrix: Water
Analysis Batch: 335235

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33511x

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		06/07/23 08:28	06/07/23 12:56	1

Client: Haley & Aldrich, Inc.
Job ID: 570-140562-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Method: 1664F - E8M and SGy-E8M

Lab Sample ID: LCS 570-33511x/2-F
MatriW P ater
FnalNsis Batch: 335235

Client Sample ID: Lab Control Sample
Trep yNpe: yotal/AF
Trep Batch: 33511x

FnalNte			Spike Fdded	LCS Result	LCS Quali%er	f nit	D	H Rec	H Rec Limits		
HEM (Oil & Grease)			40.0	37.6		mg/L		94	78 - 114		

Lab Sample ID: LCSD 570-33511x/3-F
MatriW P ater
FnalNsis Batch: 335235

Client Sample ID: Lab Control Sample Dup
Trep yNpe: yotal/AF
Trep Batch: 33511x

FnalNte			Spike Fdded	LCSD Result	LCSD Quali%er	f nit	D	H Rec	H Rec Limits	RTD	RTD Limit
HEM (Oil & Grease)			40.0	37.1		mg/L		93	78 - 114	1	18

Method: SM 2510B - Conducti9itNvSpeci%c Conductance

Lab Sample ID: MB 570-33x10, /141
MatriW P ater
FnalNsis Batch: 33x10,

Client Sample ID: Method Blank
Trep yNpe: yotal/AF

FnalNte	MB Result	MB Quali%er	RL	MDL	f nit	D	Trepared	FnalNUed	Dil zac
Specific Conductance	ND		1.0	1.0	umhos/cm			06/16/23 23:53	1

QC Association Summary

Job ID: 570-13052C-1

GC/MS VOA

Analysis Batch: 334860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13052C-1	u f HGii00C4C0C_02024Woyb	TohyiSEd	6 yHic	2C3P1	
570-13052C-_	Tg-C0C_0202	TohyiSEd	6 yHic	2C3P1	
Mg 570-__3820S2	MnH,or giyt 9	TohyiSEd	6 yHic	2C3P1	
Cl B 570-__3820S100_	Oyb l ot Hdoi Byk min	TohyiSEd	6 yHic	2C3P1	
Cl BD 570-__3820S3	Oyb l ot Hdoi Byk min Df m	TohyiSEd	6 yHic	2C3P1	

General Chemistry

Prep Batch: 335118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13052C-1	u f HGii00C4C0C_02024Woyb	TohyiSEd	6 yHic	1223d	
Mg 570-__5118S1-d	MnH,or giyt 9	TohyiSEd	6 yHic	1223d	
Cl B 570-__5118SC-d	Oyb l ot Hdoi Byk min	TohyiSEd	6 yHic	1223d	
Cl BD 570-__5118S_-d	Oyb l ot Hdoi Byk min Df m	TohyiSEd	6 yHic	1223d	

Analysis Batch: 335235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13052C-1	u f HGii00C4C0C_02024Woyb	TohyiSEd	6 yHic	1223d	__5118
Mg 570-__5118S1-d	MnH,or giyt 9	TohyiSEd	6 yHic	1223d	__5118
Cl B 570-__5118SC-d	Oyb l ot Hdoi Byk min	TohyiSEd	6 yHic	1223d	__5118
Cl BD 570-__5118S_-d	Oyb l ot Hdoi Byk min Df m	TohyiSEd	6 yHic	1223d	__5118

Analysis Batch: 335277

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13052C-1	u f HGii00C4C0C_02024Woyb	TohyiSEd	6 yHic	BM C530L	

Analysis Batch: 338109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13052C-1	u f HGii00C4C0C_02024Woyb	TohyiSEd	6 yHic	BM C510g	
Mg 570-__810pS131	MnH,or giyt 9	TohyiSEd	6 yHic	BM C510g	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-140562-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Client Sample ID: Outfall002_20230606_Grab
Lab Sample ID: 570-140562-1
Date Collected: 06/06/23 07:25
Matrix: Water
Date Received: 06/06/23 18:08

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		2	10 mL	10 mL	334860	06/06/23 21:53	N1A	EET CAL 4
	Instrument ID: GCMSJJ									
Total/NA	Prep	1664A			1002 mL	1000 mL	335118	06/07/23 08:28	RY4P	EET CAL 4
Total/NA	Analysis	1664A		1			335235	06/07/23 12:56	VB5S	EET CAL 4
	Instrument ID: NO EQUIQ									
Total/NA	Analysis	SM 2510B		1			338109	06/17/23 00:21	UAPD	EET CAL 4
	Instrument ID: ManSciMantech									
Total/NA	Analysis	SM 2540F		1	1000 mL	1 L	335277	06/07/23 15:20	TXA8	EET CAL 4
	Instrument ID: NOEQUIP									

Client Sample ID: TB-20230606
Lab Sample ID: 570-140562-3
Date Collected: 06/06/23 07:25
Matrix: Water
Date Received: 06/06/23 18:08

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	334860	06/06/23 21:31	N1A	EET CAL 4
	Instrument ID: GCMSJJ									

Laboratory References:
EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-140562-1
Project/Site: Boeing NPDES SSFL - 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
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Kansas	NELAP	E-10420	07-31-23
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23 *
Washington	State	C916-18	10-11-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-140562-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	EPA	EET CAL 4
1664A	HEM and SGT-HEM	1664A	EET CAL 4
SM 2510B	Conductivity, Specific Conductance	SM	EET CAL 4
SM 2540F	Solids, Settleable	SM	EET CAL 4
1664A	HEM and SGT-HEM (Aqueous)	1664A	EET CAL 4

Protocol References:

1664A = EPA-821-98-002

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-140562-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-140562-1	Outfall002_20230606_Grab	Water	06/06/23 07:25	06/06/23 18:08
570-140562-3	TB-20230606	Water	06/06/23 07:25	06/06/23 18:08

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

EDB: J60X

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 2023 Routine Outfall [001, 002, 011, 018] Outfall 002 Grab	R R R R	Field Readings: (Include units) Time of Readings: 0725	
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**			DO 15.24 mg/L pH 7.19 pH unit Temp 62.9 °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)			
Sampler: Adrien Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Field readings QC Checked by: Date/Time: 6.6.2023 / 0725	

	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
1	Outfall 002	Outfall002_20230606_Grab	6/6/2023 / 0725	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	
2		Outfall002_20230606_Grab_Extra	6/6/2023 / 0725	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
3	Trip Blanks	TB-20230606	6/6/2023 / 0725	WQ	40 mL VOA	2	HCl	30	No		X			

570-140562 Chain of Custody

Legend: R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	6-6-2023/1100	ECI	[signature]	6/6/23 1100 EC
[signature]	6/6/23 1808	EC	[signature]	6-6-23 18:08

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__

1.8/1.7 SCIL

2019-2020 Rainy Season
Version 4

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-140562-1

Login Number: 140562
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

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

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JOB DESCRIPTION

Boeing NPDES SSFL - Outfall 002 - Grab

JOB NUMBER

570-140746-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

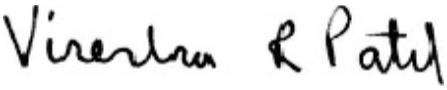
myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization



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Authorized for release by
Virendra Patel, Project Manager I
Virendra.Patel@et.eurofinsus.com
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Qualifiers

Metals

Qualifier	Qualifier Description
S&	Xi CHsi mi dri enAlui d eri oOnour oendbC
Sv	/ H; mC < Hwmd mmi A bi aoeA rci wmi rlui A coClleB rl; i
JHD(	Nwrl; Hri A sHCCl MsHCCl QQ< i wnwrHeAHdA)> ¤ F"hbOnprcHe > DF

General Chemistry

Qualifier	Qualifier Description
JHD(	Nwrl; Hri A sHCCl MsHCCl QQ< i wnwrHeAHdA)> ¤ F"hbOnprcHe > DF

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
%	Flwi A OeAi drci RDRroCl; e ro Ai wlBeHri rcHnrci d wCClwd mochi A oe H Ada < i lBcnbHwlw
q X	. i dri enXi rosi da
2 EF	2 oerHewEd i FlUClA
2 Ev	2 oCea Eod; leB v eln
2 g E	2 oerHewg o Ed i FlUClA
DNX	DOmlC Hri NdbdXHrlo)eod; HClzi A HbwoClri Alui d eri "
DICEHr	DICInoe EHr rod
DF	Di ri r rloe Fl; ln)DoDjDL N"
DFhX&hXNhlg	leAlr Hri wH DlCChoehXi -HeHCawlwhXi -i xrdHr rloehodHAAlnoeHCIelnlHC; i rHCljHeloe HeHCawlwourci wH; mC
DF2	Di rlwloe Fi si C2 oeri endHrloe)XHAlor ci ; lwnda"
NDF	Nwrl; Hri A Di ri r rloe Fl; ln)Dloxle"
FL D	Fl; lnouDi ri r rloe)DoDjDL N"
FL ¤	Fl; lnou¤ CHenlrHrloe)DoDjDL N"
> 2 F	N. & d r o; ; i eAi A R> Hxl; Q 2 oerH; leHenFi si CR
> D&	> lel; Q Di ri r rHbC &rrlslra)XHAlor ci ; lwnda"
> D2	> lel; Q Di ri r rHbC 2 oeri endHrloe)XHAlor ci ; lwnda"
> DF	> i rcoA Di ri r rloe Fl; ln
> F	> lel; Q Fi si C)Dloxle"
> . g	> own. dbbHbC g Q bi d
> ¤ F	> i rcoA ¤ CHenlrHrloe Fl; ln
g 2	g on2 HCCOCri A
g D	g onDi ri r ri A Hrrci d mochleB C; ln)od> DF odNDF luwco< e"
g NG	g i BHrlsi j &bwi en
. L /	. owlrlsi j . d wi en
. ¤ F	. dHr lr HC¤ CHenlrHrloe Fl; ln
. XN/	. d wQ mlsi
¤ 2	¤ CHCla 2 oendbC
XNX	Xi CHrlsi NdbdXHrlo)XHAlor ci ; lwnda"
XF	Xi modrleB Fl; lnodXi UCl wri A Fl; ln)XHAlor ci ; lwnda"
X. D	Xi CHrlsi . i dri enDlui d eri hH; i HwOd ourci d CHrlsi Alui d eri bi r<i i e r<o molenw
TNE	Toxlr lra NUClsHCenEHr rod)Dloxle"
TN¤	Toxlr lra NUClsHCen¤ Corli en)Dloxle"
Tg T2	Too g Q i dbOwTo 2 oCen

Job ID: 570-140746-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-140746-1

Comments
No additional comments.

Receipt
The samples were received on 6/7/2023 6:07 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 1.7º C, 2.0º C and 2.1º C.

GC/MS Semi VOA
Method 625.1 SIM: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 570-336680 and analytical batch 570-337264 recovered outside control limits for the following analyte(s): Pyridine. Pyridine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method 625.1 SIM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 570-336680 and analytical batch 570-337264 recovered outside control limits for the following analytes: Pyridine.

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

HPLC/IC
Method 300.0: Due to the high concentration of Chloride and Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 570-335075 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

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 245.1: The method blank for preparation batch 570-335427 and 570-335428 and analytical batch 570-335627 contained Mercury above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 245.1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 570-335426 and analytical batch 570-335627 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method Filtration: The following samples were not filtered within 15 minutes of sample collection as required by the method: Outfall002_20230607_Comp_F (570-140746-3), Outfall002_20230607_Comp_F (570-140746-3[MS]) and Outfall002_20230607_Comp_F (570-140746-3[MSD]) . The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall002_20230607_Comp_F (570-140746-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

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

General Chemistry

Job ID: 570-140746-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

Method SM 5540C: Sample result concentrations for methylene blue active substances (MBAS) are calculated as LAS, mol. wt. 320.

Method Kelada 01: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 570-336908 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 570-336309. 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 570-336680. 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.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Job ID: 570-140746-1

Client Sample ID: Outfall002_2023050L_Comp

ba7 Sample ID: - L01460L6514

Analyte	Result	Qualifier	Rb	MDb	Unit	Dil Fac	D	Method	Prep Type
Chloride	25		1.0	0.36	mg/L	1		300.0	Total/NA
Sulfate - DL	120		10	2.4	mg/L	10		300.0	Total/NA
Aluminum	32		15	8.6	ug/L	1		200.8	Total Recoverable
Copper	0.98	J,DX	2.0	0.32	ug/L	1		200.8	Total Recoverable
Zinc	3.7	J,DX	20	2.8	ug/L	1		200.8	Total Recoverable
Ammonia	0.031	J,DX	0.075	0.029	mg/L	1		350.1	Total/NA
Turbidity	0.55		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Dissolved Solids	490		10	8.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	1.4		1.0	0.83	mg/L	1		SM 2540D	Total/NA
Biochemical Oxygen Demand	5.2		2.0	1.0	mg/L	1		SM 5210B	Total/NA

Client Sample ID: Outfall002_2023050L_Comp_F

ba7 Sample ID: - L01460L6513

Analyte	Result	Qualifier	Rb	MDb	Unit	Dil Fac	D	Method	Prep Type
Aluminum	19	BU	15	8.6	ug/L	1		200.8	Dissolved
Selenium	0.71	J,DX BU	2.0	0.52	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-140746-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: Outfall002_20230607_Comp
Lab Sample ID: 570-140746-1
Date Collected: 06/07/23 08:30
Matrix: Water
Date Received: 06/07/23 18:07

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		0.95	0.13	ug/L		06/13/23 06:18	06/14/23 18:26	1
2,4-Dinitrotoluene	ND		0.19	0.11	ug/L		06/13/23 06:18	06/14/23 18:26	1
Bis(2-ethylhexyl) phthalate	ND		4.7	3.4	ug/L		06/13/23 06:18	06/14/23 18:26	1
N-Nitrosodimethylamine	ND		0.19	0.18	ug/L		06/13/23 06:18	06/14/23 18:26	1
Pentachlorophenol	ND		0.95	0.80	ug/L		06/13/23 06:18	06/14/23 18:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*70*		*31 - 124*	*4/ 8/13 23 4/ :16*	*4/ 8/10 23 16:2/*	*1*
5henol-P/ (Surr)	*3d*		*14 - 124*	*4/ 8/13 23 4/ :16*	*4/ 8/10 23 16:2/*	*1*
p-Terphenyl-P10 (Surr)	*96*		*0d - 124*	*4/ 8/13 23 4/ :16*	*4/ 8/10 23 16:2/*	*1*
2,0,/ -Tribromophenol	*140*		*26 - 127*	*4/ 8/13 23 4/ :16*	*4/ 8/10 23 16:2/*	*1*
2-Fluorophenol	*d1*		*17 - 124*	*4/ 8/13 23 4/ :16*	*4/ 8/10 23 16:2/*	*1*
Nitrobenzene-Pd	*76*		*27 - 124*	*4/ 8/13 23 4/ :16*	*4/ 8/10 23 16:2/*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-140746-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Method: EPA 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall002_20230607_Comp
Lab Sample ID: 570-140746-1
Date Collected: 06/07/23 08:30
Matrix: Water
Date Received: 06/07/23 18:07

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		06/12/23 08:37	06/13/23 14:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*d4*		*24 - 139*	*4/ 8/ 12 23 46:37*	*4/ 8/ 13 23 10:49*	*1*
DCB Decachlorobiphenyl (Surr)	*/ 3*		*24 - 1d0*	*4/ 8/ 12 23 46:37*	*4/ 8/ 13 23 10:49*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-140746-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Method: EPA 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall002_20230607_Comp
Lab Sample ID: 570-140746-1
Date Collected: 06/07/23 08:30
Matrix: Water
Date Received: 06/07/23 18:07

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**25**		1.0	0.36	mg/L			06/08/23 04:48	1
Nitrite as N	ND		0.10	0.043	mg/L			06/08/23 04:48	1
Nitrate as N	ND		0.10	0.020	mg/L			06/08/23 04:48	1

Client: Haley & Aldrich, Inc.
Job ID: 570-140746-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Client Sample ID: Outfall002_20230607_Comp
Lab Sample ID: 570-140746-1
Date Collected: 06/07/23 08:30
Matrix: Water
Date Received: 06/07/23 18:07

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	120		10	2.4	mg/L			06/08/23 05:05	10

Client: Haley & Aldrich, Inc.
Job ID: 570-140746-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Method: EPA 314.0 - Perchlorate (IC)

Client Sample ID: Outfall002_20230607_Comp
Lab Sample ID: 570-140746-1
Date Collected: 06/07/23 08:30
Matrix: Water
Date Received: 06/07/23 18:07

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			06/13/23 16:49	1

Client: Haley & Aldrich, Inc.
Job ID: 570-140746-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Method: EPA NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall002_20230607_Comp
Lab Sample ID: 570-140746-1
Date Collected: 06/07/23 08:30
Matrix: Water
Date Received: 06/07/23 18:07

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	0.020	mg/L			06/09/23 14:31	1

Client: Haley & Aldrich, Inc.
Job ID: 570-140746-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall002_20230607_Comp
Lab Sample ID: 570-140746-1
Date Collected: 06/07/23 08:30
Matrix: Water
Date Received: 06/07/23 18:07

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**32**		15	8.6	ug/L		06/08/23 06:41	06/08/23 10:48	1
Cadmium	ND		1.0	0.13	ug/L		06/08/23 06:41	06/08/23 10:48	1
Copper	**0.98**	**J,DX**	2.0	0.32	ug/L		06/08/23 06:41	06/08/23 10:48	1
Lead	ND		1.0	0.12	ug/L		06/08/23 06:41	06/08/23 10:48	1
Selenium	ND		2.0	0.52	ug/L		06/08/23 06:41	06/08/23 10:48	1
Zinc	**3.7**	**J,DX**	20	2.8	ug/L		06/08/23 06:41	06/08/23 10:48	1

Client: Haley & Aldrich, Inc.
Job ID: 570-140746-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall002_20230607_Comp_F
Lab Sample ID: 570-140746-3
Date Collected: 06/07/23 08:30
Matrix: Water
Date Received: 06/07/23 18:07

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**19**	**BU**	15	8.6	ug/L			06/08/23 13:49	1
Cadmium	ND	BU	1.0	0.13	ug/L			06/08/23 13:49	1
Copper	ND	BU	2.0	0.32	ug/L			06/08/23 13:49	1
Lead	ND	BU	1.0	0.12	ug/L			06/08/23 13:49	1
Selenium	**0.71**	**J,DX BU**	2.0	0.52	ug/L			06/08/23 13:49	1
Zinc	ND	BU	20	2.8	ug/L			06/08/23 13:49	1

Client: Haley & Aldrich, Inc.
Job ID: 570-140746-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: Outfall002_20230607_Comp
Lab Sample ID: 570-140746-1
Date Collected: 06/07/23 08:30
Matrix: Water
Date Received: 06/07/23 18:07

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		06/07/23 21:15	06/08/23 16:09	1

Client: Haley & Aldrich, Inc.
Job ID: 570-140746-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Method: EPA 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall002_20230607_Comp_F
Lab Sample ID: 570-140746-3
Date Collected: 06/07/23 08:30
Matrix: Water
Date Received: 06/07/23 18:07

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.20	0.12	ug/L		06/07/23 21:25	06/08/23 15:12	1

Client: Haley & Aldrich, Inc.
Job ID: 570-140746-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

General Chemistry

Client Sample ID: Outfall002_20230607_Comp
Date Collected: 06/07/23 08:30
Date Received: 06/07/23 18:07

Lab Sample ID: 570-140746-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	**0.031**	**J,DX**	0.075	0.029	mg/L		06/13/23 11:02	06/13/23 12:42	1
Cyanide, Total (EPA Kelada 01)	ND		5.0	2.5	ug/L			06/12/23 17:09	1
Turbidity (SM 2130B)	**0.55**		0.05	0.05	NTU			06/08/23 15:41	1
Total Dissolved Solids (SM 2540C)	**490**		10	8.7	mg/L			06/13/23 20:21	1
Total Suspended Solids (SM 2540D)	**1.4**		1.0	0.83	mg/L			06/08/23 12:32	1
Biochemical Oxygen Demand (SM 5210B)	**5.2**		2.0	1.0	mg/L		06/08/23 11:53	06/08/23 13:30	1
MBAS (SM 5540C)	ND		0.20	0.050	mg/L		06/07/23 20:30	06/07/23 21:38	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-140746-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

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)
570-140746-1	Outfall002_20230607_Comp	74	35	98	104	51	78
LCS 570-336680/2-A	Lab Control Sample	97	50	97	116	72	88
LCSD 570-336680/3-A	Lab Control Sample Dup	98	50	99	118	72	89
MB 570-336680/1-A	Method Blank	70	43	86	120	63	88

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)
570-140746-1	Outfall002_20230607_Comp	50	63
LCS 570-336309/2-A	Lab Control Sample	65	67
LCSD 570-336309/3-A	Lab Control Sample Dup	58	61
MB 570-336309/1-A	Method Blank	57	61

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl (Surr)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-336690/1-4

MatriA: x ater
4 nalTsis Batch: 33726N

Client Sample ID: Method Blank
Wrep PTpe: Potal/y 4
Wrep Batch: 336690

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.14	ug/L		06/13/23 06:18	06/14/23 13:36	1
2,4-Dinitrotoluene	ND		0.20	0.12	ug/L		06/13/23 06:18	06/14/23 13:36	1
Bis(2-ethylhexyl) phthalate	ND		5.0	3.6	ug/L		06/13/23 06:18	06/14/23 13:36	1
N-Nitrosodimethylamine	ND		0.20	0.19	ug/L		06/13/23 06:18	06/14/23 13:36	1
Pentachlorophenol	ND		1.0	0.84	ug/L		06/13/23 06:18	06/14/23 13:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*70*		*31 - 120*	*04/13/23 04:16*	*04/18/23 13:34*	*1*
5henol-P4 (Surr)	*83*		*10 - 120*	*04/13/23 04:16*	*04/18/23 13:34*	*1*
p-derphenyl-P18 (Surr)	*64*		*8T - 120*	*04/13/23 04:16*	*04/18/23 13:34*	*1*
2934-dribro, ophenol	*120*		*26 - 127*	*04/13/23 04:16*	*04/18/23 13:34*	*1*
2-Fluorophenol	*43*		*17 - 120*	*04/13/23 04:16*	*04/18/23 13:34*	*1*
mixobent ene-PT	*66*		*27 - 120*	*04/13/23 04:16*	*04/18/23 13:34*	*1*

Lab Sample ID: LCS 570-336690/2-4

MatriA: x ater
4 nalTsis Batch: 33726N

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4
Wrep Batch: 336690

4 nalTte	Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4,6-Trichlorophenol	20.0	20.5		ug/L		103	52 - 129
2,4-Dinitrotoluene	20.0	24.3		ug/L		122	48 - 127
Bis(2-ethylhexyl) phthalate	20.0	21.6		ug/L		108	29 - 137
N-Nitrosodimethylamine	20.0	12.9		ug/L		65	20 - 120
Pentachlorophenol	20.0	22.0		ug/L		110	38 - 152

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*z7*		*31 - 120*
5henol-P4 (Surr)	*T0*		*10 - 120*
p-derphenyl-P18 (Surr)	*z7*		*8T - 120*
2934-dribro, ophenol	*114*		*26 - 127*
2-Fluorophenol	*72*		*17 - 120*
mixobent ene-PT	*66*		*27 - 120*

Lab Sample ID: LCSD 570-336690/3-4

MatriA: x ater
4 nalTsis Batch: 33726N

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Potal/y 4
Wrep Batch: 336690

4 nalTte	Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
2,4,6-Trichlorophenol	20.0	20.6		ug/L		103	52 - 129	0	35
2,4-Dinitrotoluene	20.0	24.8		ug/L		124	48 - 127	2	25
Bis(2-ethylhexyl) phthalate	20.0	21.9		ug/L		109	29 - 137	1	50
N-Nitrosodimethylamine	20.0	13.9		ug/L		70	20 - 120	7	21
Pentachlorophenol	20.0	23.4		ug/L		117	38 - 152	6	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*z6*		*31 - 120*
5henol-P4 (Surr)	*T0*		*10 - 120*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-336690/3-4
MatriA: x ater
4 nalTsis Batch: 33726N

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Potal/y 4
Wrep Batch: 336690

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
p-derphenyl-P18 (Surr)	zz		8T - 120
2989 4-dribro, ophenol	116		26 - 127
2-Fluorophenol	72		17 - 120
mitobent ene-PT	6z		27 - 120

Method: 609.3 - Organochlorine Westicides in x ater

Lab Sample ID: MB 570-336308/1-4
MatriA: x ater
4 nalTsis Batch: 336N50

Client Sample ID: Method Blank
Wrep PTpe: Potal/y 4
Wrep Batch: 336308

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		06/12/23 08:36	06/13/23 12:29	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
delachloro-, -xylene	T7		20 - 13z	04/12/23 06:34	04/13/23 12:2z	1
DCB Decachlorobiphenyl (Surr)	41		20 - 1T8	04/12/23 06:34	04/13/23 12:2z	1

Lab Sample ID: LCS 570-336308/2-4
MatriA: x ater
4 nalTsis Batch: 336N50

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4
Wrep Batch: 336308

4 nalTte			Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
alpha-BHC			0.0333	0.0227		ug/L		68	37 - 140		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
delachloro-, -xylene	4T		20 - 13z
DCB Decachlorobiphenyl (Surr)	47		20 - 1T8

Lab Sample ID: LCSD 570-336308/3-4
MatriA: x ater
4 nalTsis Batch: 336N50

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Potal/y 4
Wrep Batch: 336308

4 nalTte			Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
alpha-BHC			0.0333	0.0202		ug/L		61	37 - 140	11	36

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
delachloro-, -xylene	T6		20 - 13z
DCB Decachlorobiphenyl (Surr)	41		20 - 1T8

Method: 300.0 - 4 nions, Ion ChromatographT

Lab Sample ID: MB 570-33507N/5
MatriA: x ater
4 nalTsis Batch: 33507N

Client Sample ID: Method Blank
Wrep PTpe: Potal/y 4

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
Nitrite as N	ND		0.10	0.043	mg/L			06/07/23 06:29	1

Method: 300.0 - 4 nions, Ion ChromatographT (Continued)

Lab Sample ID: MB 570-33507N/5
MatriA: x ater
4 nalTsis Batch: 33507N

Client Sample ID: Method Blank
Wrep PTpe: Potal/y 4

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
Nitrate as N	ND		0.10	0.020	mg/L			06/07/23 06:29	1

Lab Sample ID: LCS 570-33507N/6
MatriA: x ater
4 nalTsis Batch: 33507N

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	2.50	2.49		mg/L		100	90 - 110
Nitrate as N	5.00	4.87		mg/L		97	90 - 110

Lab Sample ID: LCSD 570-33507N/7
MatriA: x ater
4 nalTsis Batch: 33507N

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Nitrite as N	2.50	2.54		mg/L		102	90 - 110	2	15
Nitrate as N	5.00	4.86		mg/L		97	90 - 110	0	15

Lab Sample ID: MB 570-335075/5
MatriA: x ater
4 nalTsis Batch: 335075

Client Sample ID: Method Blank
Wrep PTpe: Potal/y 4

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
Chloride	ND		1.0	0.36	mg/L			06/07/23 06:29	1
Sulfate	ND		1.0	0.24	mg/L			06/07/23 06:29	1

Lab Sample ID: LCS 570-335075/6
MatriA: x ater
4 nalTsis Batch: 335075

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	48.2		mg/L		96	90 - 110
Sulfate	50.0	48.5		mg/L		97	90 - 110

Lab Sample ID: LCSD 570-335075/7
MatriA: x ater
4 nalTsis Batch: 335075

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Chloride	50.0	48.2		mg/L		96	90 - 110	0	15
Sulfate	50.0	48.5		mg/L		97	90 - 110	0	15

Method: 31N.0 - Werchlorate (IC)

Lab Sample ID: MB 570-33677N/1N
MatriA: x ater
4 nalTsis Batch: 33677N

Client Sample ID: Method Blank
Wrep PTpe: Potal/y 4

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			06/13/23 15:52	1

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: LCS 570-336774/15
Matrix: Water
Analysis Batch: 336774
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	24.1		ug/L		96	85 - 115

Lab Sample ID: LCSD 570-336774/16
Matrix: Water
Analysis Batch: 336774
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	24.2		ug/L		97	85 - 115	0	15

Method: 200.9 - Metals (ICWMS)

Lab Sample ID: MB 570-335450/1-A
Matrix: Water
Analysis Batch: 335598
Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 335450

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		15	8.6	ug/L		06/08/23 06:41	06/08/23 10:41	1
Cadmium	ND		1.0	0.13	ug/L		06/08/23 06:41	06/08/23 10:41	1
Copper	ND		2.0	0.32	ug/L		06/08/23 06:41	06/08/23 10:41	1
Lead	ND		1.0	0.12	ug/L		06/08/23 06:41	06/08/23 10:41	1
Selenium	ND		2.0	0.52	ug/L		06/08/23 06:41	06/08/23 10:41	1
Zinc	ND		20	2.8	ug/L		06/08/23 06:41	06/08/23 10:41	1

Lab Sample ID: LCS 570-335450/2-A
Matrix: Water
Analysis Batch: 335598
Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 335450

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	80.0	84.9		ug/L		106	85 - 115
Cadmium	80.0	85.0		ug/L		106	85 - 115
Copper	80.0	86.3		ug/L		108	85 - 115
Lead	80.0	84.5		ug/L		106	85 - 115
Selenium	80.0	80.6		ug/L		101	85 - 115
Zinc	80.0	83.2		ug/L		104	85 - 115

Lab Sample ID: LCSD 570-335450/3-A
Matrix: Water
Analysis Batch: 335598
Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 335450

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aluminum	80.0	80.6		ug/L		101	85 - 115	5	20
Cadmium	80.0	83.1		ug/L		104	85 - 115	2	20
Copper	80.0	83.8		ug/L		105	85 - 115	3	20
Lead	80.0	83.4		ug/L		104	85 - 115	1	20
Selenium	80.0	79.0		ug/L		99	85 - 115	2	20
Zinc	80.0	80.6		ug/L		101	85 - 115	3	20

Method: 200.9 - Metals (ICWMS) (Continued)

Lab Sample ID: 570-1N07N6-1 MS
MatriA: x ater
4 nalTsis Batch: 335598

Client Sample ID: Outfall002_20230607_Comp
Wrep PTpe: Potal Recoverable
Wrep Batch: 335N50

4 nalTte	Sample Result	Sample Qualifier	Spike 4 dded	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	32		80.0	115		ug/L		104	80 - 120
Cadmium	ND		80.0	81.7		ug/L		102	80 - 120
Copper	0.98	J,DX	80.0	83.7		ug/L		103	80 - 120
Lead	ND		80.0	80.8		ug/L		101	80 - 120
Selenium	ND		80.0	75.9		ug/L		95	80 - 120
Zinc	3.7	J,DX	80.0	81.1		ug/L		97	80 - 120

Lab Sample ID: 570-1N07N6-1 MSD
MatriA: x ater
4 nalTsis Batch: 335598

Client Sample ID: Outfall002_20230607_Comp
Wrep PTpe: Potal Recoverable
Wrep Batch: 335N50

4 nalTte	Sample Result	Sample Qualifier	Spike 4 dded	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Aluminum	32		80.0	109		ug/L		96	80 - 120	6	20
Cadmium	ND		80.0	80.2		ug/L		100	80 - 120	2	20
Copper	0.98	J,DX	80.0	82.4		ug/L		102	80 - 120	2	20
Lead	ND		80.0	79.7		ug/L		100	80 - 120	1	20
Selenium	ND		80.0	75.2		ug/L		94	80 - 120	1	20
Zinc	3.7	J,DX	80.0	80.6		ug/L		96	80 - 120	1	20

Lab Sample ID: MB 570-33560N/1-4
MatriA: x ater
4 nalTsis Batch: 3356N1

Client Sample ID: Method Blank
Wrep PTpe: Dissolved

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wepared	4 nalTzed	Dil Fac
Aluminum	ND		15	8.6	ug/L			06/08/23 13:35	1
Cadmium	ND		1.0	0.13	ug/L			06/08/23 13:35	1
Copper	ND		2.0	0.32	ug/L			06/08/23 13:35	1
Lead	ND		1.0	0.12	ug/L			06/08/23 13:35	1
Selenium	ND		2.0	0.52	ug/L			06/08/23 13:35	1
Zinc	ND		20	2.8	ug/L			06/08/23 13:35	1

Lab Sample ID: LCS 570-33560N/2-4
MatriA: x ater
4 nalTsis Batch: 3356N1

Client Sample ID: Lab Control Sample
Wrep PTpe: Dissolved

4 nalTte	Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	80.0	82.7		ug/L		103	85 - 115
Cadmium	80.0	81.9		ug/L		102	85 - 115
Copper	80.0	79.0		ug/L		99	85 - 115
Lead	80.0	80.7		ug/L		101	85 - 115
Selenium	80.0	82.5		ug/L		103	85 - 115
Zinc	80.0	79.8		ug/L		100	85 - 115

Lab Sample ID: LCSD 570-33560N/3-4
MatriA: x ater
4 nalTsis Batch: 3356N1

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Dissolved

4 nalTte	Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Aluminum	80.0	80.6		ug/L		101	85 - 115	3	20

Method: 200.9 - Metals (ICWMS) (Continued)

Lab Sample ID: LCSD 570-33560/3-4
Matrix: Water
Analysis Batch: 33561

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium			80.0	82.4		ug/L		103	85 - 115	1	20
Copper			80.0	78.5		ug/L		98	85 - 115	1	20
Lead			80.0	80.5		ug/L		101	85 - 115	0	20
Selenium			80.0	81.4		ug/L		102	85 - 115	1	20
Zinc			80.0	80.0		ug/L		100	85 - 115	0	20

Lab Sample ID: 570-140746-3 MS
Matrix: Water
Analysis Batch: 33561

Client Sample ID: Outfall002_20230607_Comp_F
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Aluminum	19	BU	80.0	88.4	BU	ug/L		86	80 - 120		
Cadmium	ND	BU	80.0	70.9	BU	ug/L		89	80 - 120		
Copper	ND	BU	80.0	67.7	BU	ug/L		85	80 - 120		
Lead	ND	BU	80.0	67.8	BU	ug/L		85	80 - 120		
Selenium	0.71	J,DX BU	80.0	82.3	BU	ug/L		102	80 - 120		
Zinc	ND	BU	80.0	68.8	BU	ug/L		86	80 - 120		

Lab Sample ID: 570-140746-3 MSD
Matrix: Water
Analysis Batch: 33561

Client Sample ID: Outfall002_20230607_Comp_F
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aluminum	19	BU	80.0	87.3	BU	ug/L		85	80 - 120	1	20
Cadmium	ND	BU	80.0	70.2	BU	ug/L		88	80 - 120	1	20
Copper	ND	BU	80.0	68.0	BU	ug/L		85	80 - 120	0	20
Lead	ND	BU	80.0	67.7	BU	ug/L		85	80 - 120	0	20
Selenium	0.71	J,DX BU	80.0	80.1	BU	ug/L		99	80 - 120	3	20
Zinc	ND	BU	80.0	67.7	BU	ug/L		85	80 - 120	2	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-335926/1-A
Matrix: Water
Analysis Batch: 335627

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 335926

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		06/07/23 21:15	06/08/23 15:58	1

Lab Sample ID: LCS 570-335926/2-A
Matrix: Water
Analysis Batch: 335627

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 335926

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury			8.00	8.00		ug/L		100	85 - 115		

Method: 2N5.1 - MercurT (CV44) (Continued)

Lab Sample ID: LCSD 570-335N26/3-4
MatriA: x ater
4 nalTsis Batch: 335627

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Potal/y 4
Wrep Batch: 335N26

4 nalTte			Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Mercury			8.00	7.22		ug/L		90	85 - 115	10	10

Lab Sample ID: 570-1N07N6-1 MS
MatriA: x ater
4 nalTsis Batch: 335627

Client Sample ID: Outfall002_20230607_Comp
Wrep PTpe: Potal/y 4
Wrep Batch: 335N26

4 nalTte	Sample Result	Sample Qualifier	Spike 4 dded	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		8.00	7.10		ug/L		89	85 - 115

Lab Sample ID: 570-1N07N6-1 MSD
MatriA: x ater
4 nalTsis Batch: 335627

Client Sample ID: Outfall002_20230607_Comp
Wrep PTpe: Potal/y 4
Wrep Batch: 335N26

4 nalTte	Sample Result	Sample Qualifier	Spike 4 dded	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Mercury	ND		8.00	8.12	BA	ug/L		101	85 - 115	13	10

Lab Sample ID: MB 570-335N27/1-B
MatriA: x ater
4 nalTsis Batch: 335627

Client Sample ID: Method Blank
Wrep PTpe: Dissolved
Wrep Batch: 335N29

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
Mercury	0.182	J,DX	0.20	0.12	ug/L		06/07/23 21:25	06/08/23 15:01	1

Lab Sample ID: LCS 570-335N27/2-B
MatriA: x ater
4 nalTsis Batch: 335627

Client Sample ID: Lab Control Sample
Wrep PTpe: Dissolved
Wrep Batch: 335N29

4 nalTte			Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury			8.00	8.16		ug/L		102	85 - 115

Lab Sample ID: LCSD 570-335N27/3-B
MatriA: x ater
4 nalTsis Batch: 335627

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Dissolved
Wrep Batch: 335N29

4 nalTte			Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Mercury			8.00	8.10		ug/L		101	85 - 115	1	10

Method: 350.1 - y itrogen, 4 mmonia

Lab Sample ID: MB 570-336955/5-4
MatriA: x ater
4 nalTsis Batch: 336819

Client Sample ID: Method Blank
Wrep PTpe: Potal/y 4
Wrep Batch: 336955

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
Ammonia	ND		0.075	0.029	mg/L		06/13/23 11:02	06/13/23 12:34	1

Method: 350.1 - y itrogen, 4 mmonia (Continued)

Lab Sample ID: LCS 570-336955/6-4
MatriA: x ater
4 nalTsis Batch: 336819

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4
Wrep Batch: 336955

4 nalTte	Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.500	0.498		mg/L		100	90 - 110

Lab Sample ID: LCSD 570-336955/7-4
MatriA: x ater
4 nalTsis Batch: 336819

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Potal/y 4
Wrep Batch: 336955

4 nalTte	Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Ammonia	0.500	0.504		mg/L		101	90 - 110	1	20

Method: Kelada 01 - CTanide, Potal, 4 cid Dissociable and PhiocTanate

Lab Sample ID: MB 570-336809/11
MatriA: x ater
4 nalTsis Batch: 336809

Client Sample ID: Method Blank
Wrep PTpe: Potal/y 4

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L			06/12/23 14:08	1

Lab Sample ID: LCS 570-336809/12
MatriA: x ater
4 nalTsis Batch: 336809

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	250	260		ug/L		104	90 - 110

Lab Sample ID: LCSD 570-336809/1N
MatriA: x ater
4 nalTsis Batch: 336809

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Cyanide, Total	250	226		ug/L		90	90 - 110	14	20

Lab Sample ID: MRL 570-336809/10
MatriA: x ater
4 nalTsis Batch: 336809

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	5.00	4.40	J,DX	ug/L		88	50 - 150

Method: SM 2130B - PurbiditT

Lab Sample ID: LCSSRM 570-335660/1
MatriA: x ater
4 nalTsis Batch: 335660

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	1000	1000		NTU		99.0	99.0 - 101.0

Method: SM 2130B - PurbiditT (Continued)

Lab Sample ID: LCSSRM 570-335660/2
MatriA: x ater
4 nalTsis Batch: 335660

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	10.0	9.9		NTU		99.2	99.0 - 101.0

Lab Sample ID: LCSSRM 570-335660/3
MatriA: x ater
4 nalTsis Batch: 335660

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	0.0200	ND		NTU		100.0	0.0 - 200.0

Method: SM 25N0C - Solids, Potal Dissolved (PDS)

Lab Sample ID: MB 570-337091/1
MatriA: x ater
4 nalTsis Batch: 337091

Client Sample ID: Method Blank
Wrep PTpe: Potal/y 4

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
Total Dissolved Solids	ND		10	8.7	mg/L			06/13/23 20:21	1

Lab Sample ID: LCS 570-337091/2
MatriA: x ater
4 nalTsis Batch: 337091

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	978		mg/L		98	84 - 108

Lab Sample ID: LCSD 570-337091/3
MatriA: x ater
4 nalTsis Batch: 337091

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Total Dissolved Solids	1000	1010		mg/L		101	84 - 108	3	10

Method: SM 25N0D - Solids, Potal Suspended (PSS)

Lab Sample ID: MB 570-335602/1
MatriA: x ater
4 nalTsis Batch: 335602

Client Sample ID: Method Blank
Wrep PTpe: Potal/y 4

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
Total Suspended Solids	ND		1.0	0.83	mg/L			06/08/23 12:32	1

Lab Sample ID: LCS 570-335602/2
MatriA: x ater
4 nalTsis Batch: 335602

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	98.0		mg/L		98	77 - 116

Method: SM 25N0D - Solids, Potal Suspended (PSS) (Continued)

Lab Sample ID: LCSD 570-335602/3
Client Sample ID: Lab Control Sample Dup
MatriA: x ater
Wep PTpe: Potal/y 4
4 nalTsis Batch: 335602

4 nalTte	Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Total Suspended Solids	100	93.0		mg/L		93	77 - 116	5	10

Method: SM 5210B - BOD, 5-DaT

Lab Sample ID: LCS 570-335599/2-4
Client Sample ID: Lab Control Sample
MatriA: x ater
Wep PTpe: Potal/y 4
4 nalTsis Batch: 336975
Wep Batch: 335599

4 nalTte	Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	199	204		mg/L		103	84.6 - 115.4

Lab Sample ID: USB 570-336975/2
Client Sample ID: Method Blank
MatriA: x ater
Wep PTpe: Potal/y 4
4 nalTsis Batch: 336975

4 nalTte	USB Result	USB Qualifier	RL	MDL	Unit	D	Wepared	4 nalTzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	1.0	mg/L			06/08/23 12:38	1

Method: SM 55N0C - MethTlene Blue 4 ctive Substances (MB4 S)

Lab Sample ID: MB 570-33529N/5-4
Client Sample ID: Method Blank
MatriA: x ater
Wep PTpe: Potal/y 4
4 nalTsis Batch: 335389
Wep Batch: 33529N

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wepared	4 nalTzed	Dil Fac
MBAS	ND		0.20	0.050	mg/L		06/07/23 15:22	06/07/23 19:24	1

Lab Sample ID: LCS 570-33529N/6-4
Client Sample ID: Lab Control Sample
MatriA: x ater
Wep PTpe: Potal/y 4
4 nalTsis Batch: 335389
Wep Batch: 33529N

4 nalTte	Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
MBAS	0.500	0.451		mg/L		90	83 - 122

Lab Sample ID: LCSD 570-33529N/7-4
Client Sample ID: Lab Control Sample Dup
MatriA: x ater
Wep PTpe: Potal/y 4
4 nalTsis Batch: 335389
Wep Batch: 33529N

4 nalTte	Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
MBAS	0.500	0.460		mg/L		92	83 - 122	2	10

GC/MS Semi VOA

Prep Batch: 331194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	625	
MB 570-336680/1-A	Method Blank	Total/NA	Water	625	
LCS 570-336680/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-336680/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 33d516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	625.1 SIM	336680
MB 570-336680/1-A	Method Blank	Total/NA	Water	625.1 SIM	336680
LCS 570-336680/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	336680
LCSD 570-336680/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	336680

GC Semi VOA

Prep Batch: 331348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	608	
MB 570-336309/1-A	Method Blank	Total/NA	Water	608	
LCS 570-336309/2-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-336309/3-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 331674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	608.3	336309
MB 570-336309/1-A	Method Blank	Total/NA	Water	608.3	336309
LCS 570-336309/2-A	Lab Control Sample	Total/NA	Water	608.3	336309
LCSD 570-336309/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	336309

0 P2C/IC

Analysis Batch: 3374d6

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	300.0	
MB 570-335074/5	Method Blank	Total/NA	Water	300.0	
LCS 570-335074/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-335074/7	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 3374d7

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	300.0	
570-140746-1 - DL	Outfall002_20230607_Comp	Total/NA	Water	300.0	
MB 570-335075/5	Method Blank	Total/NA	Water	300.0	
LCS 570-335075/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-335075/7	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 337884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	NO2NO3 Calc	

Analysis Batch: 331dd6

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	314.0	

0 P2C/IC HContinuex(

Analysis Batch: 331dd6 HContinuex(

2aL Sample ID	Client Sample ID	Prep Dype	MatriT	Methox	Prep Batch
MB 570-336774/14	Method Blank	Total/NA	Water	314.0	
LCS 570-336774/15	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-336774/16	Lab Control Sample Dup	Total/NA	Water	314.0	

Metals

Prep Batch: 337651

2aL Sample ID	Client Sample ID	Prep Dype	MatriT	Methox	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	245.1	
MB 570-335426/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-335426/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-335426/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-140746-1 MS	Outfall002_20230607_Comp	Total/NA	Water	245.1	
570-140746-1 MSD	Outfall002_20230607_Comp	Total/NA	Water	245.1	

) iltration Batch: 33765d

2aL Sample ID	Client Sample ID	Prep Dype	MatriT	Methox	Prep Batch
570-140746-3	Outfall002_20230607_Comp_F	Dissolved	Water	Filtration	
MB 570-335427/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-335427/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-335427/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	

Prep Batch: 337659

2aL Sample ID	Client Sample ID	Prep Dype	MatriT	Methox	Prep Batch
570-140746-3	Outfall002_20230607_Comp_F	Dissolved	Water	245.1	335427
MB 570-335427/1-B	Method Blank	Dissolved	Water	245.1	335427
LCS 570-335427/2-B	Lab Control Sample	Dissolved	Water	245.1	335427
LCSD 570-335427/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	335427

Prep Batch: 337674

2aL Sample ID	Client Sample ID	Prep Dype	MatriT	Methox	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total Recoverable	Water	200.8	
MB 570-335450/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-335450/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-335450/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-140746-1 MS	Outfall002_20230607_Comp	Total Recoverable	Water	200.8	
570-140746-1 MSD	Outfall002_20230607_Comp	Total Recoverable	Water	200.8	

Analysis Batch: 337798

2aL Sample ID	Client Sample ID	Prep Dype	MatriT	Methox	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total Recoverable	Water	200.8	335450
MB 570-335450/1-A	Method Blank	Total Recoverable	Water	200.8	335450
LCS 570-335450/2-A	Lab Control Sample	Total Recoverable	Water	200.8	335450
LCSD 570-335450/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	335450
570-140746-1 MS	Outfall002_20230607_Comp	Total Recoverable	Water	200.8	335450
570-140746-1 MSD	Outfall002_20230607_Comp	Total Recoverable	Water	200.8	335450

) iltration Batch: 337146

2aL Sample ID	Client Sample ID	Prep Dype	MatriT	Methox	Prep Batch
570-140746-3	Outfall002_20230607_Comp_F	Dissolved	Water	Filtration	
MB 570-335604/1-A	Method Blank	Dissolved	Water	Filtration	

Metals HContinuex(

) iltration Batch: 337146 HContinuex(

2aL Sample ll	Client Sample ll	Prep Dype	MatriT	Methox	Prep Batch
LCS 570-335604/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-335604/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-140746-3 MS	Outfall002_20230607_Comp_F	Dissolved	Water	Filtration	
570-140746-3 MSD	Outfall002_20230607_Comp_F	Dissolved	Water	Filtration	

Analysis Batch: 33715d

2aL Sample ll	Client Sample ll	Prep Dype	MatriT	Methox	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	245.1	335426
570-140746-3	Outfall002_20230607_Comp_F	Dissolved	Water	245.1	335428
MB 570-335426/1-A	Method Blank	Total/NA	Water	245.1	335426
MB 570-335427/1-B	Method Blank	Dissolved	Water	245.1	335428
LCS 570-335426/2-A	Lab Control Sample	Total/NA	Water	245.1	335426
LCS 570-335427/2-B	Lab Control Sample	Dissolved	Water	245.1	335428
LCSD 570-335426/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	335426
LCSD 570-335427/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	335428
570-140746-1 MS	Outfall002_20230607_Comp	Total/NA	Water	245.1	335426
570-140746-1 MSD	Outfall002_20230607_Comp	Total/NA	Water	245.1	335426

Analysis Batch: 33716F

2aL Sample ll	Client Sample ll	Prep Dype	MatriT	Methox	Prep Batch
570-140746-3	Outfall002_20230607_Comp_F	Dissolved	Water	200.8	335604
MB 570-335604/1-A	Method Blank	Dissolved	Water	200.8	335604
LCS 570-335604/2-A	Lab Control Sample	Dissolved	Water	200.8	335604
LCSD 570-335604/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	335604
570-140746-3 MS	Outfall002_20230607_Comp_F	Dissolved	Water	200.8	335604
570-140746-3 MSD	Outfall002_20230607_Comp_F	Dissolved	Water	200.8	335604

GenerabChemistry

Prep Batch: 337596

2aL Sample ll	Client Sample ll	Prep Dype	MatriT	Methox	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	SM 5540C	
MB 570-335284/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-335284/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-335284/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	

Analysis Batch: 337389

2aL Sample ll	Client Sample ll	Prep Dype	MatriT	Methox	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	SM 5540C	335284
MB 570-335284/5-A	Method Blank	Total/NA	Water	SM 5540C	335284
LCS 570-335284/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	335284
LCSD 570-335284/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	335284

Prep Batch: 337799

2aL Sample ll	Client Sample ll	Prep Dype	MatriT	Methox	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	BOD Prep	
LCS 570-335588/2-A	Lab Control Sample	Total/NA	Water	BOD Prep	

Analysis Batch: 337145

2aL Sample ll	Client Sample ll	Prep Dype	MatriT	Methox	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	SM 2540D	

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Job ID: 570-140746-1

GenerabChemistry HContinuex(

Analysis Batch: 337145 HContinuex(

2aL Sample ll	Client Sample ll	Prep Dype	MatriT	Methox	Prep Batch
MB 570-335602/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-335602/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-335602/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 337114

2aL Sample ll	Client Sample ll	Prep Dype	MatriT	Methox	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	SM 2130B	
LCSSRM 570-335660/1	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-335660/2	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-335660/3	Lab Control Sample	Total/NA	Water	SM 2130B	

Prep Batch: 331977

2aL Sample ll	Client Sample ll	Prep Dype	MatriT	Methox	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	Distill/Ammonia	
MB 570-336855/5-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 570-336855/6-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	
LCSD 570-336855/7-A	Lab Control Sample Dup	Total/NA	Water	Distill/Ammonia	

Analysis Batch: 3319d7

2aL Sample ll	Client Sample ll	Prep Dype	MatriT	Methox	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	SM 5210B	335588
USB 570-336875/2	Method Blank	Total/NA	Water	SM 5210B	
LCS 570-335588/2-A	Lab Control Sample	Total/NA	Water	SM 5210B	335588

Analysis Batch: 331849

2aL Sample ll	Client Sample ll	Prep Dype	MatriT	Methox	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	Kelada 01	
MB 570-336908/11	Method Blank	Total/NA	Water	Kelada 01	
LCS 570-336908/12	Lab Control Sample	Total/NA	Water	Kelada 01	
LCSD 570-336908/14	Lab Control Sample Dup	Total/NA	Water	Kelada 01	
MRL 570-336908/10	Lab Control Sample	Total/NA	Water	Kelada 01	

Analysis Batch: 3318F9

2aL Sample ll	Client Sample ll	Prep Dype	MatriT	Methox	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	350.1	336855
MB 570-336855/5-A	Method Blank	Total/NA	Water	350.1	336855
LCS 570-336855/6-A	Lab Control Sample	Total/NA	Water	350.1	336855
LCSD 570-336855/7-A	Lab Control Sample Dup	Total/NA	Water	350.1	336855

Analysis Batch: 33d49F

2aL Sample ll	Client Sample ll	Prep Dype	MatriT	Methox	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	SM 2540C	
MB 570-337081/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 570-337081/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 570-337081/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

Client Sample ID: Outfall002_20230607_Comp

Date Collected: 06/07/23 08:30
Date Received: 06/07/23 18:07

Lab Sample ID: 570-140746-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
8otalSEA	j re6	Pm5			1053.4 T R	mT R	22PP40	0PS12Sn2 0P:14	H1BH	FF8 CAR3
8otalSEA	Analy9i9	Pm5.1 BIs		1	1 T R	1 T R	227mP3	0PS13Sn2 14:mP	MRRI	FF8 CAR3
	In9trOT ent ID:	p Cs BJJJ								
8otalSEA	j re6	P04			1500 T R	1 T R	22P20U	0PS1mSn2 04:27	u AJ2	FF8 CAR3
8otalSEA	Analy9i9	P04.2		1	1 T R	1 T R	22P350	0PS12Sn2 13:0U	E5G2	FF8 CAR3
	In9trOT ent ID:	p C5mA								
8otalSEA	Analy9i9	200.0		1	3 T R	3 T R	225073	0PS04Sn2 03:34	j B	FF8 CAR3
	In9trOT ent ID:	ICU								
8otalSEA	Analy9i9	200.0		1	3 T R	3 T R	225075	0PS04Sn2 03:34	j B	FF8 CAR3
	In9trOT ent ID:	ICU								
8otalSEA	Analy9i9	200.0	DR	10	3 T R	3 T R	225075	0PS04Sn2 05:05	j B	FF8 CAR3
	In9trOT ent ID:	ICU								
8otalSEA	Analy9i9	213.0		1	3 T R	3 T R	22P773	0PS12Sn2 1P:3U	s 5Y2	FF8 CAR3
	In9trOT ent ID:	IC12								
8otalSEA	Analy9i9	Eu mEu 2 Calc		1			225UU0	0PS0USn2 13:21	WHPJ	FF8 CAR3
	In9trOT ent ID:	Eu FQMIj								
8otal v ecoZerable	j re6	m00.4			50 T R	50 T R	225350	0PS04Sn2 0P:31	Jj 4E	FF8 CAR3
8otal v ecoZerable	Analy9i9	m00.4		1			22554U	0PS04Sn2 10:34	GmWB	FF8 CAR3
	In9trOT ent ID:	ICj s B10								
8otalSEA	j re6	m85.1			m5 T R	50 T R	2253mP	0PS07Sn2 m1:15	CB5Y	FF8 CAR3
8otalSEA	Analy9i9	m85.1		1			225Pm7	0PS04Sn2 1P:0U	C0GH	FF8 CAR3
	In9trOT ent ID:	Hp 4								
8otalSEA	j re6	Di9tillSAT T onia			5 T R	5 T R	22P455	0PS12Sn2 11:0m	MXCH	FF8 CAR3
8otalSEA	Analy9i9	250.1		1	5 T R	5 T R	22PU14	0PS12Sn2 1m3m	MXCH	FF8 CAR3
	In9trOT ent ID:	ACAm								
8otalSEA	Analy9i9	Kelada 01		1	4 T R	4 T R	22PU04	0PS1mSn2 17:0U	p p 0g	FF8 CAR3
	In9trOT ent ID:	RACHA801								
8otalSEA	Analy9i9	Bs m120g		1			225PP0	0PS04Sn2 15:31	YVg7	FF8 CAR3
	In9trOT ent ID:	8Mv 3								
8otalSEA	Analy9i9	Bs m530C		1	100 T R	1000 T R	227041	0PS12Sn2 m0:m1	YR7R	FF8 CAR3
	In9trOT ent ID:	gAR100								
8otalSEA	Analy9i9	Bs m530D		1	1000 T R	1000 T R	225P0m	0PS04Sn2 1m2m	8X2F	FF8 CAR3
	In9trOT ent ID:	gAR71								
8otalSEA	j re6	gu D j re6					225544	0PS04Sn2 11:52	M7Mv	FF8 CAR3
8otalSEA	Analy9i9	Bs 5m10g		1	200 T R	200 T R	22P475	0PS04Sn2 12:20	M7Mv	FF8 CAR3
	In9trOT ent ID:	gu D2								
8otalSEA	j re6	Bs 5530C			100 T R	100 T R	225m43	0PS07Sn2 m0:20	8XA4	FF8 CAR3
8otalSEA	Analy9i9	Bs 5530C		1	100 T R	100 T R	2252U4	0PS07Sn2 m1:24	8XA4	FF8 CAR3
	In9trOT ent ID:	MV4								

Lab Chronicle

Client: Haley & Aldrich, Inc.
j ro/ectSBite: goeinNEj DFB BBLR- u Ctfall 00m- p rab

Job ID: 570-13073P-1

Client Sample ID: Outfall002_20230607_Comp_F

Date Collected: 06/07/23 08:30
Date Received: 06/07/23 18:07

Lab Sample ID: 570-140746-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Di99olZed	Liltration	Liltration			50 T R	50 T R	225P03	0PSD4Sn2 1m5P	Jj 4E	FF8 CAR3
Di99olZed	Analy9i9	m00.4		1			225P31	0PSD4Sn2 12:3U	GmWB	FF8 CAR3
	In9trOT ent ID: ICj s B0U									
Di99olZed	Liltration	Liltration			m5 T R	m5 T R	2253m7	0PSD7Sn2 m1:04	CB5Y	FF8 CAR3
Di99olZed	j re6	m85.1			m5 T R	50 T R	2253m4	0PSD7Sn2 m1:m5	CB5Y	FF8 CAR3
Di99olZed	Analy9i9	m85.1		1			225Pm7	0PSD4Sn2 15:1m	C0GH	FF8 CAR3
	In9trOT ent ID: Hp 4									

Laboratory References:

FF8 CAR3 = FOrofin9 Cal9cience 8C9tin, m431 Dow AZenOe, 8C9tin, CA Um740, 8FR(713)4U5-53U3

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-140746-1

2roRectj/ ite: SoeinB g 2DN/ / / EF - L Ctuall 00f - Grab

Laboratory: Eurofins Calscience

All accreditationsjcertiucations held by this laboratory are listed. g ot all accreditationsjcertiucations are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	/ tate	AZ0830	11-16-f 3
Caliuornia	Fos AnBeles CoOnty / anitation Districts	10109	07-31-f 3
Caliuornia	/ CAQMD FA2	17FA0919	11-30-f 3
Caliuornia	/ tate	308f	07-31-f 4
Kansas	g NFA2	N-104f 0	07-31-f 3
g evada	/ tate	CA00111	07-31-f 4
L reBon	g NFA2	4175	0f -0f -f 4
U/ DA	U/ Eederal 2roBrams	2330-f f -00059	05-f 4-f 3 *
WashinBton	/ tate	C916-18	10-11-f 3

* AccreditationjCertiucation renewal pendinB - accreditationjcertiucation considered valid.

NOrouins Calscience

Method Summary

Method	Method Description	Protocol	Laboratory
Om5PI BI6	Bn2 eMoiyHen u dNyt eh I o2 voOt r s p I S6 B GBI6 (	Fj d	FF) I dR3
O0TP4	u dNyt oh, iocet n j nsHeher ns et 8 yHlc	Fj d	FF) I dR3
400P0	dt eot s. Iot I , co2 yHoNoyv, &	Fj d	FF) I dR3
413P0	j nch, iocyHl GI (	Fj d	FF) I dR3
Eu mEu 4 I yih	EeHoNnt . EeHoyHl-EeHeHl	Fj d	FF) I dR3
m00FT	6 nHyis GI j S6 B(	Fj d	FF) I dR3
m35PI	6 nchOo& G Wd d (	Fj d	FF) I dR3
450PI	EeHoNnt . d2 2 ot ey	Fj d	FF) I dR3
Vniyr y 01	I &yt er n.) oHyi. dher Dessoheybin yt r) , eoh&yt yHl	Fj d	FF) I dR3
B6 m140g	) Ocber eH&	B6	FF) I dR3
B6 m530I	Boier s.) oHyi DessoiMhr Gj DB(	B6	FF) I dR3
B6 m530D	Boier s.) oHyi BOsvnt r nr Gj BB(	B6	FF) I dR3
B6 5m10g	gu D. 5-Dy&	B6	FF) I dR3
B6 5530I	6 nH,I &int n giOn dhHeMn BObsHyt hns G6 gdB(	B6	FF) I dR3
m00FT	j cnvyoyHebt .) oHyi KnhoMhoybin 6 nHyis	Fj d	FF) I dR3
m35PI	j cnvyoyHebt . 6 nchOo&	Fj d	FF) I dR3
O0T	ReqOer-ReqOer FxHoyhHebt GBnvyoyHoc& LOt t ni(	Fj d	FF) I dR3
Om5	ReqOer-ReqOer FxHoyhHebt	Fj d	FF) I dR3
gu D j cnv	j cnvyoyHebt . gu D	B6	FF) I dR3
DesHeiSd2 2 ot ey	DesHeiyHebt . d2 2 ot ey	Eot n	FF) I dR3
LeHoyHebt	By2 vin LeHoyHebt	Eot n	FF) I dR3
B6 5530I	j cnvyoyHebt . 6 nH,I &int n giOn dhHeMn BObsHyt hns G6 gdB(	B6	FF) I dR3

Protocol References:

Fj d = UB Ft Meot 2 nt Hyi j coHhHebt dNnt h&

Eot n = Eot n

B6 = "BHyt ryor 6 nH,or s Loc) , n Fxy2 et yHebt u f 8 yHlcdt r 8 ysHlwyHlc"

Laboratory References:

FF) I dR3 = FOcofet s I yisheht hn) OsHet . mT31 Dow dMht On.) OsHet . I d 9m7T0.) FRG713(T95-5393

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Job ID: 570-140746-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-140746-1	Outfall002_20230607_Comp	Water	06/07/23 08:30	06/07/23 18:07
570-140746-3	Outfall002_20230607_Comp_F	Water	06/07/23 08:30	06/07/23 18:07

140746

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 2023 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	**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: Adrien Mobeka	

									ANALYSIS REQUIRED																
									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: (E200.8): Zn, Al (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	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)	Perchlorate (331.0)		Comments
Outfall 002	Outfall002_20230607_Comp	6/7/2023 /0830	WM	500 mL Poly	1	HNO_3	90	Yes	X										X			48 hours Holding Time NO_3 & NO_2
			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							X		
			WM	500 mL Poly	1	None	130	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_20230607_Comp_Extra	6/7/2023 /0930	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: Mark Dominick	Date/Time: 6-7-2023/1100	Company: H:A	Received By:	Date/Time: 6/7/23 1100	EC
Relinquished By:	Date/Time: 6/7/23 1807	Company: EC	Received By:	Date/Time: 6/7/23 1807	
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__

1.8/2.0 1.5/1.7 1.9/2.1 SC6

570-140746 Chain of Custody

2019-2020 Rainy Season
Version 4

140746

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 2023 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	**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: Adrien Mobeka	

									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: (E200.8): Zn, Al (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)							Comments
Outfall 002	Outfall002_20230607_Comp_F	6/7/2023 0830	WM	1L Poly	1	None	200	Yes	X											
			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_20230607_Comp	6/7/2023 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.
				1 L Glass Amber	1	None	230	No												

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:	
[signature]	6-7-2023/1100	H&A	[signature]	6/7/23 1100	EC
[signature]	6/7/23 1807	EC	[signature]	6/7/23 1807	
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___

2019-2020 Rainy Season
Version 4

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-140746-1

Login Number: 140746
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

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 6/26/2023 10:51:08 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Outfall 002 - Grab

JOB NUMBER

570-140746-2

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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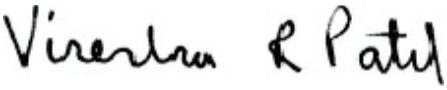

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Authorized for release by
Virendra Patel, Project Manager I
Virendra.Patel@et.eurofinsus.com
(714)895-5494

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Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-140746-2
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

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: 570-140746-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-140746-2

Comments
No additional comments.

Receipt
The samples were received on 6/7/2023 6:07 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 1.7º C, 2.0º C and 2.1º C.

Receipt Exceptions

The reference method requires samples to have a pH of <2. The following sample was received with a pH of 7: <Affected Samples>. The sample was adjusted to the appropriate pH in the laboratory.

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 12D5 exceeded this criteria: Outfall002_20230607_Comp (570-140746-1), (CCV 320-684550/1), (LCS 320-682402/2-A), (LCSD 320-682402/3-A) and (MB 320-682402/1-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: 570-140746-2
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Client Sample ID: Outfall002_2023050L_Comp
ba7 Sample ID: - L01460L6514

Analyte	Result	Qualifier	Rb	EDb	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000021	J,DX MB	0.000048	0.00000045	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000011	J,DX MB	0.000048	0.00000032	ug/L	1		1613B	Total/NA
OCDD	0.0000081	J,DX MB	0.000095	0.00000053	ug/L	1		1613B	Total/NA
OCDF	0.0000017	J,DX	0.000095	0.00000047	ug/L	1		1613B	Total/NA
Total TCDD	0.0000027	J,DX q MB	0.0000095	0.00000072	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000021	J,DX MB	0.000048	0.00000042	ug/L	1		1613B	Total/NA
Total HpCDD	0.0000034	J,DX MB	0.000048	0.00000032	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall002_20230607_Comp
Lab Sample ID: 570-140746-1
Date Collected: 06/07/23 08:30
Matrix: Water
Date Received: 06/07/23 18:07

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000095	0.00000072	ug/L		06/12/23 14:09	06/20/23 19:35	1
2,3,7,8-TCDF	ND		0.0000095	0.00000024	ug/L		06/12/23 14:09	06/20/23 19:35	1
1,2,3,7,8-PeCDD	ND		0.000048	0.00000068	ug/L		06/12/23 14:09	06/20/23 19:35	1
1,2,3,7,8-PeCDF	ND		0.000048	0.00000028	ug/L		06/12/23 14:09	06/20/23 19:35	1
2,3,4,7,8-PeCDF	ND		0.000048	0.00000030	ug/L		06/12/23 14:09	06/20/23 19:35	1
1,2,3,4,7,8-HxCDD	**0.0000021**	**J,DX MB**	0.000048	0.00000045	ug/L		06/12/23 14:09	06/20/23 19:35	1
1,2,3,6,7,8-HxCDD	ND		0.000048	0.00000044	ug/L		06/12/23 14:09	06/20/23 19:35	1
1,2,3,7,8,9-HxCDD	ND		0.000048	0.00000042	ug/L		06/12/23 14:09	06/20/23 19:35	1
1,2,3,4,7,8-HxCDF	ND		0.000048	0.00000026	ug/L		06/12/23 14:09	06/20/23 19:35	1
1,2,3,6,7,8-HxCDF	ND		0.000048	0.00000026	ug/L		06/12/23 14:09	06/20/23 19:35	1
1,2,3,7,8,9-HxCDF	ND		0.000048	0.00000032	ug/L		06/12/23 14:09	06/20/23 19:35	1
2,3,4,6,7,8-HxCDF	ND		0.000048	0.00000025	ug/L		06/12/23 14:09	06/20/23 19:35	1
1,2,3,4,6,7,8-HpCDD	**0.0000011**	**J,DX MB**	0.000048	0.00000032	ug/L		06/12/23 14:09	06/20/23 19:35	1
1,2,3,4,6,7,8-HpCDF	ND		0.000048	0.0000025	ug/L		06/12/23 14:09	06/20/23 19:35	1
1,2,3,4,7,8,9-HpCDF	ND		0.000048	0.0000030	ug/L		06/12/23 14:09	06/20/23 19:35	1
OCDD	**0.0000081**	**J,DX MB**	0.000095	0.00000053	ug/L		06/12/23 14:09	06/20/23 19:35	1
OCDF	**0.0000017**	**J,DX**	0.000095	0.00000047	ug/L		06/12/23 14:09	06/20/23 19:35	1
Total TCDD	**0.0000027**	**J,DX q MB**	0.0000095	0.00000072	ug/L		06/12/23 14:09	06/20/23 19:35	1
Total TCDF	ND		0.0000095	0.00000024	ug/L		06/12/23 14:09	06/20/23 19:35	1
Total PeCDD	ND		0.000048	0.00000068	ug/L		06/12/23 14:09	06/20/23 19:35	1
Total PeCDF	ND		0.000048	0.00000028	ug/L		06/12/23 14:09	06/20/23 19:35	1
Total HxCDD	**0.0000021**	**J,DX MB**	0.000048	0.00000042	ug/L		06/12/23 14:09	06/20/23 19:35	1
Total HxCDF	ND		0.000048	0.00000025	ug/L		06/12/23 14:09	06/20/23 19:35	1
Total HpCDD	**0.0000034**	**J,DX MB**	0.000048	0.00000032	ug/L		06/12/23 14:09	06/20/23 19:35	1
Total HpCDF	ND		0.000048	0.0000025	ug/L		06/12/23 14:09	06/20/23 19:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*57*		*26 - 154*	*05/12/23 14:0F*	*05/20/23 1F:36*	*1*
13C-2,3,7,8-TCD9	*77*		*24 - 15F*	*05/12/23 14:0F*	*05/20/23 1F:36*	*1*
13C-1,2,3,7,8-PeCDD	*56*		*26 - 181*	*05/12/23 14:0F*	*05/20/23 1F:36*	*1*
13C-1,2,3,7,8-PeCD9	*75*		*24 - 186*	*05/12/23 14:0F*	*05/20/23 1F:36*	*1*
13C-2,3,4,7,8-PeCD9	*80*		*21 - 178*	*05/12/23 14:0F*	*05/20/23 1F:36*	*1*
13C-1,2,3,4,7,8-HxCDD	*71*		*32 - 141*	*05/12/23 14:0F*	*05/20/23 1F:36*	*1*
13C-1,2,3,5,7,8-HxCDD	*77*		*28 - 130*	*05/12/23 14:0F*	*05/20/23 1F:36*	*1*

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall002_20230607_Comp
Lab Sample ID: 570-140746-1
Date Collected: 06/07/23 08:30
Matrix: Water
Date Received: 06/07/23 18:07

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8-HxCD9	83		25 - 162	05/12/23 14:0F	05/20/23 1F:36	1
13C-1,2,3,5,7,8-HxCD9	8F		25 - 123	05/12/23 14:0F	05/20/23 1F:36	1
13C-1,2,3,7,8,F-HxCD9	77		2F - 147	05/12/23 14:0F	05/20/23 1F:36	1
13C-2,3,4,5,7,8-HxCD9	83		28 - 135	05/12/23 14:0F	05/20/23 1F:36	1
13C-1,2,3,4,5,7,8-HpCDD	52		23 - 140	05/12/23 14:0F	05/20/23 1F:36	1
13C-1,2,3,4,5,7,8-HpCD9	5F		28 - 143	05/12/23 14:0F	05/20/23 1F:36	1
13C-1,2,3,4,7,8,F-HpCD9	72		25 - 138	05/12/23 14:0F	05/20/23 1F:36	1
13C-OCDD	50		17 - 167	05/12/23 14:0F	05/20/23 1F:36	1
13C-OCD9	55		17 - 167	05/12/23 14:0F	05/20/23 1F:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	F5		36 - 1F7	05/12/23 14:0F	05/20/23 1F:36	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Job ID: 570-140746-2

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)							
570-140746-1	Outfall002_20230607_Comp	96							
MB 320-682402/1-A	Method Blank	94							

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 320-682402/2-A	Lab Control Sample	95							
LCSD 320-682402/3-A	Lab Control Sample Dup	94							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Job ID: 570-140746-2

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)
570-140746-1	Outfall002_20230607_Comp	67	77	65	76	80	71	77	83
MB 320-682402/1-A	Method Blank	63	72	59	69	72	65	70	74

		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)	OCDF (17-157)
570-140746-1	Outfall002_20230607_Comp	89	77	83	62	69	72	60	66
MB 320-682402/1-A	Method Blank	80	67	75	54	61	63	51	55

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
OCDF = 13C-OCDF

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 320-682402/2-A	Lab Control Sample	67	79	63	75	78	68	74	78
LCSD 320-682402/3-A	Lab Control Sample Dup	58	67	56	64	69	62	69	74

		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)	OCDF (13-199)
LCS 320-682402/2-A	Lab Control Sample	84	74	79	60	66	71	60	66
LCSD 320-682402/3-A	Lab Control Sample Dup	79	68	73	53	59	61	49	54

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

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-140746-2
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

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
OCDF = 13C-OCDF

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-682402/1-A
Matrix: Water
Analysis Batch: 684550

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 682402

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000010	ug/L		06/12/23 14:09	06/20/23 14:50	1
2,3,7,8-TCDF	ND		0.000010	0.00000038	ug/L		06/12/23 14:09	06/20/23 14:50	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000067	ug/L		06/12/23 14:09	06/20/23 14:50	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000040	ug/L		06/12/23 14:09	06/20/23 14:50	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000043	ug/L		06/12/23 14:09	06/20/23 14:50	1
1,2,3,4,7,8-HxCDD	0.00000278	J,DX q	0.000050	0.00000066	ug/L		06/12/23 14:09	06/20/23 14:50	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.00000063	ug/L		06/12/23 14:09	06/20/23 14:50	1
1,2,3,7,8,9-HxCDD	0.00000249	J,DX	0.000050	0.00000061	ug/L		06/12/23 14:09	06/20/23 14:50	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.00000040	ug/L		06/12/23 14:09	06/20/23 14:50	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.00000037	ug/L		06/12/23 14:09	06/20/23 14:50	1
1,2,3,7,8,9-HxCDF	0.00000191	J,DX q	0.000050	0.00000049	ug/L		06/12/23 14:09	06/20/23 14:50	1
2,3,4,6,7,8-HxCDF	ND		0.000050	0.00000037	ug/L		06/12/23 14:09	06/20/23 14:50	1
1,2,3,4,6,7,8-HpCDD	0.00000351	J,DX	0.000050	0.00000081	ug/L		06/12/23 14:09	06/20/23 14:50	1
1,2,3,4,6,7,8-HpCDF	0.00000299	J,DX	0.000050	0.00000093	ug/L		06/12/23 14:09	06/20/23 14:50	1
1,2,3,4,7,8,9-HpCDF	0.00000309	J,DX	0.000050	0.0000011	ug/L		06/12/23 14:09	06/20/23 14:50	1
OCDD	0.00000849	J,DX q	0.00010	0.00000077	ug/L		06/12/23 14:09	06/20/23 14:50	1
OCDF	ND		0.00010	0.00000082	ug/L		06/12/23 14:09	06/20/23 14:50	1
Total TCDD	0.00000488	J,DX q	0.000010	0.0000010	ug/L		06/12/23 14:09	06/20/23 14:50	1
Total TCDF	ND		0.000010	0.00000038	ug/L		06/12/23 14:09	06/20/23 14:50	1
Total PeCDD	ND		0.000050	0.00000067	ug/L		06/12/23 14:09	06/20/23 14:50	1
Total PeCDF	ND		0.000050	0.00000040	ug/L		06/12/23 14:09	06/20/23 14:50	1
Total HxCDD	0.00000526	J,DX q	0.000050	0.00000061	ug/L		06/12/23 14:09	06/20/23 14:50	1
Total HxCDF	0.00000294	J,DX q	0.000050	0.00000037	ug/L		06/12/23 14:09	06/20/23 14:50	1
Total HpCDD	0.00000738	J,DX	0.000050	0.00000081	ug/L		06/12/23 14:09	06/20/23 14:50	1
Total HpCDF	0.00000608	J,DX	0.000050	0.00000093	ug/L		06/12/23 14:09	06/20/23 14:50	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*53*		*26 - 154*	*05/12/23 14:0F*	*05/20/23 14:60*	*1*
13C-2,3,7,8-TCD9	*72*		*24 - 15F*	*05/12/23 14:0F*	*05/20/23 14:60*	*1*
13C-1,2,3,7,8-PeCDD	*6F*		*26 - 181*	*05/12/23 14:0F*	*05/20/23 14:60*	*1*
13C-1,2,3,7,8-PeCD9	*5F*		*24 - 186*	*05/12/23 14:0F*	*05/20/23 14:60*	*1*
13C-2,3,4,7,8-PeCD9	*72*		*21 - 178*	*05/12/23 14:0F*	*05/20/23 14:60*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-682402/1-A
Matrix: Water
Analysis Batch: 684550

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 682402

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8-HxCDD	56		32 - 141	05/12/23 14:0F	05/20/23 14:60	1
13C-1,2,3,5,7,8-HxCDD	70		28 - 130	05/12/23 14:0F	05/20/23 14:60	1
13C-1,2,3,4,7,8-HxCD9	74		25 - 162	05/12/23 14:0F	05/20/23 14:60	1
13C-1,2,3,5,7,8-HxCD9	80		25 - 123	05/12/23 14:0F	05/20/23 14:60	1
13C-1,2,3,7,8,F-HxCD9	57		2F - 147	05/12/23 14:0F	05/20/23 14:60	1
13C-2,3,4,5,7,8-HxCD9	76		28 - 135	05/12/23 14:0F	05/20/23 14:60	1
13C-1,2,3,4,5,7,8-HpCDD	64		23 - 140	05/12/23 14:0F	05/20/23 14:60	1
13C-1,2,3,4,5,7,8-HpCD9	51		28 - 143	05/12/23 14:0F	05/20/23 14:60	1
13C-1,2,3,4,7,8,F-HpCD9	53		25 - 138	05/12/23 14:0F	05/20/23 14:60	1
13C-OCDD	61		17 - 167	05/12/23 14:0F	05/20/23 14:60	1
13C-OCD9	66		17 - 167	05/12/23 14:0F	05/20/23 14:60	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	F4		36 - 1F7	05/12/23 14:0F	05/20/23 14:60	1

Lab Sample ID: LCS 320-682402/2-A
Matrix: Water
Analysis Batch: 684550

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 682402

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,3,7,8-TCDD	0.000200	0.000239		ug/L		119	67 - 158
2,3,7,8-TCDF	0.000200	0.000233		ug/L		116	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.00110		ug/L		110	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.00104		ug/L		104	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.00103		ug/L		103	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000969		ug/L		97	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.00102		ug/L		102	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.00102		ug/L		102	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000909		ug/L		91	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000920		ug/L		92	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.000943		ug/L		94	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000944		ug/L		94	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.00103		ug/L		103	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.00101		ug/L		101	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000928		ug/L		93	78 - 138
OCDD	0.00200	0.00200		ug/L		100	78 - 144
OCDF	0.00200	0.00195		ug/L		98	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	57		20 - 176
13C-2,3,7,8-TCD9	7F		22 - 162
13C-1,2,3,7,8-PeCDD	53		21 - 227
13C-1,2,3,7,8-PeCD9	76		21 - 1F2
13C-2,3,4,7,8-PeCD9	78		13 - 328
13C-1,2,3,4,7,8-HxCDD	58		21 - 1F3
13C-1,2,3,5,7,8-HxCDD	74		26 - 153
13C-1,2,3,4,7,8-HxCD9	78		1F - 202
13C-1,2,3,5,7,8-HxCD9	84		21 - 16F

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-682402/2-A
Matrix: Water
Analysis Batch: 684550

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 682402

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,7,8,F-HxCD9	74		17 - 206
13C-2,3,4,5,7,8-HxCD9	7F		22 - 175
13C-1,2,3,4,5,7,8-HpCDD	50		25 - 155
13C-1,2,3,4,5,7,8-HpCD9	55		21 - 168
13C-1,2,3,4,7,8,F-HpCD9	71		20 - 185
13C-OCDD	50		13 - 1FF
13C-OCD9	55		13 - 1FF

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	F6		31 - 1F1

Lab Sample ID: LCSD 320-682402/3-A
Matrix: Water
Analysis Batch: 684550

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 682402

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000246		ug/L		123	67 - 158	3	50
2,3,7,8-TCDF			0.000200	0.000229		ug/L		114	75 - 158	2	50
1,2,3,7,8-PeCDD			0.00100	0.00115		ug/L		115	70 - 142	4	50
1,2,3,7,8-PeCDF			0.00100	0.00112		ug/L		112	80 - 134	7	50
2,3,4,7,8-PeCDF			0.00100	0.00107		ug/L		107	68 - 160	4	50
1,2,3,4,7,8-HxCDD			0.00100	0.00104		ug/L		104	70 - 164	7	50
1,2,3,6,7,8-HxCDD			0.00100	0.00110		ug/L		110	76 - 134	7	50
1,2,3,7,8,9-HxCDD			0.00100	0.00107		ug/L		107	64 - 162	5	50
1,2,3,4,7,8-HxCDF			0.00100	0.000970		ug/L		97	72 - 134	7	50
1,2,3,6,7,8-HxCDF			0.00100	0.000965		ug/L		96	84 - 130	5	50
1,2,3,7,8,9-HxCDF			0.00100	0.000983		ug/L		98	78 - 130	4	50
2,3,4,6,7,8-HxCDF			0.00100	0.00100		ug/L		100	70 - 156	6	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.00108		ug/L		108	70 - 140	5	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.00108		ug/L		108	82 - 122	6	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.00100		ug/L		100	78 - 138	8	50
OCDD			0.00200	0.00211		ug/L		105	78 - 144	5	50
OCDF			0.00200	0.00208		ug/L		104	63 - 170	6	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	68		20 - 176
13C-2,3,7,8-TCD9	57		22 - 162
13C-1,2,3,7,8-PeCDD	65		21 - 227
13C-1,2,3,7,8-PeCD9	54		21 - 1F2
13C-2,3,4,7,8-PeCD9	5F		13 - 328
13C-1,2,3,4,7,8-HxCDD	52		21 - 1F3
13C-1,2,3,5,7,8-HxCDD	5F		26 - 153
13C-1,2,3,4,7,8-HxCD9	74		1F - 202
13C-1,2,3,5,7,8-HxCD9	7F		21 - 16F
13C-1,2,3,7,8,F-HxCD9	58		17 - 206
13C-2,3,4,5,7,8-HxCD9	73		22 - 175
13C-1,2,3,4,5,7,8-HpCDD	63		25 - 155
13C-1,2,3,4,5,7,8-HpCD9	6F		21 - 168

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-682402/3-A
Matrix: Water
Analysis Batch: 684550

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 682402

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-1,2,3,4,7,8,F-HpCD9	51		20 - 185
13C-OCDD	4F		13 - 1FF
13C-OCD9	64		13 - 1FF

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	F4		31 - 1F1

Specialty Organics

Prep Batch: 682402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	1613B	
MB 320-682402/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-682402/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-682402/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 684550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	1613B	682402
MB 320-682402/1-A	Method Blank	Total/NA	Water	1613B	682402
LCS 320-682402/2-A	Lab Control Sample	Total/NA	Water	1613B	682402
LCSD 320-682402/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	682402

Lab Chronicle

Client: Haley & Aldrich, Inc.
j ro/ectSite: goeinN Ej DFB BBLR- u Ctfall 00P - mrab

Job ID: 570-130732-P

Client Sample ID: Outfall002_20230607_Comp

Date Collected: 06/07/23 08:30
Date Received: 06/07/23 18:07

Lab Sample ID: 570-140746-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
TotalSEA	j rep	1216g			103s.s 8 R	P0.0 CR	2sP30P	02S1PSP6 13:04	Cmg	FFT BAC
TotalSEA	Analy9i9	1216g		1	1 Ba8 ple	1 Ba8 ple	2s3550	02SP0SP6 14:65	mGg	FFT BAC
	In9trC8 ent ID: 1PD5									

Laboratory References:

FFT BAC = FCrofin9 Bacra8 ento, ss0 Giver9ide j arkway, We9t Bacra8 ento, CA 45205, TFR(412)676-5200

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-130734-6

2roRectj/ ite: SoeinB g 2DN/ / / EF - L Qtuall 006 - Orab

Laboratory: Eurofins Sacramento

All accreditationf jcertiucationf held by thif laboratory are lif ted. g ot all accreditationf jcertiucationf are ammlicable to thif remort.

Authority	Program	Identification Number	Expiration Date
Alaf pa sk / (U	/ tate	17-060	06-60-63
Ag AS	Dem t. ouDeuenf e NFA2	F634T	01-60-63
Ag AS	Dem t. ouNnerBy	F634T.01	01-60-63
Ag AS	I/ L jINC 17065	F634T	01-60-63
Ari) ona	/ tate	A8070T	0T-11-6z
Arpanf af DNZ	/ tate	TT-0491	05-1T-63
Caliuornia	/ tate	6T97	01-66-63
Colorado	/ tate	CA0003	0T-z1-6z
Elorida	g NFA2	NT7570	04-z0-6z
OeorBia	/ tate	3030	01-69-63
HaGaii	/ tate	wcert g o.<	01-69-63
Illinoif	g NFA2	600040	0z-17-63
>anf af	g NFA2	N-10z75	10-z1-6z
FoQf iana	g NFA2	01933	04-z0-6z
FoQf iana sAllU	g NFA2	01933	04-z0-6z
K aine	/ tate	CA00003	03-13-63
K ichiBan	/ tate	9937	04-01-6z M
g evada	/ tate	CA00033	07-z1-6z
g eG HaY mf hire	g NFA2	6997	03-1T-63
g eG Jerf ey	g NFA2	CA005	04-z0-6z
g eG xorp	g NFA2	11444	03-01-63
L hio	/ tate	31656	01-69-63
L reBon	g NFA2	3030	01-69-63
(eWaf	g NFA2	(103703z99-19-1z	05-z1-63
k / Eif h & V ildliue	k / Eederal 2roBraY f	5T33T	03-z0-63
k / DA	k / Eederal 2roBraY f	2zz0-1T-006z9	06-6T-64
k tah	g NFA2	CA000336061-16	06-6T-63
* irBinia	g NFA2	34067T	0z-13-63
V af hinBton	/ tate	C5T1	05-05-6z M
V ef t * irBinia sDV U	/ tate	99z0C	16-z1-6z
V if conf in	/ tate	99T6034T0	0T-z1-6z
V yoY inB	/ tate 2roBraY	T(K / -F	01-6T-19 M

MAccreditationjCertiucation reneGal mendinB - accreditationjcertiucation conf idered valid.

NQrouinf Calf cience

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-140746-2
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	EET SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
j ro/ectSite: goeinNEj DFB BBLO- u f t2all 00P - Grab

Job ID: 570-140746-P

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-140746-1	u f t2all00P_P0P30607_Comp	Water	06S07SP3 08:30	06S07SP3 18:07

140746

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 2023 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	**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: Adrien Mobeka	

									R	R	R	R	R	R	R	R	R	R	R	C		
									ANALYSIS REQUIRED													
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.8): Zn, Al (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	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)	Perchlorate (331.0)		Comments
Outfall 002	Outfall002_20230607_Comp	6/7/2023 /0830	WM	500 mL Poly	1	HNO_3	90	Yes	X										X			
			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	130	No												X		
			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_20230607_Comp_Extra	6/7/2023 /0930	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:
[signature]	6-7-2023/1100	H&A	[signature]	6/7/23 1100 EC
[signature]	6/7/23 1807	EC	[signature]	6/7/23 1807

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__

1.8/2.0 1.5/1.7 1.9/2.1 SC6

570-140746 Chain of Custody

2019-2020 Rainy Season
Version 4

140746

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 2023 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	**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: Adrien Mobeka	

									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: (E200.8): Zn, Al (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)								Comments
Outfall 002	Outfall002_20230607_Comp_F	6/7/2023 0830	WM	1L Poly	1	None	200	Yes	X												
			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_20230607_Comp	6/7/2023 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.
				1 L Glass Amber	1	None	230	No													

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:	
[signature]	6-7-2023/1100	H&A	[signature]	6/7/23 1100	EC
[signature]	6/7/23 1807	EC	[signature]	6/7/23 1807	
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__

2019-2020 Rainy Season
Version 4

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-232761.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State - California; State Program - California		Job #: 570-140746-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 6/27/2023			Preservation Codes:
City: West Sacramento	TAT Requested (days):			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; Y - Trizma; Z - other (specify); Other:
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Outfall 002 - Grab	Project #: 57013187			
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)	1613B/1613B_Sox_Sep_P (MOD) Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall002_20230607_Comp (570-140746-1)	6/7/23	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 Calscience places the ownership of method, analyte & accreditation compliance upon our 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:	Company	Received by:	Date/Time:	Company
1	[signature]	06/08/23 10:12	EC	[signature]	6.9.23 940	[signature]
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: [signature]

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-140746-2

Login Number: 140746
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: 570-140746-2

Login Number: 140746
List Number: 2
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 06/09/23 01:03 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	2.7c
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

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 7/18/2023 10:57:43 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Outfall 002 - Grab

JOB NUMBER

570-140746-3

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

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7/18/2023 10:57:43 AM

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Designee for
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Virendra.Patel@et.eurofinsus.com
(714)895-5494

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Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-130734-6
Project/Site: Boeing NPDES SSFL - QutCall 00f - 2 rab

Qualifiers

Rad

Qualifier	Qualifier Description
2	mhe Sap Cle T DC iMgreater than the resueMed q L.
R	q eMult iMleMMthan the Map Cle detection lip it.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
U	LiMed under the ¤D¤colup n to deMgnate that the reMult iMreGorted on a dry " eight baMM
w q	Percent q eco%ery
CFL	ContainMFree Lisuid
CFR	Colony Forp ing Rnit
CNF	ContainMNo Free Lisuid
DEq	DuGlicate Error q atio vnorp ali(ed abMolute diCerencez
Dil Fac	Dilution Factor
DL	Detection Lip it vDoD/DQEz
DL, q A, q E, IN	IndicateMa Dilution, q e-analyMM, q e-e) traction, or additional Initial p etalManion analyMMoCthe Map Cle
DLC	DeciMon Le%el Concentration vq adiochep iMryz
EDL	EMip ated Detection Lip it vDio) inz
LQD	Lip it oCDetection vDoD/DQEz
LQx	Lip it oCx uantitation vDoD/DQEz
T CL	EPA recop p ended ¤T a) ip up Contap inant Le%el¤
T DA	T inip up Detectable Acti%ty vq adiochep iMryz
T DC	T inip up Detectable Concentration vq adiochep iMryz
T DL	T ethod Detection Lip it
T L	T inip up Le%el vDio) inz
T PN	T oM Probable Nup ber
T x L	T ethod x uantitation Lip it
NC	Not Calculated
ND	Not Detected at the reGorting lip it vor T DL or EDL iCMho" nz
NE2	Negati%e / AbMent
PQS	PoMti%e / PreMent
Px L	Practical x uantitation Lip it
Pq ES	PreMup Gti%e
x C	x uality Control
q Eq	q elati%e Error q atio vq adiochep iMryz
q L	q eGorting Lip it or q esueMed Lip it vq adiochep iMryz
q PD	q elati%e Percent DiCerence, a p eaMure oCthe relati%e diCerence bet" een t" o GointM
mEF	mo) icity Esui%alent Factor vDio) inz
mEx	mo) icity Esui%alent x uotient vDio) inz
mNmC	moo Nup erouMmo Count

Job ID: 570-140746-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-140746-3

Receipt
The samples were received on 6/7/2023 6:07 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 1.7°C, 2.0°C and 2.1°C

Receipt Exceptions
The reference method requires samples to have a pH of <2. The following sample was received with a pH of 7: <Affected Samples>. The sample was adjusted to the appropriate pH in the laboratory.

Alpha Spectroscopy
Method A01R_U: Uranium Prep Batch 160-615939:Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: Outfall002_20230607_Comp (570-140746-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method A01R_U: Isotopic Uranium batch 615939Any 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_20230607_Comp (570-140746-1), (LCS 160-615939/2-A), (LCSD 160-615939/3-A) and (MB 160-615939/1-A)

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

Gamma Spectroscopy
Method 901.1_Cs: Gamma prep batch 160-616082The detection goal of 20 pCi/L was not met for Cs-137 for the following sample. An elevated MDC can occur when higher background counts are applied to a peak ROI. This is due to the relatively small size of the peak or subsequent “force-fit” of the non-existent peak which resulted in higher than normal background counts due to statistical fluctuations in the Compton baseline. The laboratory does not believe this adversely affects the data, the Cs-137 is well below the RL and MDC. Outfall002_20230607_Comp (570-140746-1)

Method 901.1_Cs: Gamma Prep Batch 160-616082Many 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 AnalyteTh-234 Pa-234Th-234
U-238Pb-210 Po-210Pb-210 Bi-210Cs-137 Ba-137mPb-212 Po-216Xe-131m Xe-131Sb-12
Te-125mAg-108m Ag-108Rh-106 Ru-106Pb-212 Th-228Pb-212 Ra-224U-235
Th-231Ac-228 Th-232Ac-228 Ra-228Th-227 Ra-223Th-227 Ac-227Th-227 Bi-211Th-227
Pb-211Bi-214 Ra-226Any 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_20230607_Comp (570-140746-1) and (570-140746-S-1-G DU)

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

Gas Flow Proportional Counter
Method 900.0: Gross Alpha Beta prep batch 160-617808:The detection goal was not met for the following sample due to a reduction of the sample size attributed to high residual mass: Outfall002_20230607_Comp (570-140746-1). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross Alpha Beta prep batch 160-617808: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_20230607_Comp (570-140746-1), (LCS 160-617808/2-A), (LCSB 160-617808/3-A), (MB 160-617808/1-A), (570-140737-S-1-G), (570-140737-S-1-J DU), (570-140737-S-1-H MS) and (570-140737-S-1-I MSBT)

Job ID: 570-140746-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Method 900.0: Gross Alpha and Gross Beta batch 617808The detection goal was not met for the following samples due to a reduction of the sample size attributed to high residual mass: Outfall002_20230607_Comp (570-140746-1), (570-140737-S-1-G) and (570-140737-S-1-J DU). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross Alpha and Gross Beta batch 617808Any 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_20230607_Comp (570-140746-1), (LCS 160-617808/2-A), (LCSB 160-617808/3-A), (MB 160-617808/1-A), (570-140737-S-1-G), (570-140737-S-1-J DU), (570-140737-S-1-H MS) and (570-140737-S-1-I MSBT)

Method 903.0: Radium-226 Prep Batch 160-615738The following sample was prepared at a reduced aliquot due to Matrix: Outfall002_20230607_Comp (570-140746-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method 903.0: Radium-226 prep batch 160-615738: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_20230607_Comp (570-140746-1), (LCS 160-615738/2-A), (LCSD 160-615738/3-A) and (MB 160-615738/1-A)

Method 904.0: Radium-228 Prep Batch 160-615742The following sample was prepared at a reduced aliquot due to Matrix: Outfall002_20230607_Comp (570-140746-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method 904.0: Radium-228 batch 615742Any 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_20230607_Comp (570-140746-1), (LCS 160-615742/2-A), (LCSD 160-615742/3-A) and (MB 160-615742/1-A)

Method 905_Sr90: Strontium-90 batch 615746Any 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_20230607_Comp (570-140746-1), (LCS 160-615746/2-A), (MB 160-615746/1-A), (380-50059-A-1-B) and (380-50059-B-1-B DU)

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

Liquid Scintillation Counter

Method 906.0: Tritium 618528Any 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 decay corrected to sample date and time as the Activity Reference Date. Outfall002_20230607_Comp (570-140746-1), (LCS 160-618528/2-A), (MB 160-618528/1-A), (160-50325-G-1-A), (160-50325-G-1-B DU), (160-50325-G-3-A) and (160-50325-G-3-B MS)

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: 570-140746-3
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Client Sample ID: Outfall002_20230607_Comp
Lab Sample ID: 570-140746-1

No Detections.

This Detection Summary does not include radiochemical test results.

Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: f ut_all0024202x0O074Comp

Lab Sample ID: 570-13073O-1

Date Collected: 0O8078 2x 0(:x0

MatriW / ater

Date Received: 0O8078 2x 1(:07

Analyte	Result	T uali_ier	Count Qncert. (2+) 8F	&otal Qncert. (2+) 8F	RL	MDC	Qnit	Prepared	AnalyUed	Dil zac
UhoGGr e9. &	-0j77C	4 U	l jC3	l jC3	l j00	7j12	9i nBu	0CBb7Bpl 10:03	07B07Bpl 05:5C	1
Gross Beta	**x.O7**		1jp2	1jl l	3j00	1jCs	9i nBu	0CBb7Bpl 10:03	07B07Bpl 05:5C	1

1
2
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15

Method: EPA 901.1 - Cesium 1x7 6 f ther Gamma Emitters dGSF

Client Sample ID: f ut_all0024202x0C074Comp — **Lab Sample ID: 570-13073O-1**

Date Collected: 0C8078 2x 0(:x0 — **MatriW / ater**

Date Received: 0C8078 2x 1(:07

Analyte	Result	T uali_ier	Count Qncert. d2+) 8F	&otal Qncert. d2+) 8F	RL	MDC	Qnit	Prepared	AnalyUed	Dil zac
i t Gfi 6 -1l 7	-Cj13	4 U	1Cj5	1Cj5	p0j0	p1jC	9i mBu	0CB13Bpl 15:0p	0CBp1Bpl 13:p7	1
/ oa&GGfi 6 -30	-1l s	4	p1l	p13		l l C	9i mBu	0CB13Bpl 15:0p	0CBp1Bpl 13:p7	1

Client Sample Results

Method: EPA 90x.0 - Radium-22O cGz PCF

Client Sample ID: f ut_all0024202x0C074Comp
Date Collected: 0C807 82x 0(:x0
Date Received: 0C807 82x 1(:07

Lab Sample ID: 570-13073O-1
MatriW: / ater

Analyte	Result	T uali_ier	Count Qncert. (2+) 8F	&otal Qncert. (2+) 8F	RL	MDC	Qnit	Prepared	AnalyUed	Dil zac
8 &cni 6 -ppC	0j103	4	0j105	0j10C	1j00	0j1C7	9i nBu	0CB ll Bpl 11:01	07B 07Bpl 1p:l s	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*5064*		*30 - 110*	*04/13/83 11201*	*0: /0: /83 18235*	*1*

Method: EPA 903.0 - Radium-22(dGz PCF

Client Sample ID: f ut_all0024202x0C074Comp
Lab Sample ID: 570-13073O-1
Date Collected: 0C8078 2x 0(:x0
MatriW / ater
Date Received: 0C8078 2x 1(:07

Analyte	Result	T uali_ier	Count Qncert. d2+) 8F	&otal Qncert. d2+) 8F	RL	MDC	Qnit	Prepared	AnalyUed	Dil zac
8 &cri 6 -pp2	-0jpl C	4	0j317	0j312	1j00	0j23l	9i nB/u	0C8ll Bpl 11:1p	0C8psBpl 13:p5	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*506 4*		*30 - 110*	*04/13/83 1121 8*	*04/85/83 1. 289*	*1*
Y Carrier	*: : 6S*		*30 - 110*	*04/13/83 1121 8*	*04/85/83 1. 289*	*1*

Client Sample Results

i ent Ha y &e Ad r ech, . PlH, j — Job ID: 570-13073C-l

/ hoS, aBg nt : Not nHE F/ DLg g g Ru - Of a&e00p - Uh&b

Method: EPA 905 - Strontium-90 cGz PCF

Client Sample ID: f ut_all0024202x0C074Comp — **Lab Sample ID: 570-13073O-1**

Date Collected: 0C8078 2x 0(:x0 — **MatriW / ater**

Date Received: 0C8078 2x 1(:07

Analyte	Result	T uali_ier	Count Qncert. c2+) 8F	&otal Qncert. c2+) 8F	RL	MDC	Qnit	Prepared	AnalyUed	Dil zac
g aloHaf 6 -s0	0j002pC	4	0j31p	0j31p	l j00	0j7l 2	9i nBu	0CBll Bpl 11:1s	0CBp1Bpl 17:l 2	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
7r Carrier	*: . 6*		*30 - 110*	*04/13/83 1121 5*	*04/81/83 1: 23S*	*1*
Y Carrier	*S56*		*30 - 110*	*04/13/83 1121 5*	*04/81/83 1: 23S*	*1*

Method: EPA 90Q.0 - &ritium, &otal dLSCF

Client Sample ID: f ut_all0024202x0C074Comp
Date Collected: 0C8078 2x 0(:x0
Date Received: 0C8078 2x 1(:07

Lab Sample ID: 570-13073O-1
MatriW / ater

Analyte	Result	Tuali_ier	Count Qncert. d2+) 8F	&otal Qncert. d2+) 8F	RL	MDC	Qnit	Prepared	AnalyUed	Dil zac
Thai 6	23j7	4	1C3	1C3	500	p2p	9i mBu	07B0l Bpl 0s:00	07B0l Bpl 12:5C	1

Lf hommHGi &eG, nl H, t

Method: Df E A-01-R - Isotopic Qranium oAlpha SpectrometryF

Client Sample ID: f ut_all0024202x0C074Comp — **Lab Sample ID: 570-13073O-1**

Date Collected: 0C8078 2x 0(:x0 — **MatriW / ater**

Date Received: 0C8078 2x 1(:07

Analyte	Result	T uali_ier	Count Qncert. (2+) 8F	&otal Qncert. (2+) 8F	RL	MDC	Qnit	Prepared	AnalyUed	Dil zac
&otal Qranium	**2.0O**		0j33l	0j3C0	1j00	0j1Cl	9i n Bu	0CB13Bpl 11:pC	0CBp0Bpl 15:0p	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-838	*S16*		*30 - 110*	*04/1. /83 11284*	*04/80/83 19208*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-140746-3
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
570-140746-1	Outfall002_20230607_Comp	90.6
LCS 160-615738/2-A	Lab Control Sample	86.8
LCSD 160-615738/3-A	Lab Control Sample Dup	72.8
MB 160-615738/1-A	Method Blank	85.0

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	(30-110)	(30-110)
570-140746-1	Outfall002_20230607_Comp	90.6	77.8
LCS 160-615742/2-A	Lab Control Sample	86.8	71.8
LCSD 160-615742/3-A	Lab Control Sample Dup	72.8	75.9
MB 160-615742/1-A	Method Blank	85.0	74.4

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	(30-110)	(30-110)
570-140746-1	Outfall002_20230607_Comp	74.4	89.7
LCS 160-615746/2-A	Lab Control Sample	84.5	89.0
MB 160-615746/1-A	Method Blank	88.7	93.5

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)
570-140746-1	Outfall002_20230607_Comp	81.9
LCS 160-615939/2-A	Lab Control Sample	84.6
LCSD 160-615939/3-A	Lab Control Sample Dup	82.5
MB 160-615939/1-A	Method Blank	90.6

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-614/ 0/ x1-A | **Client Sample ID: Method Blank**
MatriW P ater | **Trep Nype: Notalx7 A**
Analysis Batch: 61/ 41/ | **Trep Batch: 614/ 0/**

Analyte	MB Result	MB QualiUer	Count z ncert. 8(2 σx+	Notal z ncert. 8(2 σx+	RL	MDC	z nit	Trepared	AnalyFed	Dil) ac
Uho44 r e9. &	-0jl 313	2	0j5l p	0j5l l	l j00	1j11	9i nBu	0CB7Bl 10:03	07Bl Bl 17:5p	1
Uho44 Nt a&	-0jl 57l	2	0jl GG	0jl s0	3j00	0j7Gp	9i nBu	0CB7Bl 10:03	07Bl Bl 17:5p	1

Lab Sample ID: LCS 160-614/ 0/ x(-A | **Client Sample ID: Lab Control Sample**
MatriW P ater | **Trep Nype: Notalx7 A**
Analysis Batch: 61/ 41/ | **Trep Batch: 614/ 0/**

Analyte	Spike Added	LCS Result	LCS Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	f Rec	f Rec Limits
Uho44 r e9. &	3sjC	3l jC0		C77	l j00	pj33	9i nBu	GG	75 - 1p5

Lab Sample ID: LCSB 160-614/ 0/ x%A | **Client Sample ID: Lab Control Sample**
MatriW P ater | **Trep Nype: Notalx7 A**
Analysis Batch: 61/ 41/ | **Trep Batch: 614/ 0/**

Analyte	Spike Added	LCSB Result	LCSB Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	f Rec	f Rec Limits
Uho44 Nt a&	7l j0	Csj33		7j51	3j00	1j0p	9i nBu	s5	75 - 1p5

Method: 901.1 - Cesium 1%4 3 &ther Gamma Omitters 8GS+

Lab Sample ID: MB 160-6160/ (x1-A | **Client Sample ID: Method Blank**
MatriW P ater | **Trep Nype: Notalx7 A**
Analysis Batch: 6141(9 | **Trep Batch: 6160/ (**

Analyte	MB Result	MB QualiUer	Count z ncert. 8(2 σx+	Notal z ncert. 8(2 σx+	RL	MDC	z nit	Trepared	AnalyFed	Dil) ac
i t 4n 6 -1l 7	-pj3l G	2	1l j5	1l j5	p0j0	13jl	9i nBu	0CB3Bl 15:0p	0CB1Bl 13:l l	1
/ oa&44n 6 -30	-l C5p	2	1l C	1l 7		17l	9i nBu	0CB3Bl 15:0p	0CB1Bl 13:l l	1

Lab Sample ID: LCS 160-6160/ (x(-A | **Client Sample ID: Lab Control Sample**
MatriW P ater | **Trep Nype: Notalx7 A**
Analysis Batch: 6141((| **Trep Batch: 6160/ (**

Analyte	Spike Added	LCS Result	LCS Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	f Rec	f Rec Limits
r 6 t h, n 6 -p31	1l 5000	150C00		17s00		330	9i nBu	11p	75 - 1p5
i t 4n 6 -1l 7	30C00	l s750		3750	p0j0	13s	9i nBu	sG	75 - 1p5
i ob&e-C0	17l 00	17110		p050		G1j3	9i nBu	ss	75 - 1p5

Lab Sample ID: _40-150456-1 Dz | **Client Sample ID: &utUall00(E(0(%0604E Comp**
MatriW P ater | **Trep Nype: Notalx7 A**
Analysis Batch: 6141(9 | **Trep Batch: 6160/ (**

Analyte	Sample Result	Sample Qual	Dz Result	Dz Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	ROR	ROR Limit
i t 4n 6 -1l 7	-C13	2 U	-1j031	2	sj15	p0j0	1l j3	9i nBu	0jp0	1
/ oa&44n 6 -30	-1l s	2	-pl j5G	2	1l G		17l	9i nBu	0jl l	1

Lf hom H4 i &e4, n H, t

Method: 90%0 - Radium-((6 8G) TC+

Lab Sample ID: MB 160-61_4% x1-A
MatriW P ater
Analysis Batch: 619%0(

Client Sample ID: Method Blank
Trep Nype: Notalx7 A
Trep Batch: 61_4%

Analyte	MB Result	MB QualiUer	Count z ncert. 8(2 σx+	Notal z ncert. 8(2 σx+	RL	MDC	z nit	Trepared	AnalyFed	Dil) ac
8 &cri 6 -ppC	0j0000	2	0j0350	0j0350	1j00	0j0sG3	9i /Bu	0CBl l Bpl 11:01	07B07Bpl 1p:l l	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	5670		30 - 110	04/13/83 11201	0: /0: /83 18233	1

Lab Sample ID: LCS 160-61_4% x(-A
MatriW P ater
Analysis Batch: 6196%

Client Sample ID: Lab Control Sample
Trep Nype: Notalx7 A
Trep Batch: 61_4%

Analyte	Spike Added	LCS Result	LCS Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	f Rec	f Rec Limits
8 &cri 6 -ppC	11jl	11j77		1jp3	1j00	0j105	9i /Bu	103	75 - 1p5

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	5475		30 - 110

Lab Sample ID: LCSD 160-61_4% x%A
MatriW P ater
Analysis Batch: 6196%

Client Sample ID: Lab Control Sample Dup
Trep Nype: Notalx7 A
Trep Batch: 61_4%

Analyte	Spike Added	LCSD Result	LCSD Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	f Rec	f Rec Limits	ROR	ROR Limit
8 &cri 6 -ppC	11jl	10j5C		1j1l	1j00	0j11p	9i /Bu	sl	75 - 1p5	0j51	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	: 875		30 - 110

Method: 905.0 - Radium-((/ 8G) TC+

Lab Sample ID: MB 160-61_45(x1-A
MatriW P ater
Analysis Batch: 61/ %85

Client Sample ID: Method Blank
Trep Nype: Notalx7 A
Trep Batch: 61_45(

Analyte	MB Result	MB QualiUer	Count z ncert. 8(2 σx+	Notal z ncert. 8(2 σx+	RL	MDC	z nit	Trepared	AnalyFed	Dil) ac
8 &cri 6 -ppG	0jp505	2	0j31p	0j31l	1j00	0j70l	9i /Bu	0CBl l Bpl 11:1p	0CBpsBpl 13:1C	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	5670		30 - 110	04/13/83 11218	04/8. /83 19214	1
Y Carrier	: 979		30 - 110	04/13/83 11218	04/8. /83 19214	1

Method: 905.0 - Radium-((/ 8G) TC+8Continued+

Lab Sample ID: LCS 160-61_45(x(-A — **Client Sample ID: Lab Control Sample**
MatriW P ater — **Trep Nype: Notalx7 A**
Analysis Batch: 61/ %8/5 — **Trep Batch: 61_45(**

Analyte	Spike Added	LCS Result	LCS Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	f Rec	f Rec Limits
8 &cni 6 -ppG	G]0G	G]7sp		1jl 1	1j00	0j5ss	9i nBu	10s	75 - 1p5

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	*547.5*		*30 - 110*
Y Carrier	*: 17.5*		*30 - 110*

Lab Sample ID: LCSD 160-61_45(x%A — **Client Sample ID: Lab Control Sample Dup**
MatriW P ater — **Trep Nype: Notalx7 A**
Analysis Batch: 61/ %8/5 — **Trep Batch: 61_45(**

Analyte	Spike Added	LCSD Result	LCSD Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	f Rec	f Rec Limits	ROR	ROR Limit
8 &cni 6 -ppG	G]0G	sj5Gs		1j3C	1j00	0jCG3	9i nBu	11s	75 - 1p5	0jps	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	*: 87.5*		*30 - 110*
Y Carrier	*: 67.*		*30 - 110*

Method: 90_ - Strontium-90 8G) TC+

Lab Sample ID: MB 160-61_456x1 -A — **Client Sample ID: Method Blank**
MatriW P ater — **Trep Nype: Notalx7 A**
Analysis Batch: 614160 — **Trep Batch: 61_456**

Analyte	MB Result	MB QualiUer	Count z ncert. 8(2 σx+	Notal z ncert. 8(2 σx+	RL	MDC	z nit	Trepared	AnalyFed	Dil) ac
g ahoHafi 6 -s0	-0j101p	2	0j13s	0j13s	l j00	0jpGG	9i nBu	0CBll Bpl 11:1s	0CBp1Bpl 17:l l	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Sr Carrier	*557.*		*30 - 110*	*04/13/83 1121.*	*04/81/83 1: 233*	*1*
Y Carrier	*. 376*		*30 - 110*	*04/13/83 1121.*	*04/81/83 1: 233*	*1*

Lab Sample ID: LCS 160-61_456x(-A — **Client Sample ID: Lab Control Sample**
MatriW P ater — **Trep Nype: Notalx7 A**
Analysis Batch: 614160 — **Trep Batch: 61_456**

Analyte	Spike Added	LCS Result	LCS Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	f Rec	f Rec Limits
g ahoHafi 6 -s0	7jl 1	Cjl 13		0j7pC	l j00	0jpG5	9i nBu	GC	77 - 1p5

Carrier	LCS %Yield	LCS Qualifier	Limits
Sr Carrier	*597.6*		*30 - 110*
Y Carrier	*5. 70*		*30 - 110*

Method: 906.0 - Nritium, Notal 8LSC+

Lab Sample ID: MB 160-61/ _(/ x1-A
Client Sample ID: Method Blank
MatriW P ater
Trep Nype: Notalx7 A
Analysis Batch: 61/ __%
Trep Batch: 61/ _(/

Analyte	MB Result	MB QualiUer	Count z ncert. 8(2 σx+	Notal z ncert. 8(2 σx+	RL	MDC	z nit	Trepared	AnalyFed	Dil) ac
Thai 6	1ssj5	2	177	17G	500	pGp	9i mBu	07B0l Bpl 0s:00	07B0l Bpl 17:3G	1

Lab Sample ID: LCS 160-61/ _(/ x(-A
Client Sample ID: Lab Control Sample
MatriW P ater
Trep Nype: Notalx7 A
Analysis Batch: 61/ __%
Trep Batch: 61/ _(/

Analyte			Spike Added	LCS Result	LCS Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	f Rec	f Rec Limits		
Thai 6			p0C0	1sp5		l 5G	500	pGC	9i mBu	sl	75 - 1p5		

Method: A-01-R - Isotopic z ranium 8Alpha Spectrometry+

Lab Sample ID: MB 160-61_9%9x1-A
Client Sample ID: Method Blank
MatriW P ater
Trep Nype: Notalx7 A
Analysis Batch: 616/ 10
Trep Batch: 61_9%9

Analyte	MB Result	MB QualiUer	Count z ncert. 8(2 σx+	Notal z ncert. 8(2 σx+	RL	MDC	z nit	Trepared	AnalyFed	Dil) ac
Toa&e2 h&Hi 6	0j03s55	2	0j0sG5C	0j0sGCl	1j00	0j1C5	9i mBu	0CB13Bpl 11:pC	0Cp0Bpl 05:pl	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-838	*. 074*		*30 - 110*	*04/19/83 11284*	*04/80/83 06283*	*1*

Lab Sample ID: LCS 160-61_9%9x(-A
Client Sample ID: Lab Control Sample
MatriW P ater
Trep Nype: Notalx7 A
Analysis Batch: 616/ 11
Trep Batch: 61_9%9

Analyte			Spike Added	LCS Result	LCS Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	f Rec	f Rec Limits		
2 h&Hi 6 -pl 3			1pj7	1l j11		1j51	1j00	0j1pC	9i mBu	10l	75 - 1p5		
2 h&Hi 6 -pl G			1l j0	11js7		1j31	1j00	0j0sl 5	9i mBu	sp	75 - 1p5		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-838	*5974*		*30 - 110*

Lab Sample ID: LCSD 160-61_9%9x%A
Client Sample ID: Lab Control Sample Dup
MatriW P ater
Trep Nype: Notalx7 A
Analysis Batch: 616/ 1(
Trep Batch: 61_9%9

Analyte			Spike Added	LCSD Result	LCSD Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	f Rec	f Rec Limits	ROR	ROR Limit
2 h&Hi 6 -pl 3			1pj7	1pj57		1j51	1j00	0j157	9i mBu	ss	75 - 1p5	0j1G	1
2 h&Hi 6 -pl G			1l j0	1l j17		1j5C	1j00	0j1l 1	9i mBu	101	75 - 1p5	0j31	1

Tracer	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Uranium-838	*5876*		*30 - 110*

Rad

Prep Batch: 615738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	PrecSep-21	
MB 160-615738/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-615738/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-615738/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 615742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	PrecSep_0	
MB 160-615742/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-615742/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-615742/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 615746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	PrecSep-7	
MB 160-615746/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-615746/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	

Prep Batch: 615939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	ExtChrom	
MB 160-615939/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-615939/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
LCSD 160-615939/3-A	Lab Control Sample Dup	Total/NA	Water	ExtChrom	

Prep Batch: 616082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-616082/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-616082/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-140746-1 DU	Outfall002_20230607_Comp	Total/NA	Water	Fill_Geo-0	

Prep Batch: 617808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	Evaporation	
MB 160-617808/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-617808/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-617808/3-A	Lab Control Sample	Total/NA	Water	Evaporation	

Prep Batch: 618528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140746-1	Outfall002_20230607_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-618528/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-618528/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	

Lab Chronicle

Client: Haley & Aldrich, Inc.
/ roSectBgite: NoeinE F/ DLg ggRu - Of trall 00p - v rab

Job ID: 570-13073P-j

Client Sample ID: Outfall002_20230607_Comp

Date Collected: 06/07/23 08:30
Date Received: 06/07/23 18:07

Lab Sample ID: 570-140746-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
6otalBF A	/ reM	L TaMbration			107.1P s u	1.0 E	P17808	0PBp7Bpj 10:03	2 g6	LL6 gu
6otalBF A	Analy9i9	G00.0		1			P1GpP3	07B07Bpj 05:5P	gCN	LL6 gu
	In9trf s ent ID: v R/ CNuUL									
6otalBF A	/ reM	Rill_v eo-0			1000 s u	1.0 E	P1P08p	0PBl3Bpj 15:0p	AJ/	LL6 gu
6otalBF A	Analy9i9	G01.1		1			P171pp	0PBp1Bpj 13:p7	CAH	LL6 gu
	In9trf s ent ID: v A2 2 A4 lg lOF									
6otalBF A	/ reM	/ recgeM4p1			73p.15 s u	1.0 E	P157j 8	0PBlj Bpj 11:01	VAC	LL6 gu
6otalBF A	Analy9i9	G0j .0		1	1.0 s u	1.0 s u	P1GpPP	07B07Bpj 1p:j G	gCN	LL6 gu
	In9trf s ent ID: v R/ C/ UK/ uL									
6otalBF A	/ reM	/ recgeM_0			73p.15 s u	1.0 E	P1573p	0PBlj Bpj 11:1p	VAC	LL6 gu
6otalBF A	Analy9i9	G03.0		1			P18j j 5	0PBpGBpj 13:p5	RuC	LL6 gu
	In9trf s ent ID: v R/ C/ UK/ uL									
6otalBF A	/ reM	/ recgeM-7			508.7j s u	1.0 E	P1573P	0PBlj Bpj 11:1G	VAC	LL6 gu
6otalBF A	Analy9i9	G05		1			P17000	0PBp1Bpj 17:j 8	RuC	LL6 gu
	In9trf s ent ID: v R/ CKLD									
6otalBF A	/ reM	ugC_Di9t_gf 9M			100.0p s u	1.0 E	P185p8	07B0j Bpj 0G00	DJ/	LL6 gu
6otalBF A	Analy9i9	G0P.0		1			P1855j	07B0j Bpj 18:5P	KL4	LL6 gu
	In9trf s ent ID: ugC6LAu									
6otalBF A	/ reM	LxtChros			503.7 s u	1.0 s u	P15Gj G	0PBl3Bpj 11:pP	gLH	LL6 gu
6otalBF A	Analy9i9	A-01-K		1			P1P88P	0PBp0Bpj 15:0p	RuC	LL6 gu
	In9trf s ent ID: Au/ HA4 lg lOF									

Laboratory References:

LL6 gu = Lf rorim9 gt. uof i9, 1j 715 Kider 6rail Forth, Larth City, 2 O Pj 035, 6Lu (j 13)pG8-85PP

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-140746-3
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Laboratory: Eurofins Stl 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	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23 *
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-24
HI - RadChem Recognition	State	n/a	06-30-23 *
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-24
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23 *
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-24
New Mexico	State	MO00054	06-30-24
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-23
North Dakota	State	R-207	06-30-23 *
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23 *
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-15-25
Washington	State	C592	08-30-23
West Virginia DEP	State	381	10-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

i eltHa y &el A d r ech, . PlH, j Job ID: 570-13073C-l
/ ho$, aBgnat : Not mHE F/ DLg gg Ru - Of am&e00p - 9 h&b

Method	Method Description	Protocol	Laboratory
G00j0	9 hoss r ev. & &Hc 9 hoss Nt a& T&cro&, an(naA	L/ r	LL) gu
G01j1	i t snfi 2 1l 7 d Oa t h9 &2 2 & L2 nat hs 69 g4	L/ r	LL) gu
G0l j0	T&crfi 2 -ppC 69 R/ i 4	L/ r	LL) gu
G03j0	T&crfi 2 -pp8 69 R/ i 4	L/ r	LL) gu
G05	gahoHafi 2 -G0 69 R/ i 4	L/ r	LL) gu
G0Cj0	) hafi 2 P) oa&e6ugi 4	L/ r	LL) gu
r -01-T	Isoaovn, Uh&Hfi 2 6r ev. & gvt , aho2 t ahA4	DOL	LL) gu
L(&voh&aoH	/ Ht v&h&aoHPL(&voh&aoH	FoHt	LL) gu
Lxai . ho2	/ Ht v&h&aoHPLxah&, aoH i . ho2 &aoEh&v. A T t snHr , alHct gt v&h&aoH	FoHt	LL) gu
Rne_9 t o-0	Rne9 t o2 t ahAPFo IH-9 howa	FoHt	LL) gu
ugi _Drsa_gf sv	Drsaree&aoH &Hc gf svt HsroH 6ugi 4	FoHt	LL) gu
/ Ht , gt v_0	/ Ht v&h&aoHP/ Ht , nvna&a gt v&h&aoH	FoHt	LL) gu
/ Ht , gt v-p1	/ Ht v&h&aoHP/ Ht , nvna&a gt v&h&aoH 6p1-D&A IH-9 howa 4	FoHt	LL) gu
/ Ht , gt v-7	/ Ht v&h&aoHP/ Ht , nvna&a gt v&h&aoH 67-D&A IH-9 howa 4	FoHt	LL) gu

Protocol References:

DOL = Ujgj Dt v&ha2 t HaomL Ht hEA

L/ r = Ug LH(rnoH2 t Ha&e/ hoa t , aroHr Et H, A

FoHt = FoHt

Laboratory References:

LL) gu = Lf homHs gaj uof nsP1l 715 Trct h) h&reFoha PL&ha i nAPMO Cl 035P) Lu 6 134pG3-85CC

Lf homHs i &es, nl H, t

Sample Summary

Client: Haley & Aldrich, Inc.
j ro/ectSite: goeinNEj DFB BBLO- u f t2all 00G- _ rab

Job ID: 570-140746-P

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-140746-1	u f t2all00G3G0GP06073Comp	Water	06S07SGP 08:P0	06S07SGP 18:07

140746

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 2023 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	**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: Adrien Mobeka	

									ANALYSIS REQUIRED																
									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: (E200.8): Zn, Al (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	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)	Perchlorate (331.0)		Comments
Outfall 002	Outfall002_20230607_Comp	6/7/2023 /0830	WM	500 mL Poly	1	HNO_3	90	Yes	X										X			
			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	130	No												X		
			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_20230607_Comp_Extra	6/7/2023 /0930	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: Mark Dominick	Date/Time: 6-7-2023/1100	Company: H:A	Received By:	Date/Time: 6/7/23 1100	Company: EC
Relinquished By:	Date/Time: 6/7/23 1807	Company: EC	Received By:	Date/Time: 6/7/23 1807	Company:
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:	Company:

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__

1.8/2.0 1.5/1.7 1.9/2.1 SC6

570-140746 Chain of Custody

2019-2020 Rainy Season
Version 4

140746

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 2023 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	**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: Adrien Mobeka	

									R	R	R	R	R	C										
									ANALYSIS REQUIRED															
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.8): Zn, Al (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)							Comments
Outfall 002	Outfall002_20230607_Comp_F	6/7/2023 0830	WM	1L Poly	1	None	200	Yes	X															
			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_20230607_Comp	6/7/2023 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.
				1 L Glass Amber	1	None	230	No																

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:	
[signature]	6-7-2023/1100	H&A	[signature]	6/7/23 1100	EC
[signature]	6/7/23 1807	EC	[signature]	6/7/23 1807	
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__

2019-2020 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

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-232764.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - California; State Program - California		Job #: 570-140746-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 7/11/2023			
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 002 - Grab	Project #: 57013187			
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, Y - Trizma, 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_20230607_Comp (570-140746-1)	6/7/23	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 Calscience places the ownership of method, analyte & accreditation compliance upon our 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
	06/8/23 10:12	EC	fedex		
Relinquished by: fedex	Date/Time:	Company	Received by: Briana Sharkey - Hanger	Date/Time: 6/9/23 0910	Company GTAS TC
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

7/18/2023

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 570-130736-/

Login Number: 140746 **List Source: Eurofins Calscience**
List Number: 1
Creator: Patel, Virendra

Question	Answer	Comment
v adioactiwity s a' nlt chec<ed or i' =Rg bac<Tround a' mea' ured by a ' urwey meter.	NRA	
f he coolerlk cu' tody ' eal, ipSre' ent, i' intact.	f rue	
OamSle cu' tody ' eal' , ipSre' ent, are intact.	f rue	
f he cooler or ' amSle' do not aSSear to hawe been comSromi' ed or tamSered s ith.	f rue	
OamSle' s ere receiwed on ice.	f rue	
Cooler f emSerature i' acceStable.	f rue	
Cooler f emSerature i' recorded.	f rue	
CF C i' Sre' ent.	f rue	
CF C i' pilled out in in< and leTible.	f rue	
CF C i' pilled out s ith all Sertinent inpormation.	f rue	
I' the ?ield OamSlerlk name Sre' ent on CF C(	f rue	
f here are no di' creSancie' bets een the container' receiwed and the CF C.	f rue	
OamSle' are receiwed s ithin HoldinT f ime xe) cludinT te' t' s ith immediate Hf ' P	f rue	
OamSle container' hawe leTible label' .	f rue	
Container' are not bro<en or lea<inT.	f rue	
OamSle collection dateRime' are Srowided.	f rue	
ASSroSriate ' amSle container' are u' ed.	f rue	
OamSle bottle' are comSletely pilled.	f rue	
OamSle Vre' erwation qeripied.	f rue	
f here i' ' upicient wol. por all reMue' ted analy' e' , incl. any reMue' ted DORDOz '	f rue	
Container' reMuirinT 4ero head' Sace hawe no head' Sace or bubble i' =6mm x1R3"P.	f rue	
DultiSha' ic ' amSle' are not Sre' ent.	f rue	
OamSle' do not reMuire ' SlittinT or comSo' itinT.	f rue	
v e' idual Chlorine Chec<ed.	NRA	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-130736-/

Login Number: 140746
List Number: 3
Creator: Sharkey-Gonzalez, Briana L

List Source: Eurofins St. Louis
List Creation: 06/09/23 06:53 PM

Question	Answer	Comment
v adioactiwity s a' nlk chec<ed or i' =Rg bac<Tround a' mea' ured by a ' urwey meter.	f rue	
f he coolerlk cu' tody ' eal, ipSre' ent, i' intact.	f rue	
OamSle cu' tody ' eal' , ipSre' ent, are intact.	f rue	
f he cooler or ' amSle' do not aSSear to hawe been comSromi' ed or tamSered s ith.	f rue	
OamSle' s ere receiwed on ice.	f rue	
Cooler f emSerature i' acceStable.	f rue	
Cooler f emSerature i' recorded.	f rue	
CF C i' Sre' ent.	f rue	
CF C i' pilled out in in< and leTible.	f rue	
CF C i' pilled out s ith all Sertinent inpormation.	f rue	
I' the ?ield OamSlerlk name Sre' ent on CF C(	f rue	
f here are no di' creSancie' bets een the container' receiwed and the CF C.	f rue	
OamSle' are receiwed s ithin HoldinT f ime xe) cludinT te' t' s ith immediate Hf ' P	f rue	
OamSle container' hawe leTible label' .	f rue	
Container' are not bro<en or lea<inT.	f rue	
OamSle collection dateRime' are Srowided.	f rue	
ASSroSriate ' amSle container' are u' ed.	f rue	
OamSle bottle' are comSletely pilled.	f rue	
OamSle Vre' erwation qeripied.	f rue	
f here i' ' upicient wol. por all reMue' ted analy' e' , incl. any reMue' ted DORDOz '	f rue	
Container' reMuirinT 4ero head' Sace hawe no head' Sace or bubble i' =6mm x1R3"P.	f rue	
DultiSha' ic ' amSle' are not Sre' ent.	f rue	
OamSle' do not reMuire ' SlittinT or comSo' itinT.	f rue	
v e' idual Chlorine Chec<ed.	NRA	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 4/13/2023 3:57:18 PM

JOB DESCRIPTION

Boeing NPDES SSFL - Quarterly Outfall 011 - Grab

JOB NUMBER

570-133559-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

myEOL

Job Notes

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The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

Virendra R Patil

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4/13/2023 3:57:18 PM

Authorized for release by
Virendra Patel, Project Manager I
Virendra.Patel@et.eurofinsus.com
(714)895-5494

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 011 - Grab

Job ID: 570-133559-1

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: 570-133559-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-133559-1

Comments
No additional comments.

Receipt
The samples were received on 4/4/2023 7:13 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 2.1º C.

GC/MS VOA
Method 624.1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with analytical batch 570-317706 were outside control limits: (570-133658-A-1 MS) and (570-133658-A-1 MSD). The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method 624.1: The preservative used in the sample containers provided is not compatible with the Method 624 analytes requested. The following samples were received preserved with hydrochloric acid: Outfall011_20230403_Grab (570-133559-1) and TB-20230403 (570-133559-2). The requested target analyte list contains 2-Chloroethyl vinyl ether and/or Acrolein, which are acid-labile compounds that degrade in an acidic medium.

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.

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

Organic Prep
Method 1664A: The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-318255.
Method: 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.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 011 - Grab

Job ID: 570-133559-1

Client Sample ID: Outfall011_20230403_Grab — Lab Sample ID: 570-133559-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	250		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: TB-20230403 — Lab Sample ID: 570-133559-2

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-133556-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 011 - Grab

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall011_20230403_Grab
Lab Sample ID: 570-133559-1
Date Collected: 04/03/23 11:30
Matrix: Water
Date Received: 04/04/23 19:13

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-zrichloroethane	ND		0.50	0.25	ug/L			04/05/23 1T:49	1
1,1,2,2-zetrachloroethane	ND		0.50	0.20	ug/L			04/05/23 1T:49	1
1,1,2-zrichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			04/05/23 1T:49	1
1,1,2-zrichloroethane	ND		0.50	0.17	ug/L			04/05/23 1T:49	1
1,1-Dichloroethane	ND		0.50	0.36	ug/L			04/05/23 1T:49	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			04/05/23 1T:49	1
1,2-Dichlorobenpene	ND		0.50	0.1T	ug/L			04/05/23 1T:49	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			04/05/23 1T:49	1
1,2-Dichlorovrovane	ND		0.50	0.17	ug/L			04/05/23 1T:49	1
1,3-Dichlorobenpene	ND		0.50	0.1T	ug/L			04/05/23 1T:49	1
1,4-Dichlorobenpene	ND		0.50	0.11	ug/L			04/05/23 1T:49	1
2-Chloroethyl 8inyl ether	ND		2.0	1.1	ug/L			04/05/23 1T:49	1
Acrolein	ND		5.0	4.T	ug/L			04/05/23 1T:49	1
Acrylonitrile	ND		2.0	1.4	ug/L			04/05/23 1T:49	1
Benpene	ND		0.50	0.29	ug/L			04/05/23 1T:49	1
Bromoform	ND		1.0	0.25	ug/L			04/05/23 1T:49	1
Bromomethane	ND		0.50	0.22	ug/L			04/05/23 1T:49	1
Carbon tetrachloride	ND		0.50	0.29	ug/L			04/05/23 1T:49	1
Chlorobenpene	ND		0.50	0.16	ug/L			04/05/23 1T:49	1
Dibromochloromethane	ND		0.50	0.15	ug/L			04/05/23 1T:49	1
Chloroethane	ND		1.0	0.26	ug/L			04/05/23 1T:49	1
Chloroform	ND		0.50	0.16	ug/L			04/05/23 1T:49	1
Chloromethane	ND		0.50	0.30	ug/L			04/05/23 1T:49	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			04/05/23 1T:49	1
cis-1,3-Dichlorovrovene	ND		0.50	0.30	ug/L			04/05/23 1T:49	1
Bromodichloromethane	ND		0.50	0.16	ug/L			04/05/23 1T:49	1
Ethylbenpene	ND		0.50	0.25	ug/L			04/05/23 1T:49	1
Methylene Chloride	ND		2.0	0.57	ug/L			04/05/23 1T:49	1
m,v-Xylene	ND		1.0	0.17	ug/L			04/05/23 1T:49	1
Navhthalene	ND		1.0	0.33	ug/L			04/05/23 1T:49	1
o-Xylene	ND		0.50	0.15	ug/L			04/05/23 1T:49	1
zetrachloroethene	ND		0.50	0.21	ug/L			04/05/23 1T:49	1
zoluene	ND		0.50	0.23	ug/L			04/05/23 1T:49	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			04/05/23 1T:49	1
trans-1,3-Dichlorovrovene	ND		0.50	0.19	ug/L			04/05/23 1T:49	1
zrichloroethene	ND		0.50	0.17	ug/L			04/05/23 1T:49	1
zrichlorofluoromethane	ND		0.50	0.26	ug/L			04/05/23 1T:49	1
Vinyl chloride	ND		0.50	0.47	ug/L			04/05/23 1T:49	1
Xylenes, zotal	ND		1.0	0.17	ug/L			04/05/23 1T:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*60 - 140*		*04/05/23 16:48*	*1*
Toluene-d8 (Surr)	*103*		*60 - 140*		*04/05/23 16:48*	*1*
Dibromofluoromethane (Surr)	*91*		*60 - 140*		*04/05/23 16:48*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 011 - Grab

Job ID: 570-133556-1

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: TB-20230403
Date Collected: 04/03/23 11:30
Date Received: 04/04/23 19:13

Lab Sample ID: 570-133559-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-zrichloroethane	ND		0.50	0.25	ug/L			04/05/23 15:41	1
1,1,2,2-zetrachloroethane	ND		0.50	0.20	ug/L			04/05/23 15:41	1
1,1,2-zrichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			04/05/23 15:41	1
1,1,2-zrichloroethane	ND		0.50	0.17	ug/L			04/05/23 15:41	1
1,1-Dichloroethane	ND		0.50	0.36	ug/L			04/05/23 15:41	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			04/05/23 15:41	1
1,2-Dichlorobenpene	ND		0.50	0.1T	ug/L			04/05/23 15:41	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			04/05/23 15:41	1
1,2-Dichlorovrovane	ND		0.50	0.17	ug/L			04/05/23 15:41	1
1,3-Dichlorobenpene	ND		0.50	0.1T	ug/L			04/05/23 15:41	1
1,4-Dichlorobenpene	ND		0.50	0.11	ug/L			04/05/23 15:41	1
2-Chloroethyl 8inyl ether	ND		2.0	1.1	ug/L			04/05/23 15:41	1
Acrolein	ND		5.0	4.T	ug/L			04/05/23 15:41	1
Acrylonitrile	ND		2.0	1.4	ug/L			04/05/23 15:41	1
Benpene	ND		0.50	0.29	ug/L			04/05/23 15:41	1
Bromoform	ND		1.0	0.25	ug/L			04/05/23 15:41	1
Bromomethane	ND		0.50	0.22	ug/L			04/05/23 15:41	1
Carbon tetrachloride	ND		0.50	0.29	ug/L			04/05/23 15:41	1
Chlorobenpene	ND		0.50	0.16	ug/L			04/05/23 15:41	1
Dibromochloromethane	ND		0.50	0.15	ug/L			04/05/23 15:41	1
Chloroethane	ND		1.0	0.26	ug/L			04/05/23 15:41	1
Chloroform	ND		0.50	0.16	ug/L			04/05/23 15:41	1
Chloromethane	ND		0.50	0.30	ug/L			04/05/23 15:41	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			04/05/23 15:41	1
cis-1,3-Dichlorovrovene	ND		0.50	0.30	ug/L			04/05/23 15:41	1
Bromodichloromethane	ND		0.50	0.16	ug/L			04/05/23 15:41	1
Ethylbenpene	ND		0.50	0.25	ug/L			04/05/23 15:41	1
Methylene Chloride	ND		2.0	0.57	ug/L			04/05/23 15:41	1
m,v-Xylene	ND		1.0	0.17	ug/L			04/05/23 15:41	1
Navhthalene	ND		1.0	0.33	ug/L			04/05/23 15:41	1
o-Xylene	ND		0.50	0.15	ug/L			04/05/23 15:41	1
zetrachloroethene	ND		0.50	0.21	ug/L			04/05/23 15:41	1
zoluene	ND		0.50	0.23	ug/L			04/05/23 15:41	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			04/05/23 15:41	1
trans-1,3-Dichlorovrovene	ND		0.50	0.19	ug/L			04/05/23 15:41	1
zrichloroethene	ND		0.50	0.17	ug/L			04/05/23 15:41	1
zrichlorofluoromethane	ND		0.50	0.26	ug/L			04/05/23 15:41	1
Vinyl chloride	ND		0.50	0.47	ug/L			04/05/23 15:41	1
Xylenes, zotal	ND		1.0	0.17	ug/L			04/05/23 15:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*60 - 140*		*04/05/23 15:41*	*1*
Toluene-d8 (Surr)	*101*		*60 - 140*		*04/05/23 15:41*	*1*
Dibromofluoromethane (Surr)	*94*		*60 - 140*		*04/05/23 15:41*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-133556-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 011 - Grab

General Chemistry

Client Sample ID: Outfall011_20230403_Grab
Date Collected: 04/03/23 11:30
Date Received: 04/04/23 19:13

Lab Sample ID: 570-133559-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1TT4A)	ND		0.69	0.50	mg/L		04/07/23 07:45	04/07/23 14:04	1
Specific Conductance (SM 2510B)	**250**		1.0	1.0	umhos/cm			04/12/23 23:35	1
Settleable Solids (SM 2540F)	ND		0.10	0.10	mL/L			04/04/23 22:03	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 011 - Grab

Job ID: 570-133556-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	BFB (60-140)	TOL (60-140)	DBFM (60-140)
570-133556-1	Outfall0118_0_304038Grab	102	103	61
570-133556-_	9B-_0_30403	10_	101	64
LCS 570-317702/1003	Lab Control SaT mle	107	10_	62
LCSD 570-317702/4	Lab Control SaT mle Dum	10_	103	65
MB 570-317702/2	Method Blank	10_	101	p7

Surrogate Legend

BFB = 4-BroT ofluorobenzene (Surr)
9OL = 9oluene-dp (Surr)
DBFM = DibroT ofluoroT ethane (Surr)

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 011 - Grab

Job ID: 570-133556-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-317706/6
Matrix: Water
Analysis Batch: 317706

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-2richloroethane	ND		0.50	0.45	ug/L			0T/05/43 15:17	1
1,1,4,4-2etrachloroethane	ND		0.50	0.40	ug/L			0T/05/43 15:17	1
1,1,4-2richloro-1,4,4-trifluoroethane	ND		4.0	0.33	ug/L			0T/05/43 15:17	1
1,1,4-2richloroethane	ND		0.50	0.17	ug/L			0T/05/43 15:17	1
1,1-Dichloroethane	ND		0.50	0.36	ug/L			0T/05/43 15:17	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			0T/05/43 15:17	1
1,4-Dichlorobenzene	ND		0.50	0.19	ug/L			0T/05/43 15:17	1
1,4-Dichloroethane	ND		0.50	0.15	ug/L			0T/05/43 15:17	1
1,4-Dichloropropane	ND		0.50	0.17	ug/L			0T/05/43 15:17	1
1,3-Dichlorobenzene	ND		0.50	0.19	ug/L			0T/05/43 15:17	1
1,T-Dichlorobenzene	ND		0.50	0.11	ug/L			0T/05/43 15:17	1
4-Chloroethyl vinyl ether	ND		4.0	1.1	ug/L			0T/05/43 15:17	1
Acrolein	ND		5.0	T.9	ug/L			0T/05/43 15:17	1
Acrylonitrile	ND		4.0	1.T	ug/L			0T/05/43 15:17	1
Benzene	ND		0.50	0.48	ug/L			0T/05/43 15:17	1
Bromoform	ND		1.0	0.45	ug/L			0T/05/43 15:17	1
Bromomethane	ND		0.50	0.44	ug/L			0T/05/43 15:17	1
Carbon tetrachloride	ND		0.50	0.48	ug/L			0T/05/43 15:17	1
Chlorobenzene	ND		0.50	0.16	ug/L			0T/05/43 15:17	1
Dibromochloromethane	ND		0.50	0.15	ug/L			0T/05/43 15:17	1
Chloroethane	ND		1.0	0.46	ug/L			0T/05/43 15:17	1
Chloroform	ND		0.50	0.16	ug/L			0T/05/43 15:17	1
Chloromethane	ND		0.50	0.30	ug/L			0T/05/43 15:17	1
cis-1,4-Dichloroethene	ND		0.50	0.41	ug/L			0T/05/43 15:17	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			0T/05/43 15:17	1
Bromodichloromethane	ND		0.50	0.16	ug/L			0T/05/43 15:17	1
Ethylbenzene	ND		0.50	0.45	ug/L			0T/05/43 15:17	1
Methylene Chloride	ND		4.0	0.57	ug/L			0T/05/43 15:17	1
m,p-Xylene	ND		1.0	0.17	ug/L			0T/05/43 15:17	1
Naphthalene	ND		1.0	0.33	ug/L			0T/05/43 15:17	1
o-Xylene	ND		0.50	0.15	ug/L			0T/05/43 15:17	1
2etrachloroethene	ND		0.50	0.41	ug/L			0T/05/43 15:17	1
2oluene	ND		0.50	0.43	ug/L			0T/05/43 15:17	1
trans-1,4-Dichloroethene	ND		0.50	0.4T	ug/L			0T/05/43 15:17	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			0T/05/43 15:17	1
2richloroethene	ND		0.50	0.17	ug/L			0T/05/43 15:17	1
2richlorofluoromethane	ND		0.50	0.46	ug/L			0T/05/43 15:17	1
Vinyl chloride	ND		0.50	0.T7	ug/L			0T/05/43 15:17	1
Xylenes, 2otal	ND		1.0	0.17	ug/L			0T/05/43 15:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*60 - 140*		*04/05/23 15:17*	*1*
Toluene-d8 (Surr)	*101*		*60 - 140*		*04/05/23 15:17*	*1*
Dibromofluoromethane (Surr)	*87*		*60 - 140*		*04/05/23 15:17*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 011 - Grab

Job ID: 570-133556-1

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-317706/1003
Matrix: Water
Analysis Batch: 317706

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-2richloroethane	10.0	11.7		ug/L		117	70 - 130
1,1,4,4-2etrachloroethane	10.0	6.77		ug/L		68	90 - 1T0
1,1,4-2richloro-1,4,4-trifluoroetha ne	10.0	10.3		ug/L		103	90 - 1T0
1,1,4-2richloroethane	10.0	10.5		ug/L		105	70 - 130
1,1-Dichloroethane	10.0	10.9		ug/L		109	70 - 130
1,1-Dichloroethene	10.0	10.T		ug/L		10T	50 - 150
1,4-Dichlorobenzene	10.0	6.75		ug/L		68	95 - 135
1,4-Dichloroethane	10.0	11.6		ug/L		116	70 - 130
1,4-Dichloropropane	10.0	11.1		ug/L		111	35 - 195
1,3-Dichlorobenzene	10.0	10.1		ug/L		101	70 - 130
1,T-Dichlorobenzene	10.0	6.61		ug/L		66	95 - 135
4-Chloroethyl vinyl ether	10.0	7.75		ug/L		78	1 - 445
Acrolein	40.0	18.T		ug/L		64	90 - 1T0
Acrylonitrile	10.0	11.9		ug/L		119	90 - 1T0
Benzene	10.0	10.7		ug/L		107	95 - 135
Bromoform	10.0	10.T		ug/L		10T	70 - 130
Bromomethane	10.0	15.6		ug/L		156	15 - 185
Carbon tetrachloride	10.0	11.3		ug/L		113	70 - 130
Chlorobenzene	10.0	10.9		ug/L		109	95 - 135
Dibromochloromethane	10.0	10.8		ug/L		108	70 - 135
Chloroethane	10.0	6.91		ug/L		69	T0 - 190
Chloroform	10.0	10.8		ug/L		108	70 - 135
Chloromethane	10.0	11.1		ug/L		111	1 - 405
cis-1,4-Dichloroethene	10.0	6.64		ug/L		66	90 - 1T0
cis-1,3-Dichloropropene	10.0	11.1		ug/L		111	45 - 175
Bromodichloromethane	10.0	11.8		ug/L		118	95 - 135
Ethylbenzene	10.0	11.1		ug/L		111	90 - 1T0
Methylene Chloride	10.0	6.70		ug/L		67	90 - 1T0
m,p-Xylene	40.0	44.9		ug/L		113	90 - 1T0
Naphthalene	10.0	6.17		ug/L		64	90 - 1T0
o-Xylene	10.0	11.0		ug/L		110	90 - 1T0
2etrachloroethene	10.0	11.5		ug/L		115	70 - 130
2oluene	10.0	10.5		ug/L		105	70 - 130
trans-1,4-Dichloroethene	10.0	10.0		ug/L		100	70 - 130
trans-1,3-Dichloropropene	10.0	11.3		ug/L		113	50 - 150
2richloroethene	10.0	10.8		ug/L		108	95 - 135
2richlorofluoromethane	10.0	11.4		ug/L		114	50 - 150
Vinyl chloride	10.0	6.78		ug/L		68	5 - 165
Xylenes, 2otal	30.0	33.9		ug/L		114	90 - 1T0

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*60 - 140*
Toluene-d8 (Surr)	*102*		*60 - 140*
Dibromofluoromethane (Surr)	*96*		*60 - 140*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 570-317706/4
Matrix: Water
Analysis Batch: 317706

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
1,1,1-2richloroethane			10.0	14.0		ug/L		140	70 - 130	3	39
1,1,4,4-2etrachloroethane			10.0	6.36		ug/L		6T	90 - 1T0	T	91
1,1,4-2richloro-1,4,4-trifluoroetha ne			10.0	11.0		ug/L		110	90 - 1T0	7	30
1,1,4-2richloroethane			10.0	10.9		ug/L		109	70 - 130	1	T5
1,1-Dichloroethane			10.0	11.0		ug/L		110	70 - 130	T	T0
1,1-Dichloroethene			10.0	10.7		ug/L		107	50 - 150	4	34
1,4-Dichlorobenzene			10.0	10.0		ug/L		100	95 - 135	3	57
1,4-Dichloroethane			10.0	11.9		ug/L		119	70 - 130	4	T6
1,4-Dichloropropane			10.0	11.4		ug/L		114	35 - 195	0	55
1,3-Dichlorobenzene			10.0	10.5		ug/L		105	70 - 130	T	T3
1,T-Dichlorobenzene			10.0	10.4		ug/L		104	95 - 135	3	57
4-Chloroethyl vinyl ether			10.0	7.80		ug/L		78	1 - 445	1	71
Acrolein			40.0	17.8		ug/L		86	90 - 1T0	3	90
Acrylonitrile			10.0	11.5		ug/L		115	90 - 1T0	1	90
Benzene			10.0	11.0		ug/L		110	95 - 135	3	91
Bromoform			10.0	10.5		ug/L		105	70 - 130	1	T4
Bromomethane			10.0	13.T		ug/L		13T	15 - 185	17	91
Carbon tetrachloride			10.0	11.8		ug/L		118	70 - 130	T	T1
Chlorobenzene			10.0	10.T		ug/L		10T	95 - 135	4	53
Dibromochloromethane			10.0	11.4		ug/L		114	70 - 135	T	50
Chloroethane			10.0	6.80		ug/L		68	T0 - 190	4	78
Chloroform			10.0	10.6		ug/L		106	70 - 135	1	30
Chloromethane			10.0	11.3		ug/L		113	1 - 405	1	90
cis-1,4-Dichloroethene			10.0	10.0		ug/L		100	90 - 1T0	1	30
cis-1,3-Dichloropropene			10.0	11.7		ug/L		117	45 - 175	5	58
Bromodichloromethane			10.0	14.0		ug/L		140	95 - 135	4	59
Ethylbenzene			10.0	11.4		ug/L		114	90 - 1T0	1	93
Methylene Chloride			10.0	8.T4		ug/L		8T	90 - 1T0	1T	48
m,p-Xylene			40.0	43.4		ug/L		119	90 - 1T0	3	30
Naphthalene			10.0	6.59		ug/L		69	90 - 1T0	T	30
o-Xylene			10.0	11.0		ug/L		110	90 - 1T0	1	30
2etrachloroethene			10.0	11.8		ug/L		118	70 - 130	3	36
2oluene			10.0	10.8		ug/L		108	70 - 130	4	T1
trans-1,4-Dichloroethene			10.0	10.9		ug/L		109	70 - 130	9	T5
trans-1,3-Dichloropropene			10.0	11.5		ug/L		115	50 - 150	4	89
2richloroethene			10.0	11.3		ug/L		113	95 - 135	T	T8
2richlorofluoromethane			10.0	11.5		ug/L		115	50 - 150	3	8T
Vinyl chloride			10.0	6.8T		ug/L		68	5 - 165	1	99
Xylenes, 2otal			30.0	3T.4		ug/L		11T	90 - 1T0	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*60 - 140*
Toluene-d8 (Surr)	*103*		*60 - 140*
Dibromofluoromethane (Surr)	*95*		*60 - 140*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 011 - Grab

Job ID: 570-133556-1

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-318255/1-A
Matrix: Water
Analysis Batch: 318449

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 318255

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		0T/07/43 07:T5	0T/07/43 1T:0T	1

Lab Sample ID: LCS 570-318255/2-A
Matrix: Water
Analysis Batch: 318449

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 318255

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil & Grease)	T0.0	35.9		mg/L		86	78 - 11T

Lab Sample ID: LCSD 570-318255/3-A
Matrix: Water
Analysis Batch: 318449

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 318255

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil & Grease)	T0.0	31.7		mg/L		76	78 - 11T	14	18

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 570-320078/36
Matrix: Water
Analysis Batch: 320078

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			0T/14/43 43:4T	1

Lab Sample ID: MB 570-320078/7
Matrix: Water
Analysis Batch: 320078

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			0T/14/43 44:48	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-133559-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 011 - Grab

GC/MS VOA

Analysis Batch: 317706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133559-1	Outfall011_20230403_Grab	Total/NA	Water	624.1	
570-133559-2	TB-20230403	Total/NA	Water	624.1	
MB 570-317706/6	Method Blank	Total/NA	Water	624.1	
LCS 570-317706/1003	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-317706/4	Lab Control Sample Dup	Total/NA	Water	624.1	

General Chemistry

Analysis Batch: 317342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133559-1	Outfall011_20230403_Grab	Total/NA	Water	SM 2540F	

Prep Batch: 318255

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133559-1	Outfall011_20230403_Grab	Total/NA	Water	1664A	
MB 570-318255/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-318255/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-318255/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

Analysis Batch: 318449

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133559-1	Outfall011_20230403_Grab	Total/NA	Water	1664A	318255
MB 570-318255/1-A	Method Blank	Total/NA	Water	1664A	318255
LCS 570-318255/2-A	Lab Control Sample	Total/NA	Water	1664A	318255
LCSD 570-318255/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	318255

Analysis Batch: 320078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133559-1	Outfall011_20230403_Grab	Total/NA	Water	SM 2510B	
MB 570-320078/36	Method Blank	Total/NA	Water	SM 2510B	
MB 570-320078/7	Method Blank	Total/NA	Water	SM 2510B	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-133556-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 011 - Grab

Client Sample ID: Outfall011_20230403_Grab
Lab Sample ID: 570-133559-1
Date Collected: 04/03/23 11:30
Matrix: Water
Date Received: 04/04/23 19:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Mtal/NA	Analysis	24T.1		1	10 p L	10 p L	317702	0T/05/43 12:Tm	N1A	EEMCAL T
	Instrup ent ID:	GC8 SJJ								
Mtal/NA	PreR	122TA			1040 p L	1000 p L	31m455	0T/07/43 07:T5	Y9TP	EEMCAL T
Mtal/NA	Analysis	122TA		1			31mTT6	0T/07/43 1T:0T	L2IE	EEMCAL T
	Instrup ent ID:	NO EQUIQ								
Mtal/NA	Analysis	S8 4510B		1			34007m	0T/14/43 43:35	BDH6	EEMCAL T
	Instrup ent ID:	8 anSci8 antech								
Mtal/NA	Analysis	S8 45T0F		1	1000 p L	1 L	3173T4	0T/0T/43 44:03	MXAm	EEMCAL T
	Instrup ent ID:	NOEQUIP								

Client Sample ID: TB-20230403
Lab Sample ID: 570-133559-2
Date Collected: 04/03/23 11:30
Matrix: Water
Date Received: 04/04/23 19:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Mtal/NA	Analysis	24T.1		1	10 p L	10 p L	317702	0T/05/43 15:T1	N1A	EEMCAL T
	Instrup ent ID:	GC8 SJJ								

Laboratory References:
EEMCAL T = Eurofins Calscience Mustin, 4mT1 Dow Avenue, Mustin, CA 647m0, MEL (71T)m65-5T6T

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-133556-1
Project/Site: Boeing NPDES SSFL - Quarterly 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
Arizona	State	AZ0830	11-12-93
California	Los Angeles County Sanitation Districts	10106	07-31-93
California	SCAQMD LAP	17LA0616	11-30-93
California	State	3089	07-31-94
Nevada	State	CA00111	08-01-93
Oregon	NELAP	4175	09-09-94
USDA	US Federal Programs	P330-99-00056	05-94-93
Washington	State	C612-18	10-11-93

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 011 - Grab

Job ID: 570-133556-1

Method	Method Description	Protocol	Laboratory
24V.1	molatile Organic Cop sound(MGC/) ST	EPA	EEv CAL V
122VA	HE) and SGv-HE)	122VA	EEv CAL V
S) 4510B	Conductiqity, Ssecific Conductance	S)	EEv CAL V
S) 45V0F	Solid(, Settleable	S)	EEv CAL V
122VA	HE) and SGv-HE) MA=ueou(T	122VA	EEv CAL V

Protocol References:

122VA 8 EPA-941-69-004
EPA 8 US Enqironp ental Protection Agency
S) 8 "Standard) ethod(For vhe Exap ination Of Water And Wa(tewater"

Laboratory References:

EEv CAL V 8 Eurofin(Cal(cience vu(tin, 49V1 Dow Aqenue, vu(tin, CA 64790, vEL M71VT965-5V6V

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 011 - Grab

Job ID: 570-133559-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-133559-1	Outfall011_20230403_Grab	Water	04/03/23 11:30	04/04/23 19:13
570-133559-2	TB-20230403	Water	04/03/23 11:30	04/04/23 19:13

Loc: 570
133559
Page 1 of 1

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

RAX7NNGN

Client Name/Address:	Project:	Field Readings	Meter serial #
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 011 Grab	Field Readings: (Include units) Time of Readings: 11:30 DO 14.07 mg/L pH 8.47 pH unit Temp 13.80 °C/F	
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)	Field readings QC Checked by: STEPHEN SCHILLER Date/Time: 4-3-2023	
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: Neal Smith	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		

R Q/S R R

ANALYSIS REQUIRED

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Oil & Grease (E1664A-HEM)	VOCs + 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) (E624)	Settleable Solids (E160.5 (SM2540F))	Conductivity (SM25108 / E120.1)	Comments
1 Outfall 011	Outfall011_20230403_Grab	4/3/2023 1130	WM	1 L Glass Amber	2	HCl	15	No	X				
			WM	40 mL VOA	3	HCl	20	No		X			
			WM	1 L Poly	1	None	70	No			X		
			WM	500 mL Poly	1	None	75	No				X	
2 Trip Blank	TB-20230403	4/3/2023 1130	WQ	40 mL VOA	2	HCl	20	No		X			

570-133559 Chain of Custody

Legend: R=Routine, Q=Quarterly, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	4-4-2023 1326	H&A	[signature]	4/4/23 1326 EC
[signature]	4/4/23 1913	EC	[signature]	4/4/23 1913

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|1.7 2.2|2.1 SC12

2019-2020 Rainy Season
Version 5

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-133559-1

Login Number: 133559
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

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 4/19/2023 5:54:53 PM

JOB DESCRIPTION

Boeing NPDES SSFL - Routine Outfall 011 - Comp

JOB NUMBER

570-133752-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

Job Notes

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The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

Virendra R Patil

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Authorized for release by
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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 011 - Comp

Job ID: 570-133752-1

Qualifiers

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
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: 570-133752-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-133752-1

Comments
No additional comments.

Receipt
The samples were received on 4/5/2023 6:30 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 1.9º C, 2.2º C and 2.5º 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: Outfall011_20230405_Comp_F (570-133752-3), Outfall011_20230405_Comp_F (570-133752-3[MS]) and Outfall011_20230405_Comp_F (570-133752-3[MSD]). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall011_20230405_Comp_F (570-133752-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

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

General Chemistry
Method Kelada 01: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 570-318171 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 570-318871. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.
Method 608_LL

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-319142. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 625 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.
Project/Site: Boeing NPDES SSFL - Routine Outfall 011 - Comp

Job ID: 570-133752-1

Client Sample ID: Outfall011_20230405_Comp — Lab Sample ID: 570-133752-1

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	0.12		0.10	0.020	mg/L	1		300.0	Total/NA
Sulfate	41		1.0	0.24	mg/L	1		300.0	Total/NA
Nitrate Nitrite as N	0.12		0.10	0.020	mg/L	1		NO2NO3 Calc	Total/NA
Copper	2.1		2.0	0.32	ug/L	1		200.8	Total Recoverable
Iron	8.0	J,DX	20	3.7	ug/L	1		200.8	Total Recoverable
Manganese	7.2		1.0	0.41	ug/L	1		200.8	Total Recoverable
Selenium	1.1	J,DX	2.0	0.52	ug/L	1		200.8	Total Recoverable
Hardness as calcium carbonate	73		7.1	0.50	mg/L	1		SM 2340B	Total Recoverable
Turbidity	0.35		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Dissolved Solids	180		10	8.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	0.90	J,DX	1.0	0.83	mg/L	1		SM 2540D	Total/NA
MBAS	0.057	J,DX	0.20	0.050	mg/L	1		SM 5540C	Total/NA

Client Sample ID: Outfall011_20230405_Comp_F — Lab Sample ID: 570-133752-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	2.1	BU	2.0	0.32	ug/L	1		200.8	Dissolved
Manganese	4.7	BU	1.0	0.41	ug/L	1		200.8	Dissolved
Hardness as calcium carbonate	66		7.1	0.50	mg/L	1		SM 2340B	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample Results

I ient H:a yin& A dir ceh, . It hP
j co/nhHSBeH: gonet NEj DFB BBLR- u oCHet n f CHyii 011 -
I op 9

Job ID: 570-13375C-1

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: Outfall011_20230405_Comp
Date Collected: 04/05/23 07:10
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133752-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C.2.6-Tceh, iocco9, nt oi	ED		0P45	0P13	CNSR		02S11SC3 08:36	02S1CSC3 14:34	1
C.2-Det eHoHoiCnt n	ED		0P14	0P11	CNSR		02S11SC3 08:36	02S1CSC3 14:34	1
ges(C-nH,&i, nx&i) 9, H,yiyHt	ED		2P7	3P2	CNSR		02S11SC3 08:36	02S1CSC3 14:34	1
E-EeHosor ep nH,&iyp et n	ED		0P14	0P18	CNSR		02S11SC3 08:36	02S1CSC3 14:34	1
j nt Hyh, iocco9, nt oi	ED		0P45	0P80	CNSR		02S11SC3 08:36	02S1CSC3 14:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*70*		*31 - 124*	*4/ 8I18 23 40:36*	*4/ 8I28 23 15:35*	*1*
Phenol-d6 (Surr)	*27*		*14 - 124*	*4/ 8I18 23 40:36*	*4/ 8I28 23 15:35*	*1*
p-Terphenyl-d1/ (Surr)	*0/*		*/ 7 - 124*	*4/ 8I18 23 40:36*	*4/ 8I28 23 15:35*	*1*
29 96-Tribro, ophenol	*00*		*20 - 12m*	*4/ 8I18 23 40:36*	*4/ 8I28 23 15:35*	*1*
2-Fluorophenol	*22*		*1m - 124*	*4/ 8I18 23 40:36*	*4/ 8I28 23 15:35*	*1*
Nitrobenzene-d7	*6/*		*2m - 124*	*4/ 8I18 23 40:36*	*4/ 8I28 23 15:35*	*1*

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Method: EPA 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall011_20230405_Comp — **Lab Sample ID: 570-133752-1**

Date Collected: 04/05/23 07:10 — **Matrix: Water**

Date Received: 04/05/23 18:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
yi9, y-ga I	ED		0P0013	0P001C	ONSR		02S10SC3 1C:00	02S14SC3 07:18	1
I , iocr yt n	ED		0P033	0P0C6	ONSR		02S10SC3 1C:00	02S14SC3 07:18	1
Denir cte	ED		0P0033	0P0013	ONSR		02S10SC3 1C:00	02S14SC3 07:18	1
2.2'-DDT	ED		0P0033	0P0016	ONSR		02S10SC3 1C:00	02S14SC3 07:18	1
2.2'-DDD	ED		0P0067	0P0022	ONSR		02S10SC3 1C:00	02S14SC3 07:18	1
2.2'-DDF	ED		0P0033	0P0014	ONSR		02S10SC3 1C:00	02S14SC3 07:18	1
Toxy9, nt n	ED		0P067	0P052	ONSR		02S10SC3 1C:00	02S14SC3 07:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-, -xylene	*/ 7*		*24 - 135*	*4/ 8I48 23 12:44*	*4/ 8I58 23 4m10*	*1*
DCB Decachlorobiphenyl (Surr)	*55*		*24 - 17/*	*4/ 8I48 23 12:44*	*4/ 8I58 23 4m10*	*1*

Client Sample Results

l ient H:a yin&A dir oeh, . lt hP Job ID: 570-13375C-1
j oo/nhHSBeH: gonet NEj DFB BBLR- uoOHe n f Ohyii 011 -
l op 9

Method: EPA 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: Outfall011_20230405_Comp **Lab Sample ID: 570-133752-1**
Date Collected: 04/05/23 07:10 **Matrix: Water**
Date Received: 04/05/23 18:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
d oohioc 1016	ED		0P10	0P022	ONSR		02S10SC3 1C:00	02S13SC3 16:C6	1
d oohioc 1CC1	ED		0P10	0P022	ONSR		02S10SC3 1C:00	02S13SC3 16:C6	1
d oohioc 1C3C	ED		0P10	0P022	ONSR		02S10SC3 1C:00	02S13SC3 16:C6	1
d oohioc 1C2C	ED		0P10	0P022	ONSR		02S10SC3 1C:00	02S13SC3 16:C6	1
d oohioc 1C28	ED		0P10	0P022	ONSR		02S10SC3 1C:00	02S13SC3 16:C6	1
d oohioc 1C52	ED		0P10	0P05C	ONSR		02S10SC3 1C:00	02S13SC3 16:C6	1
d oohioc 1C60	ED		0P10	0P05C	ONSR		02S10SC3 1C:00	02S13SC3 16:C6	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*76*		*24 - 17/*	*4/ 8l4823 12:44*	*4/ 8l3823 16:26*	*1*

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Job ID: 570-13375C-1

Method: EPA 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall011_20230405_Comp — **Lab Sample ID: 570-133752-1**
Date Collected: 04/05/23 07:10 — **Matrix: Water**
Date Received: 04/05/23 18:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.0**		1.0	0.36	mg/L			04/06/23 08:06	1
Fluoride	ND		0.10	0.023	mg/L			04/06/23 08:06	1
Nitrate as N	**0.12**		0.10	0.0060	mg/L			04/06/23 08:06	1
Sulfate	**41**		1.0	0.22	mg/L			04/06/23 08:06	1

Job ID: 570-13375C-1

Method: EPA 314.0 - Perchlorate (IC)

Client Sample ID: Outfall011_20230405_Comp
Date Collected: 04/05/23 07:10
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133752-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ED		CP0	0P41	CNSR			02S06S23 CC:38	1

Method: EPA NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall011_20230405_Comp
Date Collected: 04/05/23 07:10
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133752-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.12		0.10	0.050	mg/L			04/13/23 12:33	1

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall011_20230405_Comp
Lab Sample ID: 570-133752-1
Date Collected: 04/05/23 07:10
Matrix: Water
Date Received: 04/05/23 18:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
I yrp eOp	ED		1P0	0P13	ONSR		02S06SC3 1C:C6	02S07SC3 04:52	1
Copper	**2.1**		CP0	0P3C	ONSR		02S06SC3 1C:C6	02S07SC3 04:52	1
Iron	**8.0**	**J,DX**	C0	3P7	ONSR		02S06SC3 1C:C6	02S07SC3 04:52	1
Rnyr	ED		1P0	0P1C	ONSR		02S06SC3 1C:C6	02S07SC3 04:52	1
Manganese	**7.2**		1P0	0P21	ONSR		02S06SC3 1C:C6	02S07SC3 04:52	1
Selenium	**1.1**	**J,DX**	CP0	0P5C	ONSR		02S06SC3 1C:C6	02S07SC3 04:52	1
Ueh	ED		C0	CP8	ONSR		02S06SC3 1C:C6	02S07SC3 04:52	1

Job ID: 570-13375C-1

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall011_20230405_Comp_F
Date Collected: 04/05/23 07:10
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133752-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ED	gZ	1P0	0P13	ONSR			02S07SC3 12:0C	1
Copper	**2.1**	**BU**	CP0	0P3C	ONSR			02S07SC3 12:0C	1
Lead	ED	gZ	C0	3H7	ONSR			02S07SC3 12:0C	1
Silver	ED	gZ	1P0	0P1C	ONSR			02S07SC3 12:0C	1
Manganese	**4.7**	**BU**	1P0	0P21	ONSR			02S07SC3 12:0C	1
Beryllium	ED	gZ	CP0	0P5C	ONSR			02S07SC3 12:0C	1
Cadmium	ED	gZ	C0	CP8	ONSR			02S07SC3 12:0C	1

Client Sample Results

Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: Outfall011_20230405_Comp
Date Collected: 04/05/23 07:10
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133752-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MnchOo&	ED		0PC0	0P1C	CNSR		02S06SC3 14:00	02S07SC3 10:13	1

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Client Sample Results

I ient H:a yin& A dir oeh, . It hP
j oo/nhHSBeH: gonet NEj DFB BBLR- u oOHe n f OHyii 011 -
I op 9

Job ID: 570-13375C-1

Method: EPA 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall011_20230405_Comp_F
Date Collected: 04/05/23 07:10
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133752-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MnchOo&	ED	gZ	0PC0	0P1C	ONSR		02S06SC3 18:10	02S07SC3 1C:26	1

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Job ID: 570-13375C-1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Client Sample ID: Outfall011_20230405_Comp
Date Collected: 04/05/23 07:10
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133752-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	73		7P1	0P50	p NSR			02S08SC3 17:C8	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Client Sample ID: Outfall011_20230405_Comp_F **Lab Sample ID: 570-133752-3**
Date Collected: 04/05/23 07:10 **Matrix: Water**
Date Received: 04/05/23 18:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	66		7Pl	0P50	p NSR			02S11SC3 17:C8	1

Job ID: 570-13375C-1

General Chemistry

Client Sample ID: Outfall011_20230405_Comp
Date Collected: 04/05/23 07:10
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133752-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
dp p ot ey (Fj d 350P1)	ED		0P075	0P03C	p N5R		02S11S23 11:2C	02S11S23 13:31	1
l &yt e n. Toh yi (Fj d Kniyr y 01)	ED		5P0	CP5	CN5R			02S06S23 15:34	1
Turbidity (SM 2130B)	**0.35**		0P05	0P05	ETZ			02S05S23 C0:04	1
Total Dissolved Solids (SM 2540C)	**180**		10	8P7	p N5R			02S10S23 12:51	1
Total Suspended Solids (SM 2540D)	**0.90**	**J,DX**	1P0	0P83	p N5R			02S10S23 16:11	1
geoh, np e hyi f x&Nnt Dnp yt r (BM 5C10g)	ED		CP0	1P0	p N5R		02S06S23 1C:11	02S06S23 13:05	1
MBAS (SM 5540C)	**0.057**	**J,DX**	0PC0	0P050	p N5R		02S06S23 C0:20	02S06S23 CC:27	1

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)
570-13375C-1	f Ohyii0118C0C304058I op 2	59	C5	94	99	CC	_4
RI B 570-31614CSC-d	Ryb I ot Hoi Byp 2in	59	C5	76	9C	33	5_
RI BD 570-31614CS3-d	Ryb I ot Hoi Byp 2in DO2	56	C5	90	94	34	55
Mg 570-31614CSI-d	MnH or giyt k	__	3C	9C	94	30	91

Surrogate Legend

Lgj = C-LiOcobe2, nt &i (BOcc)
j aR_ = j , nt oi-r _ (BOcc)
Tj a r 14 = 2-Tnc2, nt &i-r 14 (BOcc)
Tgj = C.4._-Tobcop o2, nt oi
CLj = C-LiOco2, nt oi
EgZ = EeHobnt znt n-r 5

Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water　　　　**Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		TCX2	DCB1
Lab Sample ID	Client Sample ID	(20-139)	(20-154)
570-13375C-1	f Ohyii0118C0C304058I op 2	45	66

Surrogate Legend

TI X = TnHyh, iocco-p -x&int n
DI g = DI g Dnhyh, iocobe2, nt &i (BOcc)

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water　　　　**Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		DCB1
Lab Sample ID	Client Sample ID	(20-154)
570-13375C-1	f Ohyii0118C0C304058I op 2	5_

Surrogate Legend

DI g = DI g Dnhyh, iocobe2, nt &i (BOcc)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-319142/1-A
Matrix: Water
Analysis Batch: 319564

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 319142

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.14	ug/L		04/11/23 08:36	04/12/23 16:54	1
2,4-Dinitrotoluene	ND		0.20	0.12	ug/L		04/11/23 08:36	04/12/23 16:54	1
Bis(2-ethylhexyl) phthalate	ND		5.0	3.6	ug/L		04/11/23 08:36	04/12/23 16:54	1
N-Nitrosodimethylamine	ND		0.20	0.19	ug/L		04/11/23 08:36	04/12/23 16:54	1
Pentachlorophenol	ND		1.0	0.84	ug/L		04/11/23 08:36	04/12/23 16:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*66*		*31 - 120*	*04/11/23 08:36*	*04/12/23 16:54*	*1*
Phenol-d6 (Surr)	*32*		*10 - 120*	*04/11/23 08:36*	*04/12/23 16:54*	*1*
p-Terphenyl-d14 (Surr)	*82*		*45 - 120*	*04/11/23 08:36*	*04/12/23 16:54*	*1*
2,4,6-Tribromophenol	*84*		*28 - 127*	*04/11/23 08:36*	*04/12/23 16:54*	*1*
2-Fluorophenol	*30*		*17 - 120*	*04/11/23 08:36*	*04/12/23 16:54*	*1*
Nitrobenzene-d5	*81*		*27 - 120*	*04/11/23 08:36*	*04/12/23 16:54*	*1*

Lab Sample ID: LCS 570-319142/2-A
Matrix: Water
Analysis Batch: 319969

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 319142

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
2,4,6-Trichlorophenol			20.0	12.3		ug/L		62	52 - 129		
2,4-Dinitrotoluene			20.0	21.6		ug/L		108	48 - 127		
Bis(2-ethylhexyl) phthalate			20.0	22.4		ug/L		112	29 - 137		
N-Nitrosodimethylamine			20.0	6.62		ug/L		33	20 - 120		
Pentachlorophenol			20.0	11.7		ug/L		58	38 - 152		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*58*		*31 - 120*
Phenol-d6 (Surr)	*25*		*10 - 120*
p-Terphenyl-d14 (Surr)	*79*		*45 - 120*
2,4,6-Tribromophenol	*82*		*28 - 127*
2-Fluorophenol	*33*		*17 - 120*
Nitrobenzene-d5	*56*		*27 - 120*

Lab Sample ID: LCSD 570-319142/3-A
Matrix: Water
Analysis Batch: 319564

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 319142

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4,6-Trichlorophenol			20.0	12.4		ug/L		62	52 - 129	1	35
2,4-Dinitrotoluene			20.0	20.3		ug/L		102	48 - 127	6	25
Bis(2-ethylhexyl) phthalate			20.0	23.0		ug/L		115	29 - 137	3	50
N-Nitrosodimethylamine			20.0	5.46		ug/L		27	20 - 120	19	21
Pentachlorophenol			20.0	12.4		ug/L		62	38 - 152	6	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*59*		*31 - 120*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-319142/3-A
Matrix: Water
Analysis Batch: 319564

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 319142

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Phenol-d6 (Surr)	*25*		*10 - 120*
p-Terphenyl-d14 (Surr)	*80*		*45 - 120*
2,4,6-Tribromophenol	*84*		*28 - 127*
2-Fluorophenol	*34*		*17 - 120*
Nitrobenzene-d5	*55*		*27 - 120*

Method: 300.0 - Anions8Ion Chromatography

Lab Sample ID: MB 570-317, 9, /5
Matrix: Water
Analysis Batch: 317, 9,

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			04/06/23 07:16	1
Sulfate	ND		1.0	0.24	mg/L			04/06/23 07:16	1

Lab Sample ID: LCS 570-317, 9, /6
Matrix: Water
Analysis Batch: 317, 9,

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	48.4		mg/L		97	90 - 110
Sulfate	50.0	48.5		mg/L		97	90 - 110

Lab Sample ID: LCSD 570-317, 9, /7
Matrix: Water
Analysis Batch: 317, 9,

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	48.4		mg/L		97	90 - 110	0	15
Sulfate	50.0	48.7		mg/L		97	90 - 110	0	15

Lab Sample ID: MB 570-317, 99/5
Matrix: Water
Analysis Batch: 317, 99

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	0.043	mg/L			04/06/23 07:16	1
Nitrate as N	ND		0.10	0.020	mg/L			04/06/23 07:16	1

Lab Sample ID: LCS 570-317, 99/6
Matrix: Water
Analysis Batch: 317, 99

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	2.53		mg/L		101	90 - 110
Nitrate as N	5.00	4.85		mg/L		97	90 - 110

Method: 300.0 - Anions8Ion Chromatography (Continued)

Lab Sample ID: LCSD 570-317, 99/7
Matrix: Water
Analysis Batch: 317, 99

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	2.53		mg/L		101	90 - 110	0	15
Nitrate as N			5.00	4.86		mg/L		97	90 - 110	0	15

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-31, 04, /7
Matrix: Water
Analysis Batch: 31, 04,

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			04/06/23 16:22	1

Lab Sample ID: LCS 570-31, 04, /,
Matrix: Water
Analysis Batch: 31, 04,

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	24.7		ug/L		99	85 - 115		

Lab Sample ID: LCSD 570-31, 04, /9
Matrix: Water
Analysis Batch: 31, 04,

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	24.5		ug/L		98	85 - 115	1	15

Method: 200., - Metals (ICP/MS)

Lab Sample ID: MB 570-3179, 9/1-A
Matrix: Water
Analysis Batch: 31, 079

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 3179, 9

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		04/06/23 10:43	04/06/23 13:22	1
Copper	ND		2.0	0.32	ug/L		04/06/23 10:43	04/06/23 13:22	1
Iron	ND		20	3.7	ug/L		04/06/23 10:43	04/06/23 13:22	1
Lead	ND		1.0	0.12	ug/L		04/06/23 10:43	04/06/23 13:22	1
Manganese	ND		1.0	0.41	ug/L		04/06/23 10:43	04/06/23 13:22	1
Selenium	ND		2.0	0.52	ug/L		04/06/23 10:43	04/06/23 13:22	1
Zinc	ND		20	2.8	ug/L		04/06/23 10:43	04/06/23 13:22	1

Lab Sample ID: LCS 570-3179, 9/2-A
Matrix: Water
Analysis Batch: 31, 079

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 3179, 9

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Cadmium			80.0	81.9		ug/L		102	85 - 115		
Copper			80.0	82.1		ug/L		103	85 - 115		
Iron			800	846		ug/L		106	85 - 115		

Method: 200., - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 570-3179, 9/2-A
Matrix: Water
Analysis Batch: 31, 079

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 3179, 9

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	80.0	82.5		ug/L		103	85 - 115
Manganese	80.0	85.4		ug/L		107	85 - 115
Selenium	80.0	84.7		ug/L		106	85 - 115
Zinc	80.0	81.1		ug/L		101	85 - 115

Lab Sample ID: LCSD 570-3179, 9/3-A
Matrix: Water
Analysis Batch: 31, 079

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 3179, 9

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	80.0	81.6		ug/L		102	85 - 115	0	20
Copper	80.0	82.9		ug/L		104	85 - 115	1	20
Iron	800	843		ug/L		105	85 - 115	0	20
Lead	80.0	82.0		ug/L		103	85 - 115	1	20
Manganese	80.0	86.2		ug/L		108	85 - 115	1	20
Selenium	80.0	83.6		ug/L		104	85 - 115	1	20
Zinc	80.0	80.4		ug/L		100	85 - 115	1	20

Lab Sample ID: 570-133752-1 MS
Matrix: Water
Analysis Batch: 31, 423

Client Sample ID: Outfall011_20230405_Comp
Prep Type: Total Recoverable
Prep Batch: 3179, 9

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	ND		80.0	78.5		ug/L		98	80 - 120
Copper	2.1		80.0	82.2		ug/L		100	80 - 120
Iron	8.0	J,DX	800	813		ug/L		101	80 - 120
Lead	ND		80.0	78.4		ug/L		98	80 - 120
Manganese	7.2		80.0	87.3		ug/L		100	80 - 120
Selenium	1.1	J,DX	80.0	91.8		ug/L		113	80 - 120
Zinc	ND		80.0	78.9		ug/L		99	80 - 120

Lab Sample ID: 570-133752-1 MSD
Matrix: Water
Analysis Batch: 31, 423

Client Sample ID: Outfall011_20230405_Comp
Prep Type: Total Recoverable
Prep Batch: 3179, 9

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	ND		80.0	82.3		ug/L		103	80 - 120	5	20
Copper	2.1		80.0	84.7		ug/L		103	80 - 120	3	20
Iron	8.0	J,DX	800	819		ug/L		101	80 - 120	1	20
Lead	ND		80.0	81.0		ug/L		101	80 - 120	3	20
Manganese	7.2		80.0	89.0		ug/L		102	80 - 120	2	20
Selenium	1.1	J,DX	80.0	95.6		ug/L		118	80 - 120	4	20
Zinc	ND		80.0	81.6		ug/L		102	80 - 120	3	20

Method: 200., - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 570-31, 299/1-A
Matrix: Water
Analysis Batch: 31, 467

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L			04/07/23 13:56	1
Copper	ND		2.0	0.32	ug/L			04/07/23 13:56	1
Iron	ND		20	3.7	ug/L			04/07/23 13:56	1
Lead	ND		1.0	0.12	ug/L			04/07/23 13:56	1
Manganese	ND		1.0	0.41	ug/L			04/07/23 13:56	1
Selenium	ND		2.0	0.52	ug/L			04/07/23 13:56	1
Zinc	ND		20	2.8	ug/L			04/07/23 13:56	1

Lab Sample ID: LCS 570-31, 299/2-A
Matrix: Water
Analysis Batch: 31, 467

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Cadmium			80.0	80.4		ug/L		101	85 - 115		
Copper			80.0	82.2		ug/L		103	85 - 115		
Iron			800	825		ug/L		103	85 - 115		
Lead			80.0	80.4		ug/L		101	85 - 115		
Manganese			80.0	80.6		ug/L		101	85 - 115		
Selenium			80.0	81.2		ug/L		102	85 - 115		
Zinc			80.0	79.9		ug/L		100	85 - 115		

Lab Sample ID: LCSD 570-31, 299/3-A
Matrix: Water
Analysis Batch: 31, 467

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium			80.0	77.7		ug/L		97	85 - 115	3	20
Copper			80.0	80.2		ug/L		100	85 - 115	2	20
Iron			800	807		ug/L		101	85 - 115	2	20
Lead			80.0	78.0		ug/L		97	85 - 115	3	20
Manganese			80.0	79.3		ug/L		99	85 - 115	2	20
Selenium			80.0	76.7		ug/L		96	85 - 115	6	20
Zinc			80.0	77.8		ug/L		97	85 - 115	3	20

Lab Sample ID: 570-133752-3 MS
Matrix: Water
Analysis Batch: 31, 467

Client Sample ID: Outfall011_20230405_Comp_F
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Cadmium	ND	BU	80.0	73.1	BU	ug/L		91	80 - 120		
Copper	2.1	BU	80.0	77.3	BU	ug/L		94	80 - 120		
Iron	ND	BU	800	728	BU	ug/L		91	80 - 120		
Lead	ND	BU	80.0	71.8	BU	ug/L		90	80 - 120		
Manganese	4.7	BU	80.0	77.4	BU	ug/L		91	80 - 120		
Selenium	ND	BU	80.0	76.8	BU	ug/L		96	80 - 120		
Zinc	ND	BU	80.0	73.8	BU	ug/L		92	80 - 120		

Method: 200., - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-133752-3 MSD
Matrix: Water
Analysis Batch: 31, 467

Client Sample ID: Outfall011_20230405_Comp_F
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	ND	BU	80.0	72.7	BU	ug/L		91	80 - 120	1	20
Copper	2.1	BU	80.0	77.9	BU	ug/L		95	80 - 120	1	20
Iron	ND	BU	800	736	BU	ug/L		92	80 - 120	1	20
Lead	ND	BU	80.0	72.9	BU	ug/L		91	80 - 120	2	20
Manganese	4.7	BU	80.0	78.1	BU	ug/L		92	80 - 120	1	20
Selenium	ND	BU	80.0	75.2	BU	ug/L		94	80 - 120	2	20
Zinc	ND	BU	80.0	73.6	BU	ug/L		92	80 - 120	0	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-317, 7, /1-A
Matrix: Water
Analysis Batch: 31, 420

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 317, 7,

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		04/06/23 19:00	04/07/23 11:57	1

Lab Sample ID: LCS 570-317, 7, /2-A
Matrix: Water
Analysis Batch: 31, 420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 317, 7,

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	7.73		ug/L		97	85 - 115

Lab Sample ID: LCSD 570-317, 7, /3-A
Matrix: Water
Analysis Batch: 31, 420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 317, 7,

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	7.89		ug/L		99	85 - 115	2	10

Lab Sample ID: 570-133752-1 MS
Matrix: Water
Analysis Batch: 31, 420

Client Sample ID: Outfall011_20230405_Comp
Prep Type: Total/NA
Prep Batch: 317, 7,

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		8.00	7.82		ug/L		98	85 - 115

Lab Sample ID: 570-133752-1 MSD
Matrix: Water
Analysis Batch: 31, 420

Client Sample ID: Outfall011_20230405_Comp
Prep Type: Total/NA
Prep Batch: 317, 7,

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		8.00	7.65		ug/L		96	85 - 115	2	10

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: MB 570-317, 79/1-B
Matrix: Water
Analysis Batch: 31, 420

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 31, 1, 1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		04/06/23 18:10	04/07/23 12:31	1

Lab Sample ID: LCS 570-317, 79/2-B
Matrix: Water
Analysis Batch: 31, 420

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 31, 1, 1

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	8.03		ug/L		100	85 - 115

Lab Sample ID: LCSD 570-317, 79/3-B
Matrix: Water
Analysis Batch: 31, 420

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 31, 1, 1

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	8.32		ug/L		104	85 - 115	4	10

Method: 350.1 - Nitrogen8Ammonia

Lab Sample ID: MB 570-31932, /5-A
Matrix: Water
Analysis Batch: 319339

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31932,

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.075	0.032	mg/L		04/11/23 11:42	04/11/23 13:25	1

Lab Sample ID: LCS 570-31932, /6-A
Matrix: Water
Analysis Batch: 319339

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31932,

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.500	0.495		mg/L		99	90 - 110

Lab Sample ID: LCSD 570-31932, /7-A
Matrix: Water
Analysis Batch: 319339

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31932,

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.500	0.492		mg/L		98	90 - 110	1	20

Lab Sample ID: 570-133752-1 MS
Matrix: Water
Analysis Batch: 319339

Client Sample ID: Outfall011_20230405_Comp
Prep Type: Total/NA
Prep Batch: 31932,

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	ND		0.500	0.510		mg/L		102	90 - 110

Method: 350.1 - Nitrogen8Ammonia (Continued)

Lab Sample ID: 570-133752-1 MSD
Matrix: Water
Analysis Batch: 319339

Client Sample ID: Outfall011_20230405_Comp
Prep Type: Total/NA
Prep Batch: 31932,

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	ND		0.500	0.519		mg/L		104	90 - 110	2	25

Method: Kelada 01 - Cyanide8Total8Acid Dissociable and Thiocyanate

Lab Sample ID: MB 570-31, 171/11
Matrix: Water
Analysis Batch: 31, 171

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L			04/06/23 13:52	1

Lab Sample ID: LCS 570-31, 171/12
Matrix: Water
Analysis Batch: 31, 171

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	250	226		ug/L		90	90 - 110

Lab Sample ID: LCSD 570-31, 171/13
Matrix: Water
Analysis Batch: 31, 171

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
Cyanide, Total	250	244		ug/L		98	90 - 110	8	20

Lab Sample ID: MRL 570-31, 171/10
Matrix: Water
Analysis Batch: 31, 171

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	5.00	4.29	J,DX	ug/L		86	50 - 150

Method: SM 2130B - Turbidity

Lab Sample ID: LCSSRM 570-317, 51/1
Matrix: Water
Analysis Batch: 317, 51

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	1000	1000		NTU		99.6	99.0 - 101.0

Lab Sample ID: LCSSRM 570-317, 51/2
Matrix: Water
Analysis Batch: 317, 51

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	10.0	10		NTU		99.6	99.0 - 101.0

Method: SM 2130B - Turbidity (Continued)

Lab Sample ID: LCSSRM 570-317, 51/3
Matrix: Water
Analysis Batch: 317, 51

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	0.0200	ND		NTU		100.0	0.0 - 200.0

Method: SM 2540C - Solids8Total Dissolved (TDS)

Lab Sample ID: MB 570-31, 930/1
Matrix: Water
Analysis Batch: 31, 930

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	8.7	mg/L			04/10/23 14:51	1

Lab Sample ID: LCS 570-31, 930/2
Matrix: Water
Analysis Batch: 31, 930

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	1000		mg/L		100	84 - 108

Lab Sample ID: LCSD 570-31, 930/3
Matrix: Water
Analysis Batch: 31, 930

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 Dissolved Solids	1000	956		mg/L		96	84 - 108	4	10

Method: SM 2540D - Solids8Total Suspended (TSS)

Lab Sample ID: MB 570-31, 9, 2/1
Matrix: Water
Analysis Batch: 31, 9, 2

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			04/10/23 16:11	1

Lab Sample ID: LCS 570-31, 9, 2/2
Matrix: Water
Analysis Batch: 31, 9, 2

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	105		mg/L		105	77 - 116

Lab Sample ID: LCSD 570-31, 9, 2/3
Matrix: Water
Analysis Batch: 31, 9, 2

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	99.0		mg/L		99	77 - 116	6	10

Method: SM 5210B - BOD85-Day

Lab Sample ID: LCS 570-31, 052/2-A
Matrix: Water
Analysis Batch: 319363

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31, 052

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Biochemical Oxygen Demand			199	226		mg/L		114	84.6 - 115.4		

Lab Sample ID: 570-133752-1 DU
Matrix: Water
Analysis Batch: 319363

Client Sample ID: Outfall011_20230405_Comp
Prep Type: Total/NA
Prep Batch: 31, 052

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Biochemical Oxygen Demand	ND			ND		mg/L				NC	25

Lab Sample ID: USB 570-319363/2
Matrix: Water
Analysis Batch: 319363

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	1.0	mg/L			04/06/23 12:33	1

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 570-31, 376/5-A
Matrix: Water
Analysis Batch: 31, 221

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31, 376

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.20	0.050	mg/L		04/06/23 20:40	04/06/23 22:40	1

Lab Sample ID: LCS 570-31, 376/6-A
Matrix: Water
Analysis Batch: 31, 221

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31, 376

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
MBAS			0.500	0.479		mg/L		96	83 - 122		

Lab Sample ID: LCSD 570-31, 376/7-A
Matrix: Water
Analysis Batch: 31, 221

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31, 376

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS			0.500	0.479		mg/L		96	83 - 122	0	10

QC Association Summary

I ient H:a yin& A dir ceh, . It hP
j co/nhHBeh: gonel NEj DFB BBLR- u oCHe n f CHyii 011 -
I op W

Job ID: 570-13375C-1

GC/MS Semi VOA

Prep Batch: 328214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f CHyii011_C0C30405_I op W	TolyiSEd	6 yHc	2C5	
Mg 570-31914CS1-d	MnH;or giyt k	TolyiSEd	6 yHc	2C5	
RI B 570-31914CSC-d	Ryb I ot Hoi Byp WH	TolyiSEd	6 yHc	2C5	
RI BD 570-31914CS3-d	Ryb I ot Hoi Byp WH DOW	TolyiSEd	6 yHc	2C5	

Analysis Batch: 328971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f CHyii011_C0C30405_I op W	TolyiSEd	6 yHc	2C5PI BIM	31914C
Mg 570-31914CS1-d	MnH;or giyt k	TolyiSEd	6 yHc	2C5PI BIM	31914C
RI BD 570-31914CS3-d	Ryb I ot Hoi Byp WH DOW	TolyiSEd	6 yHc	2C5PI BIM	31914C

Analysis Batch: 328878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
RI B 570-31914CSC-d	Ryb I ot Hoi Byp WH	TolyiSEd	6 yHc	2C5PI BIM	31914C

GC Semi VOA

Prep Batch: 3200H2

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f CHyii011_C0C30405_I op W	TolyiSEd	6 yHc	208	

Analysis Batch: 328867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f CHyii011_C0C30405_I op W	TolyiSEd	6 yHc	208P3	318871

Analysis Batch: 342174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f CHyii011_C0C30405_I op W	TolyiSEd	6 yHc	208P3	318871

5 PLC/IC

Analysis Batch: 32H080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f CHyii011_C0C30405_I op W	TolyiSEd	6 yHc	300P0	
Mg 570-317898S5	MnH;or giyt k	TolyiSEd	6 yHc	300P0	
RI B 570-317898S2	Ryb I ot Hoi Byp WH	TolyiSEd	6 yHc	300P0	
RI BD 570-317898S7	Ryb I ot Hoi Byp WH DOW	TolyiSEd	6 yHc	300P0	

Analysis Batch: 32H088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f CHyii011_C0C30405_I op W	TolyiSEd	6 yHc	300P0	
Mg 570-317899S5	MnH;or giyt k	TolyiSEd	6 yHc	300P0	
RI B 570-317899S2	Ryb I ot Hoi Byp WH	TolyiSEd	6 yHc	300P0	
RI BD 570-317899S7	Ryb I ot Hoi Byp WH DOW	TolyiSEd	6 yHc	300P0	

Analysis Batch: 320610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f CHyii011_C0C30405_I op W	TolyiSEd	6 yHc	314P0	
Mg 570-318048S7	MnH;or giyt k	TolyiSEd	6 yHc	314P0	
RI B 570-318048S8	Ryb I ot Hoi Byp WH	TolyiSEd	6 yHc	314P0	
RI BD 570-318048S9	Ryb I ot Hoi Byp WH DOW	TolyiSEd	6 yHc	314P0	

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5 PLC/IC

Analysis Batch: 328498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f OHyii011_C0C30405_I op W	TolyiSEd	6 yHc	Ef CEf 3 I yih	

Metals

Prep Batch: 32H0H0

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f OHyii011_C0C30405_I op W	TolyiSEd	6 yHc	C45Pl	
Mg 570-317878S1-d	MnH;or giyt k	TolyiSEd	6 yHc	C45Pl	
Rl B 570-317878SC-d	Ryb I ot Hoi Byp Wh	TolyiSEd	6 yHc	C45Pl	
Rl BD 570-317878S3-d	Ryb I ot Hoi Byp Wh DOW	TolyiSEd	6 yHc	C45Pl	
570-13375C-1 MB	f OHyii011_C0C30405_I op W	TolyiSEd	6 yHc	C45Pl	
570-13375C-1 MBD	f OHyii011_C0C30405_I op W	TolyiSEd	6 yHc	C45Pl	

Filtration Batch: 32H0H8

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-3	f OHyii011_C0C30405_I op W_L	Dessoivnr	6 yHc	LeHdyHebt	
Mg 570-317879S1-g	MnH;or giyt k	Dessoivnr	6 yHc	LeHdyHebt	
Rl B 570-317879SC-g	Ryb I ot Hoi Byp Wh	Dessoivnr	6 yHc	LeHdyHebt	
Rl BD 570-317879S3-g	Ryb I ot Hoi Byp Wh DOW	Dessoivnr	6 yHc	LeHdyHebt	

Prep Batch: 32H808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f OHyii011_C0C30405_I op W	TolHi u nhovnoybin	6 yHc	C00R8	
Mg 570-317989S1-d	MnH;or giyt k	TolHi u nhovnoybin	6 yHc	C00R8	
Rl B 570-317989SC-d	Ryb I ot Hoi Byp Wh	TolHi u nhovnoybin	6 yHc	C00R8	
Rl BD 570-317989S3-d	Ryb I ot Hoi Byp Wh DOW	TolHi u nhovnoybin	6 yHc	C00R8	
570-13375C-1 MB	f OHyii011_C0C30405_I op W	TolHi u nhovnoybin	6 yHc	C00R8	
570-13375C-1 MBD	f OHyii011_C0C30405_I op W	TolHi u nhovnoybin	6 yHc	C00R8	

Analysis Batch: 3206H8

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
Mg 570-317989S1-d	MnH;or giyt k	TolHi u nhovnoybin	6 yHc	C00R8	317989
Rl B 570-317989SC-d	Ryb I ot Hoi Byp Wh	TolHi u nhovnoybin	6 yHc	C00R8	317989
Rl BD 570-317989S3-d	Ryb I ot Hoi Byp Wh DOW	TolHi u nhovnoybin	6 yHc	C00R8	317989

Analysis Batch: 320277

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f OHyii011_C0C30405_I op W	TolHi u nhovnoybin	6 yHc	BM C340g	

Analysis Batch: 32027H

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-3	f OHyii011_C0C30405_I op W_L	Dessoivnr	6 yHc	BM C340g	

Prep Batch: 320202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-3	f OHyii011_C0C30405_I op W_L	Dessoivnr	6 yHc	C45Pl	317879
Mg 570-317879S1-g	MnH;or giyt k	Dessoivnr	6 yHc	C45Pl	317879
Rl B 570-317879SC-g	Ryb I ot Hoi Byp Wh	Dessoivnr	6 yHc	C45Pl	317879
Rl BD 570-317879S3-g	Ryb I ot Hoi Byp Wh DOW	Dessoivnr	6 yHc	C45Pl	317879

FCcond s I yishd hn

QC Association Summary

I ient H:a yin&A dir ceh, . It hP   Job ID: 570-13375C-1
j co/nhHBeh: gonet NEj DFB BBLR- uoCHe n f CHyii 011 -
I op W

Metals

Filtration Batch: 320488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-3	f CHyii011_C0C30405_I op W_L	Dessoivnr	6 yHc	LeHyHot	
Mg 570-318C99SI-d	MnH;or giyt k	Dessoivnr	6 yHc	LeHyHot	
RI B 570-318C99SC-d	Ryb I ot Hoi Byp Wh	Dessoivnr	6 yHc	LeHyHot	
RI BD 570-318C99S3-d	Ryb I ot Hoi Byp Wh DOW	Dessoivnr	6 yHc	LeHyHot	
570-13375C-3 MB	f CHyii011_C0C30405_I op W_L	Dessoivnr	6 yHc	LeHyHot	
570-13375C-3 MBD	f CHyii011_C0C30405_I op W_L	Dessoivnr	6 yHc	LeHyHot	

Analysis Batch: 320146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f CHyii011_C0C30405_I op W	TolHyiSEd	6 yHc	C45PI	317878
570-13375C-3	f CHyii011_C0C30405_I op W_L	Dessoivnr	6 yHc	C45PI	318181
Mg 570-317878SI-d	MnH;or giyt k	TolHyiSEd	6 yHc	C45PI	317878
Mg 570-317879SI-g	MnH;or giyt k	Dessoivnr	6 yHc	C45PI	318181
RI B 570-317878SC-d	Ryb I ot Hoi Byp Wh	TolHyiSEd	6 yHc	C45PI	317878
RI B 570-317879SC-g	Ryb I ot Hoi Byp Wh	Dessoivnr	6 yHc	C45PI	318181
RI BD 570-317878S3-d	Ryb I ot Hoi Byp Wh DOW	TolHyiSEd	6 yHc	C45PI	317878
RI BD 570-317879S3-g	Ryb I ot Hoi Byp Wh DOW	Dessoivnr	6 yHc	C45PI	318181
570-13375C-1 MB	f CHyii011_C0C30405_I op W	TolHyiSEd	6 yHc	C45PI	317878
570-13375C-1 MBD	f CHyii011_C0C30405_I op W	TolHyiSEd	6 yHc	C45PI	317878

Analysis Batch: 320143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f CHyii011_C0C30405_I op W	TolHyi u nhovncybin	6 yHc	C00F8	317989
570-13375C-1 MB	f CHyii011_C0C30405_I op W	TolHyi u nhovncybin	6 yHc	C00F8	317989
570-13375C-1 MBD	f CHyii011_C0C30405_I op W	TolHyi u nhovncybin	6 yHc	C00F8	317989

Analysis Batch: 32017H

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-3	f CHyii011_C0C30405_I op W_L	Dessoivnr	6 yHc	C00F8	318C99
Mg 570-318C99SI-d	MnH;or giyt k	Dessoivnr	6 yHc	C00F8	318C99
RI B 570-318C99SC-d	Ryb I ot Hoi Byp Wh	Dessoivnr	6 yHc	C00F8	318C99
RI BD 570-318C99S3-d	Ryb I ot Hoi Byp Wh DOW	Dessoivnr	6 yHc	C00F8	318C99
570-13375C-3 MB	f CHyii011_C0C30405_I op W_L	Dessoivnr	6 yHc	C00F8	318C99
570-13375C-3 MBD	f CHyii011_C0C30405_I op W_L	Dessoivnr	6 yHc	C00F8	318C99

General Chemistry

Analysis Batch: 32H092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f CHyii011_C0C30405_I op W	TolHyiSEd	6 yHc	BM C130g	
RI BBu M 570-317851SI	Ryb I ot Hoi Byp Wh	TolHyiSEd	6 yHc	BM C130g	
RI BBu M 570-317851SC	Ryb I ot Hoi Byp Wh	TolHyiSEd	6 yHc	BM C130g	
RI BBu M 570-317851S3	Ryb I ot Hoi Byp Wh	TolHyiSEd	6 yHc	BM C130g	

Prep Batch: 320694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f CHyii011_C0C30405_I op W	TolHyiSEd	6 yHc	gf D j cnW	
RI B 570-31805CSC-d	Ryb I ot Hoi Byp Wh	TolHyiSEd	6 yHc	gf D j cnW	
570-13375C-1 DK	f CHyii011_C0C30405_I op W	TolHyiSEd	6 yHc	gf D j cnW	

General Chemistry

Analysis Batch: 3202H2

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f OHyii011_C0C30405_I op W	TolyiSEd	6 yHc	Uniyr y 01	
Mg 570-318171S11	MnH,or giyt k	TolyiSEd	6 yHc	Uniyr y 01	
RI B 570-318171SIC	Ryb I ot Hoi Byp Wh	TolyiSEd	6 yHc	Uniyr y 01	
RI BD 570-318171S13	Ryb I ot Hoi Byp Wh DOW	TolyiSEd	6 yHc	Uniyr y 01	
Mu R570-318171S10	Ryb I ot Hoi Byp Wh	TolyiSEd	6 yHc	Uniyr y 01	

Analysis Batch: 320442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f OHyii011_C0C30405_I op W	TolyiSEd	6 yHc	BM 5540I	318372
Mg 570-318372S5-d	MnH,or giyt k	TolyiSEd	6 yHc	BM 5540I	318372
RI B 570-318372S2-d	Ryb I ot Hoi Byp Wh	TolyiSEd	6 yHc	BM 5540I	318372
RI BD 570-318372S7-d	Ryb I ot Hoi Byp Wh DOW	TolyiSEd	6 yHc	BM 5540I	318372

Prep Batch: 3203H7

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f OHyii011_C0C30405_I op W	TolyiSEd	6 yHc	BM 5540I	
Mg 570-318372S5-d	MnH,or giyt k	TolyiSEd	6 yHc	BM 5540I	
RI B 570-318372S2-d	Ryb I ot Hoi Byp Wh	TolyiSEd	6 yHc	BM 5540I	
RI BD 570-318372S7-d	Ryb I ot Hoi Byp Wh DOW	TolyiSEd	6 yHc	BM 5540I	

Analysis Batch: 320836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f OHyii011_C0C30405_I op W	TolyiSEd	6 yHc	BM C540I	
Mg 570-318930S1	MnH,or giyt k	TolyiSEd	6 yHc	BM C540I	
RI B 570-318930SC	Ryb I ot Hoi Byp Wh	TolyiSEd	6 yHc	BM C540I	
RI BD 570-318930S3	Ryb I ot Hoi Byp Wh DOW	TolyiSEd	6 yHc	BM C540I	

Analysis Batch: 320804

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f OHyii011_C0C30405_I op W	TolyiSEd	6 yHc	BM C540D	
Mg 570-31898CS1	MnH,or giyt k	TolyiSEd	6 yHc	BM C540D	
RI B 570-31898CSC	Ryb I ot Hoi Byp Wh	TolyiSEd	6 yHc	BM C540D	
RI BD 570-31898CS3	Ryb I ot Hoi Byp Wh DOW	TolyiSEd	6 yHc	BM C540D	

Prep Batch: 328340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f OHyii011_C0C30405_I op W	TolyiSEd	6 yHc	DeHeiSdp p ot ey	
Mg 570-3193C8S5-d	MnH,or giyt k	TolyiSEd	6 yHc	DeHeiSdp p ot ey	
RI B 570-3193C8S2-d	Ryb I ot Hoi Byp Wh	TolyiSEd	6 yHc	DeHeiSdp p ot ey	
RI BD 570-3193C8S7-d	Ryb I ot Hoi Byp Wh DOW	TolyiSEd	6 yHc	DeHeiSdp p ot ey	
570-13375C-1 MB	f OHyii011_C0C30405_I op W	TolyiSEd	6 yHc	DeHeiSdp p ot ey	
570-13375C-1 MBD	f OHyii011_C0C30405_I op W	TolyiSEd	6 yHc	DeHeiSdp p ot ey	

Analysis Batch: 328338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f OHyii011_C0C30405_I op W	TolyiSEd	6 yHc	350PI	3193C8
Mg 570-3193C8S5-d	MnH,or giyt k	TolyiSEd	6 yHc	350PI	3193C8
RI B 570-3193C8S2-d	Ryb I ot Hoi Byp Wh	TolyiSEd	6 yHc	350PI	3193C8
RI BD 570-3193C8S7-d	Ryb I ot Hoi Byp Wh DOW	TolyiSEd	6 yHc	350PI	3193C8
570-13375C-1 MB	f OHyii011_C0C30405_I op W	TolyiSEd	6 yHc	350PI	3193C8

FOonte s I yisheht hn

General Chemistry (Continued)

Analysis Batch: 328338 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1 MBD	f CHyii011_C0C30405_I op W	TohyiSEd	6 yHc	350Pl	3193C8

Analysis Batch: 328373

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-13375C-1	f CHyii011_C0C30405_I op W	TohyiSEd	6 yHc	BM 5C10g	31805C
KBg 570-319323SC	MnH,or giyt k	TohyiSEd	6 yHc	BM 5C10g	
Rl B 570-31805CSC-d	Ryb I ot Hoi Byp Wh	TohyiSEd	6 yHc	BM 5C10g	31805C
570-13375C-1 DK	f CHyii011_C0C30405_I op W	TohyiSEd	6 yHc	BM 5C10g	31805C

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Lab Chronicle

Client: Haley & Aldrich, Inc.
j ro/ectSite: goeinNEj DFB BBLR- u oOtine f Otnall 011 - Cop 6

Job ID: 570-13375P-1

Client Sample ID: Outfall011_20230405_Comp

Date Collected: 04/05/23 07:10
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133752-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
TotalSEA	j re6	2P5			1052.5 p R	P p R	31914P	04S1S P3 08:32	f AJ3	FFT CAR4
TotalSEA	Analysis	2P5.1 BIM		1	1 p R	1 p R	319524	04S1P P3 19:39	URRI	FFT CAR4
	InstrOp ent ID: GCMBJJJ									
TotalSEA	j re6	208			1500 p R	1 p R	318871	04S10 P3 1P:00	H1BH	FFT CAR4
TotalSEA	Analysis	208.3		1	1 p R	1 p R	3P142P	04S19 P3 07:18	E5Y3	FFT CAR4
	InstrOp ent ID: GC5PA									
TotalSEA	j re6	208			1500 p R	1 p R	318871	04S10 P3 1P:00	H1BH	FFT CAR4
TotalSEA	Analysis	208.3		1	1 p R	1 p R	319902	04S13 P3 12:P2	f M8W	FFT CAR4
	InstrOp ent ID: GC22									
TotalSEA	Analysis	300.0		1	4 p R	4 p R	317898	04S02 P3 08:02	j B	FFT CAR4
	InstrOp ent ID: IC7									
TotalSEA	Analysis	300.0		1	4 p R	4 p R	317899	04S02 P3 08:02	j B	FFT CAR4
	InstrOp ent ID: IC7									
TotalSEA	Analysis	314.0		1	4 p R	4 p R	318048	04S02 P3 PP:38	Uu MH	FFT CAR4
	InstrOp ent ID: IC8									
TotalSEA	Analysis	Ef PEf 3 Calc		1			319P59	04S1S P3 1P:P3	WH2J	FFT CAR4
	InstrOp ent ID: Ef FQUIj									
Total u ecoverable	j re6	P00.8			50 p R	50 p R	317989	04S02 P3 1P:P2	YPWB	FFT CAR4
Total u ecoverable	Analysis	P00.8		1			3184P3	04S07 P3 09:54	YPWB	FFT CAR4
	InstrOp ent ID: ICj MB09									
TotalSEA	j re6	P45.1			P5 p R	50 p R	317878	04S02 P3 19:00	CB5Z	FFT CAR4
TotalSEA	Analysis	P45.1		1			3184P0	04S07 P3 10:13	C0YH	FFT CAR4
	InstrOp ent ID: HG8									
Total u ecoverable	Analysis	BM P340g		1			318122	04S08 P3 17:P8	j 1u	FFT CAR4
	InstrOp ent ID: Ef FQUIj									
TotalSEA	j re6	DistillSAp p onia			5 p R	5 p R	3193P8	04S1S P3 11:4P	UXCH	FFT CAR4
TotalSEA	Analysis	350.1		1	5 p R	5 p R	319339	04S1S P3 13:31	UXCH	FFT CAR4
	InstrOp ent ID: ACAP									
TotalSEA	Analysis	Kelada 01		1	8 p R	8 p R	318171	04S02 P3 15:39	GG0g	FFT CAR4
	InstrOp ent ID: RACHAT01									
TotalSEA	Analysis	BM P130g		1			317851	04S05 P3 P0:09	TXA8	FFT CAR4
	InstrOp ent ID: TUu 4									
TotalSEA	Analysis	BM P540C		1	100 p R	1000 p R	318930	04S10 P3 14:51	UWCT	FFT CAR4
	InstrOp ent ID: gAR71									
TotalSEA	Analysis	BM P540D		1	1000 p R	1000 p R	31898P	04S10 P3 12:11	UWCT	FFT CAR4
	InstrOp ent ID: gAR71									
TotalSEA	j re6	gf D j re6					31805P	04S02 P3 1P:11	U7Uu	FFT CAR4
TotalSEA	Analysis	BM 5P10g		1	300 p R	300 p R	319323	04S02 P3 13:05	TE8Z	FFT CAR4
	InstrOp ent ID: gf D3									
TotalSEA	j re6	BM 5540C			100 p R	100 p R	318372	04S02 P3 P0:40	ZVg7	FFT CAR4
TotalSEA	Analysis	BM 5540C		1	100 p R	100 p R	318PP1	04S02 P3 PP:47	TXA8	FFT CAR4
	InstrOp ent ID: UV8									

Lab Chronicle

Client: Haley & Aldrich, Inc.
j ro/ectSBite: goeinNEj DFB BBLR- u oQtine f Qtnall 011 - Cop 6

Job ID: 570-13375P-1

Client Sample ID: Outfall011_20230405_Comp_F

Date Collected: 04/05/23 07:10
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133752-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Liltration	Liltration			50 p R	50 p R	318P99	04S07SP3 09:15	Jj 8E	FFT CAR4
Dissolved	Analysis	P00.8		1			318427	04S07SP3 14:0P	YPWB	FFT CAR4
	InstrQp ent ID: ICj MB10									
Dissolved	Liltration	Liltration			P5 p R	P5 p R	317879	04S05SP3 PP:P2	CB5Z	FFT CAR4
Dissolved	j re6	P45.1			P5 p R	50 p R	318181	04S02SP3 18:10	CB5Z	FFT CAR4
Dissolved	Analysis	P45.1		1			3184P0	04S07SP3 1P:42	C0YH	FFT CAR4
	InstrQp ent ID: HG8									
Dissolved	Analysis	BM P340g		1			318127	04S1 1SP3 17:P8	j 1u	FFT CAR4
	InstrQp ent ID: Ef FQUIj									

Laboratory References:
FFT CAR4 = FQrorins Calscience TQstin, P841 Dow AvenQe, TQstin, CA 9P780, TFR(714)895-5494

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-13375P-1

j ro/ectSBite: goeinNEj DFB BBLR- u oQtine f Qtnall 011 -
Cop s

Laboratory: Eurofins Calscience

All accreditationzSertimicationz held by thiz laboratory are lizted. Eot all accreditationzSertimicationz are asslicable to thiz resort.

Authority	Program	Identification Number	Expiration Date
AriZona	Btate	A80630	11-12-P3
Calimrnia	Roz AnNelez CoQnty Banitation Diztrictz	10109	07-31-P3
Calimrnia	BCAQMD RAj	17RA0919	11-30-P3
Calimrnia	Btate	306P	07-31-P4
Eevada	Btate	CA00111	06-01-P3
f reNon	EFRAj	4175	0P-0P-P4
UBDA	UB Lederal j roNrap z	j 330-PP-00059	05-P4-P3
WazhinNton	Btate	C912-16	10-11-P3

FQrorimz Calzcience

Method Summary

Method	Method Description	Protocol	Laboratory
2C5Pl BIM	Bnp evoiyHen f dNyt eh l op 6oCt r s Gl SMB (BIM)	Fj d	FFTl dR4
208P3	f dNyt oh, iocet n j nsHeens et WyHc	Fj d	FFTl dR4
208P3	j oi&h, iocet yHr ge6, nt &is (j l gs) (Gl)	Fj d	FFTl dR4
300P0	dt eot s. lot l , cop yHNoy6, &	Fj d	FFTl dR4
314P0	j ndh, iocyH (ll)	Fj d	FFTl dR4
Ef CEf 3 l yih	EeHoNnt . EeHyH-EeHeH	Fj d	FFTl dR4
C00P3	MnHyis (ll j SMB)	Fj d	FFTl dR4
C45Pl	MnchCo& (l Vdd)	Fj d	FFTl dR4
BM C340g	ToHyi a ycr t nss (ys l yl f 3) b& hyihCyHot	BM	FFTl dR4
350Pl	EeHoNnt . dp p ot ey	Fj d	FFTl dR4
Kniyr y 01	l &yt ern. ToHyi. dher Dessoheybin yt r T, eoh&yt yH	Fj d	FFTl dR4
BM C130g	TCober eH&	BM	FFTl dR4
BM C540l	Boier s. ToHyi Dessoivnr (TDB)	BM	FFTl dR4
BM C540D	Boier s. ToHyi BOs6nt r nr (TBB)	BM	FFTl dR4
BM 5C10g	gf D. 5-Dy&	BM	FFTl dR4
BM 5540l	MnH,l &int n giCn dhHevn BCbsHyt hns (MgdB)	BM	FFTl dR4
C00P3	j cn6ycyHot . ToHyi unhovncybin MnHyis	Fj d	FFTl dR4
C45Pl	j cn6ycyHot . MnchCo&	Fj d	FFTl dR4
208	ReqCer-ReqCer FxHyhHot (Bn6ycyHoc&LCt t ni)	Fj d	FFTl dR4
2C5	ReqCer-ReqCer FxHyhHot	Fj d	FFTl dR4
gf D j cn6	j cn6ycyHot . gf D	BM	FFTl dR4
DesHeiSdp p ot ey	DesHeiyHot . dp p ot ey	Eot n	FFTl dR4
LeHoyHot	Byp 6in LeHoyHot	Eot n	FFTl dR4
BM 5540l	j cn6ycyHot . MnH,l &int n giCn dhHevn BCbsHyt hns (MgdB)	BM	FFTl dR4

Protocol References:

Fj d = UB Ft veeot p nt Hyi j coHhHot dNnt h&

Eot n = Eot n

BM = "BHyt r ycr MnH;or s LocT, n Fxyp et yHot f mWyHcdt r WysHwyHc"

Laboratory References:

FFTl dR4 = FCcoret s l yisheant hn TCsHet . C841 Dow dvnt Cn. TCsHet . l d 9C780. TFR(714)895-5494

Sample Summary

Client: Haley & Aldrich, Inc.
j ro/ectSite: goeinNEj DFB BBLR- u oCtine f Ctrall 011 -
Cop _

Job ID: 570-13375P-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-13375P-1	f Ctrall0112P0P304052Cop _	Water	04S05SP3 07:10	04S05SP3 18:30
570-13375P-3	f Ctrall0112P0P304052Cop _2L	Water	04S05SP3 07:10	04S05SP3 18:30

Revised COC received from Mark Dominick (H&A) on 04/05/2023 at 14:18pm.
- Virendra (ECI)

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 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 011 Comp
Eurofins Calscience Irvine Contact: Virendra Patel, 2841 Dow Avenue, Suite 100, Tustin, CA 92780, Tel: 949-260-3218 **ECI Project # 57013187**	Project Manager: Katherine Miller, 520.289.8605, 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: Neal Smith	

ANALYSIS REQUIRED

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.8): 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 Recoverable Metals: Hardness as CaCO3 (E200.8): Cu, Mg	Total Dissolved Metals: Mercury (E245.1)	Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)	Total Recoverable Metals: Hardness as CaCO3 - E200.8	Total Dissolved Metals: Hardness as CaCO3	Total Dissolved Metals: (E200.8): Mn, Fe			Comments
Outfall011	Outfall011_20230405_Comp_F	4/5/2023 0710	WM	1 L Poly	1	None	190	No										X			Filter and preserve w/in 24hrs of receipt at lab. ~~Mn, Fe and D~~
			~~WM~~	~~500 mL Poly~~	~~1~~	~~HNO_3~~	~~60~~	~~No~~	~~E200~~								X				
			WM	1L Poly	1	None	200	Yes	X									X			Filter and preserve w/in 24hrs of receipt at lab. Outfall 011 analyze for Mn and Fe
			WM	1 L Glass Amber	2	None	250	No						X							Chlordane, DDD, DDE, DDT, dieldrin,PCBs,toxaphene at OF011.
			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_20230405_Comp	4/5/2023 0710	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	500ml Poly	1	HNO_3	80	No				X									

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
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__

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-133752 Chain of Custody

Loc: 570
133752

Client Name/Address:	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 011 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	
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: Neal Smith	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									ANALYSIS REQUIRED															
									R	R	R	R	R	R	R/EP	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: (E200.8): 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-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	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: (E200.8): Mn, Fe			Comments
1	Outfall011_20230405_Comp	4/5/2023 1070	WM	500 mL Poly	1	HNO_3	90	Yes	X										X	X			Outfall 011 analyze for 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 hours Holding Time for Turbidity
Outfall 011			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								
2	Outfall011_20230405_Comp_Extra	4/5/2023 1070	WM	1 L Glass Amber	2	None	110	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, EP=Expert Panel, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	Company:
[signature]	4.5.2023/1240	IT:A	[signature]	4/5/23 1240	EC
[signature]	4/5/23 1830	EC	[signature]	4/5/23 18:30	EC

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___

2.2/2.2 1.9/1.9 2.5/2.5 Soil

CHAIN OF CUSTODY FORM

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 011 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	
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: Neal Smith	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	R: Total Dissolved Metals: (E200.8): 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	R: Total Dissolved Metals: Mercury (E245.1)	QRSW: Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)	QRSW: Total Recoverable Metals: Hardness as CaCO3	QRSW: Total Dissolved Metals: Hardness as CaCO3	C/EP: Total Dissolved Metals: ~~[illegible]~~ E200.8 Mn Fe			Comments
3	Outfall011_20230405_Comp_F	4/5/2023 / 0710	WM	1 L Poly	1	None	190	No								X				Filter and preserve w/in 24hrs of receipt at lab. Mn Fe
			WM	500 mL Poly	1	HNO_3	80	No							X					
			WM	1L Poly	1	None	200	Yes	X								X			Filter and preserve w/in 24hrs of receipt at lab. Outfall 011 analyze for Mn and Fe.
Outfall 011			WM	1 L Glass Amber	2	None	250	No						X						Chlordane, DDD, DDE, DDT, dieldrin,PCBs,toxaphene at OF011.
			WM	borosilicate vials	2	None	320	No					X							Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
1	Outfall011_20230405_Comp	4/5/2023 / 0710	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												

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
[signature]	4-5-2023 / 1210	H+A	[signature]	4/5/23 1210 EC	Turn-around time: (Check) 24 Hour: ___ 72 Hour: ___ 10 Day: X 48 Hour: ___ 5 Day: ___ Normal: ___
[signature]	4/5/23 1830	EC	[signature]	4/5/23 18:30 EC	Sample Integrity: (Check) Intact: ___ On Ice: ___
					Store samples for 6 months. Data Requirements: (Check) No Level IV: ___ All Level IV: X

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-215545.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-133752-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 5/8/2023			
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 - Routine Outfall 011 - Comp	Project #: 57013187			
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, Y - Trizma, 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_Ca/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall011_20230405_Comp (570-133752-1)	4/5/23	07:10 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation. Ok to Preserve

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our 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: 4/6/23 1428	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
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-215595.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-133752-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 4/25/2023			
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 - Routine Outfall 011 - Comp	Project #: 57013187			
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, Y - Trizma, 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 (MOD) Standard List w/ Totals	1613B/1613B_Sox_Sep_P (MOD) Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall011_20230405_Comp (570-133752-1)	4/5/23	07:10 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall011_20230405_Comp_Extra (570-133752-2)	4/5/23	07:10 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 Calscience places the ownership of method, analyte & accreditation compliance upon our 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:	Company	Received by:	Date/Time:	Company
	4/6/23 1528				
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: 570-133752-1

Login Number: 133752
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

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 4/19/2023 2:21:17 PM

JOB DESCRIPTION

Boeing NPDES SSFL - Routine Outfall 011 - Comp

JOB NUMBER

570-133752-2

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

myEOL

Job Notes

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The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

Virendra R Patil

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4/19/2023 2:21:17 PM

Authorized for release by
Virendra Patel, Project Manager I
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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 011 - Comp

Job ID: 570-133752-2

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: 570-133752-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-133752-2

Receipt
The samples were received on 4/5/2023 6:30 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 1.° 9C, 2.29C and 2.59C

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,° -HxCDD associated with the following samples run on instrument 12D5 exceeded this criteria: Outfall011_20230405_Comp (570-133752-1), (CCV 320-668066/2), (LCS 320-667367/2-A), (LCSD 320-667367/3-A) and (MB 320-667367/1-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: 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: Outfall011_20230405_Comp (570-133752-1), (CCV 320-6683° 7/2) and (MB 320-667367/1-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 printed on April 18, 2023 at 20:36 indicated that the instrument was at less than 10,000 resolution. Upon arrival to work the next morning the analyst checked the resolution and the instrument had returned to 10,000 resolution, and a resolution check was printed on April 1° ,2023 at 0° :25. Temperature variation of the lab is suspected. The samples were evaluated for high mass fragmentation breakthrough and none was found. There is no adverse impact on the data. The following samples are impacted. Outfall011_20230405_Comp (570-133752-1), (CCV 320-6683° 7/2), (MB 320-667367/1-A) and (WDM 320-6683° 7/1)

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.
Project/Site: Boeing NPDES SSFL - Routine Outfall 011 - Comp

Job ID: 570-133752-2

Client Sample ID: Outfall011_20230405_Comp

Lab Sample ID: 570-133752-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDF	0.00000061	J,DX MB	0.000047	0.00000016	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.00000037	J,DX MB	0.000047	0.00000019	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000021	J,DX MB q	0.000047	0.00000025	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.00000034	J,DX MB q	0.000047	0.00000026	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.00000039	J,DX MB q	0.000047	0.00000019	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.00000041	J,DX MB	0.000047	0.00000017	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.00000067	J,DX MB	0.000047	0.00000022	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.00000038	J,DX MB	0.000047	0.00000016	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000014	J,DX MB q	0.000047	0.00000027	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000016	J,DX MB	0.000047	0.00000042	ug/L	1		1613B	Total/NA
OCDD	0.000015	J,DX MB	0.000094	0.00000040	ug/L	1		1613B	Total/NA
OCDF	0.0000033	J,DX MB	0.000094	0.00000018	ug/L	1		1613B	Total/NA
Total TCDD	0.00000060	J,DX MB q	0.0000094	0.00000027	ug/L	1		1613B	Total/NA
Total TCDF	0.00000063	J,DX MB q	0.0000094	0.00000095	ug/L	1		1613B	Total/NA
Total PeCDF	0.00000098	J,DX MB	0.000047	0.00000016	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000024	J,DX MB q	0.000047	0.00000022	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000019	J,DX MB q	0.000047	0.00000016	ug/L	1		1613B	Total/NA
Total HpCDD	0.0000036	J,DX MB q	0.000047	0.00000027	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000016	J,DX MB	0.000047	0.00000042	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall011240430_052Comp
Date Collected: 0_/05/43 07:10
Date Received: 0_/05/43 1y:30

Lab Sample ID: 570-133754-1
Matrix: Water

Analzte	Result	. ualifier	RL	EDL	Qnit	D	Prepared	AnalzUed	Dil Fac
2,3,7,8-TCDD	ND		0.0000094	0.00000027	ug/L		04/13/23 06:32	04/17/23 19:38	1
1,2,3,7,8-PeCDD	ND		0.000047	0.00000030	ug/L		04/13/23 06:32	04/17/23 19:38	1
1X3X7Xy-PeCDF	0.J0000061	, XD8 MB	0.000047	0.00000016	ug/L		04/13/23 06:32	04/17/23 19:38	1
4X_X7Xy-PeCDF	0.J0000037	, XD8 MB	0.000047	0.00000019	ug/L		04/13/23 06:32	04/17/23 19:38	1
1X3X_X7Xy-HxCDD	0.J000041	, XD8 MB q	0.000047	0.00000025	ug/L		04/13/23 06:32	04/17/23 19:38	1
1X3X6X7Xy-HxCDD	0.J000003_	, XD8 MB q	0.000047	0.00000026	ug/L		04/13/23 06:32	04/17/23 19:38	1
1,2,3,7,8,9-HxCDD	ND		0.000047	0.00000022	ug/L		04/13/23 06:32	04/17/23 19:38	1
1X3X_X7Xy-HxCDF	0.J0000039	, XD8 MB q	0.000047	0.00000019	ug/L		04/13/23 06:32	04/17/23 19:38	1
1X3X6X7Xy-HxCDF	0.J00000_1	, XD8 MB	0.000047	0.00000017	ug/L		04/13/23 06:32	04/17/23 19:38	1
1X3X7XyX9-HxCDF	0.J0000067	, XD8 MB	0.000047	0.00000022	ug/L		04/13/23 06:32	04/17/23 19:38	1
4X_X6X7Xy-HxCDF	0.J000003y	, XD8 MB	0.000047	0.00000016	ug/L		04/13/23 06:32	04/17/23 19:38	1
1X3X_X6X7Xy-HpCDD	0.J00001_	, XD8 MB q	0.000047	0.00000027	ug/L		04/13/23 06:32	04/17/23 19:38	1
1X3X_X6X7Xy-HpCDF	0.J0000016	, XD8 MB	0.000047	0.00000042	ug/L		04/13/23 06:32	04/17/23 19:38	1
1,2,3,4,7,8,9-HpCDF	ND		0.000047	0.00000047	ug/L		04/13/23 06:32	04/17/23 19:38	1
OCDD	0.J00015	, XD8 MB	0.000094	0.00000040	ug/L		04/13/23 06:32	04/17/23 19:38	1
OCDF	0.J0000033	, XD8 MB	0.000094	0.00000018	ug/L		04/13/23 06:32	04/17/23 19:38	1
Total TCDD	0.J0000060	, XD8 MB q	0.0000094	0.00000027	ug/L		04/13/23 06:32	04/17/23 19:38	1
Total TCDF	0.J0000063	, XD8 MB q	0.0000094	0.0000000095	ug/L		04/13/23 06:32	04/17/23 19:38	1
Total PeCDD	ND		0.000047	0.00000030	ug/L		04/13/23 06:32	04/17/23 19:38	1
Total PeCDF	0.J000009y	, XD8 MB	0.000047	0.00000016	ug/L		04/13/23 06:32	04/17/23 19:38	1
Total HxCDD	0.J00004_	, XD8 MB q	0.000047	0.00000022	ug/L		04/13/23 06:32	04/17/23 19:38	1
Total HxCDF	0.J0000019	, XD8 MB q	0.000047	0.00000016	ug/L		04/13/23 06:32	04/17/23 19:38	1
Total HpCDD	0.J0000036	, XD8 MB q	0.000047	0.00000027	ug/L		04/13/23 06:32	04/17/23 19:38	1
Total HpCDF	0.J0000016	, XD8 MB	0.000047	0.00000042	ug/L		04/13/23 06:32	04/17/23 19:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*77*		*25 - 164*	*04/13/23 06:32*	*04/17/23 1F:38*	*1*
13C-2,3,7,8-TCD9	*82*		*24 - 16F*	*04/13/23 06:32*	*04/17/23 1F:38*	*1*
13C-1,2,3,7,8-PeCDD	*78*		*25 - 181*	*04/13/23 06:32*	*04/17/23 1F:38*	*1*
13C-1,2,3,7,8-PeCD9	*83*		*24 - 185*	*04/13/23 06:32*	*04/17/23 1F:38*	*1*
13C-2,3,4,7,8-PeCD9	*84*		*21 - 178*	*04/13/23 06:32*	*04/17/23 1F:38*	*1*

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall011240430_052Comp
Date Collected: 0_/05/43 07:10
Date Received: 0_/05/43 1y:30

Lab Sample ID: 570-133754-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8-HxCDD	73		32 - 141	04/13/23 06:32	04/17/23 1F:38	1
13C-1,2,3,6,7,8-HxCDD	85		28 - 130	04/13/23 06:32	04/17/23 1F:38	1
13C-1,2,3,4,7,8-HxCD9	7F		26 - 152	04/13/23 06:32	04/17/23 1F:38	1
13C-1,2,3,6,7,8-HxCD9	F3		26 - 123	04/13/23 06:32	04/17/23 1F:38	1
13C-1,2,3,7,8,F-HxCD9	F4		2F - 147	04/13/23 06:32	04/17/23 1F:38	1
13C-2,3,4,6,7,8-HxCD9	F6		28 - 136	04/13/23 06:32	04/17/23 1F:38	1
13C-1,2,3,4,6,7,8-HpCDD	7F		23 - 140	04/13/23 06:32	04/17/23 1F:38	1
13C-1,2,3,4,6,7,8-HpCD9	75		28 - 143	04/13/23 06:32	04/17/23 1F:38	1
13C-1,2,3,4,7,8,F-HpCD9	84		26 - 138	04/13/23 06:32	04/17/23 1F:38	1
13C-OCDD	F0		17 - 157	04/13/23 06:32	04/17/23 1F:38	1
13C-OCD9	F8		17 - 157	04/13/23 06:32	04/17/23 1F:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	F4		35 - 1F7	04/13/23 06:32	04/17/23 1F:38	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 011 - Comp

Job ID: 570-133752-2

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: Outfall011240430_052Comp
Date Collected: 0_/05/43 07:10
Date Received: 0_/05/43 1y:30

Lab Sample ID: 570-133754-1
Matrix: Water

Analzte	Result	. ualifier	RL	EDL	Qnit	D	Prepared	AnalzUed	Dil Fac
2,3,7,8-TCDF	ND		0.0000094	0.00000044	ug/L		04/13/23 06:32	04/18/23 15:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCD9	*76*		*24 - 16F*	*04/13/23 06:32*	*04/18/23 15:32*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*F3*		*35 - 1F7*	*04/13/23 06:32*	*04/18/23 15:32*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 011 - Comp

Job ID: 570-133752-2

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)								
570-133752-1	Outfall011_20230405_Comp	94								
570-133752-1 - RA	Outfall011_20230405_Comp	93								
MB 320-667367/1-A	Method Blank	93								
MB 320-667367/1-A - RA	Method Blank	94								

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 320-667367/2-A	Lab Control Sample	92								
LCSD 320-667367/3-A	Lab Control Sample Dup	90								

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 011 - Comp

Job ID: 570-133752-2

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)
570-133752-1	Outfall011M20230405MComp	77	82	78	83	84	73	85	7_
570-133752-1 - RA	Outfall011M20230405MComp		76						
k B 320-667367/1-A	k ethod Blan9	73	83	74	82	80	72	80	72
k B 320-667367/1-A - RA	k ethod Blan9		75						

		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)	OCDF (17-157)
570-133752-1	Outfall011M20230405MComp	_3	_4	_6	7_	75	84	_0	_8
570-133752-1 - RA	Outfall011M20230405MComp								
k B 320-667367/1-A	k ethod Blan9	_2	88	_2	68	67	70	71	77
k B 320-667367/1-A - RA	k ethod Blan9								

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,_-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,_-HpCDF
OCDD = 13C-OCDD
OCDF = 13C-OCDF

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 320-667367/2-A	Lab Control Sample	6_	77	6_	73	74	65	68	66
LCSD 320-667367/3-A	Lab Control Sample Dup	71	80	72	78	77	67	78	72

		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)	OCDF (13-199)
LCS 320-667367/2-A	Lab Control Sample	7_	80	81	62	61	65	68	75
LCSD 320-667367/3-A	Lab Control Sample Dup	8_	85	88	67	66	71	71	78

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

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-133752-2
Project/Site: Boeing NPDES SSFL - Routine Outfall 011 - Comp

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,_-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,_-HpCDF
OCDD = 13C-OCDD
OCDF = 13C-OCDF

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-667367/1-A
Matrix: Water
Analysis Batch: 668066

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 667367

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000036	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,7,8-PeCDD	0.000000701	J,DX	0.000050	0.00000042	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,7,8-PeCDF	0.000000994	J,DX	0.000050	0.00000025	ug/L		04/13/23 06:32	04/17/23 10:55	1
2,3,4,7,8-PeCDF	0.000000605	J,DX q	0.000050	0.00000029	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,4,7,8-HxCDD	0.00000266	J,DX	0.000050	0.00000043	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,6,7,8-HxCDD	0.00000105	J,DX	0.000050	0.00000042	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,7,8,9-HxCDD	0.00000103	J,DX	0.000050	0.00000038	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,4,7,8-HxCDF	0.000000777	J,DX q	0.000050	0.00000031	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,6,7,8-HxCDF	0.000000651	J,DX	0.000050	0.00000028	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,7,8,9-HxCDF	0.00000120	J,DX	0.000050	0.00000038	ug/L		04/13/23 06:32	04/17/23 10:55	1
2,3,4,6,7,8-HxCDF	0.000000592	J,DX	0.000050	0.00000028	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,4,6,7,8-HpCDD	0.00000186	J,DX q	0.000050	0.00000041	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,4,6,7,8-HpCDF	0.00000178	J,DX q	0.000050	0.00000039	ug/L		04/13/23 06:32	04/17/23 10:55	1
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.00000046	ug/L		04/13/23 06:32	04/17/23 10:55	1
OCDD	0.0000219	J,DX	0.00010	0.00000069	ug/L		04/13/23 06:32	04/17/23 10:55	1
OCDF	0.00000582	J,DX	0.00010	0.00000049	ug/L		04/13/23 06:32	04/17/23 10:55	1
Total TCDD	0.00000240	J,DX q	0.000010	0.00000036	ug/L		04/13/23 06:32	04/17/23 10:55	1
Total TCDF	0.000000686	J,DX q	0.000010	0.00000017	ug/L		04/13/23 06:32	04/17/23 10:55	1
Total PeCDD	0.000000701	J,DX	0.000050	0.00000042	ug/L		04/13/23 06:32	04/17/23 10:55	1
Total PeCDF	0.00000160	J,DX q	0.000050	0.00000025	ug/L		04/13/23 06:32	04/17/23 10:55	1
Total HxCDD	0.00000473	J,DX	0.000050	0.00000038	ug/L		04/13/23 06:32	04/17/23 10:55	1
Total HxCDF	0.00000322	J,DX q	0.000050	0.00000028	ug/L		04/13/23 06:32	04/17/23 10:55	1
Total HpCDD	0.00000340	J,DX q	0.000050	0.00000041	ug/L		04/13/23 06:32	04/17/23 10:55	1
Total HpCDF	0.00000178	J,DX q	0.000050	0.00000039	ug/L		04/13/23 06:32	04/17/23 10:55	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*73*		*25 - 164*	*04/13/23 06:32*	*04/17/23 10:55*	*1*
13C-2,3,7,8-TCDF	*83*		*24 - 169*	*04/13/23 06:32*	*04/17/23 10:55*	*1*
13C-1,2,3,7,8-PeCDD	*74*		*25 - 181*	*04/13/23 06:32*	*04/17/23 10:55*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-667367/1-A
Matrix: Water
Analysis Batch: 668066

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 667367

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	82		24 - 185	04/13/23 06:32	04/17/23 10:55	1
13C-2,3,4,7,8-PeCDF	80		21 - 178	04/13/23 06:32	04/17/23 10:55	1
13C-1,2,3,4,7,8-HxCDD	72		32 - 141	04/13/23 06:32	04/17/23 10:55	1
13C-1,2,3,6,7,8-HxCDD	80		28 - 130	04/13/23 06:32	04/17/23 10:55	1
13C-1,2,3,4,7,8-HxCDF	72		26 - 152	04/13/23 06:32	04/17/23 10:55	1
13C-1,2,3,6,7,8-HxCDF	92		26 - 123	04/13/23 06:32	04/17/23 10:55	1
13C-1,2,3,7,8,9-HxCDF	88		29 - 147	04/13/23 06:32	04/17/23 10:55	1
13C-2,3,4,6,7,8-HxCDF	92		28 - 136	04/13/23 06:32	04/17/23 10:55	1
13C-1,2,3,4,6,7,8-HpCDD	68		23 - 140	04/13/23 06:32	04/17/23 10:55	1
13C-1,2,3,4,6,7,8-HpCDF	67		28 - 143	04/13/23 06:32	04/17/23 10:55	1
13C-1,2,3,4,7,8,9-HpCDF	70		26 - 138	04/13/23 06:32	04/17/23 10:55	1
13C-OCDD	71		17 - 157	04/13/23 06:32	04/17/23 10:55	1
13C-OCDF	77		17 - 157	04/13/23 06:32	04/17/23 10:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	93		35 - 197	04/13/23 06:32	04/17/23 10:55	1

Lab Sample ID: LCS 320-667367/2-A
Matrix: Water
Analysis Batch: 668066

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 667367

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
2,3,7,8-TCDD			0.000200	0.000204		ug/L		102	67 - 158		
2,3,7,8-TCDF			0.000200	0.000222		ug/L		111	75 - 158		
1,2,3,7,8-PeCDD			0.00100	0.000914		ug/L		91	70 - 142		
1,2,3,7,8-PeCDF			0.00100	0.000965		ug/L		96	80 - 134		
2,3,4,7,8-PeCDF			0.00100	0.000989		ug/L		99	68 - 160		
1,2,3,4,7,8-HxCDD			0.00100	0.000880		ug/L		88	70 - 164		
1,2,3,6,7,8-HxCDD			0.00100	0.000965		ug/L		97	76 - 134		
1,2,3,7,8,9-HxCDD			0.00100	0.000936		ug/L		94	64 - 162		
1,2,3,4,7,8-HxCDF			0.00100	0.000883		ug/L		88	72 - 134		
1,2,3,6,7,8-HxCDF			0.00100	0.000923		ug/L		92	84 - 130		
1,2,3,7,8,9-HxCDF			0.00100	0.000887		ug/L		89	78 - 130		
2,3,4,6,7,8-HxCDF			0.00100	0.000910		ug/L		91	70 - 156		
1,2,3,4,6,7,8-HpCDD			0.00100	0.000881		ug/L		88	70 - 140		
1,2,3,4,6,7,8-HpCDF			0.00100	0.000972		ug/L		97	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000922		ug/L		92	78 - 138		
OCDD			0.00200	0.00187		ug/L		93	78 - 144		
OCDF			0.00200	0.00184		ug/L		92	63 - 170		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	69		20 - 175
13C-2,3,7,8-TCDF	77		22 - 152
13C-1,2,3,7,8-PeCDD	69		21 - 227
13C-1,2,3,7,8-PeCDF	73		21 - 192
13C-2,3,4,7,8-PeCDF	74		13 - 328
13C-1,2,3,4,7,8-HxCDD	65		21 - 193

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-667367/2-A
Matrix: Water
Analysis Batch: 668066

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 667367

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,6,7,8-HxCDD	68		25 - 163
13C-1,2,3,4,7,8-HxCDF	66		19 - 202
13C-1,2,3,6,7,8-HxCDF	79		21 - 159
13C-1,2,3,7,8,9-HxCDF	80		17 - 205
13C-2,3,4,6,7,8-HxCDF	81		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	62		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	61		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	65		20 - 186
13C-OCDD	68		13 - 199
13C-OCDF	75		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	92		31 - 191

Lab Sample ID: LCSD 320-667367/3-A
Matrix: Water
Analysis Batch: 668066

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 667367

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000190		ug/L		95	67 - 158	7	50
2,3,7,8-TCDF			0.000200	0.000208		ug/L		104	75 - 158	7	50
1,2,3,7,8-PeCDD			0.00100	0.000853		ug/L		85	70 - 142	7	50
1,2,3,7,8-PeCDF			0.00100	0.000871		ug/L		87	80 - 134	10	50
2,3,4,7,8-PeCDF			0.00100	0.000920		ug/L		92	68 - 160	7	50
1,2,3,4,7,8-HxCDD			0.00100	0.000822		ug/L		82	70 - 164	7	50
1,2,3,6,7,8-HxCDD			0.00100	0.000900		ug/L		90	76 - 134	7	50
1,2,3,7,8,9-HxCDD			0.00100	0.000856		ug/L		86	64 - 162	9	50
1,2,3,4,7,8-HxCDF			0.00100	0.000850		ug/L		85	72 - 134	4	50
1,2,3,6,7,8-HxCDF			0.00100	0.000856		ug/L		86	84 - 130	8	50
1,2,3,7,8,9-HxCDF			0.00100	0.000819		ug/L		82	78 - 130	8	50
2,3,4,6,7,8-HxCDF			0.00100	0.000835		ug/L		83	70 - 156	9	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.000819		ug/L		82	70 - 140	7	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.000920		ug/L		92	82 - 122	5	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000860		ug/L		86	78 - 138	7	50
OCDD			0.00200	0.00173		ug/L		86	78 - 144	8	50
OCDF			0.00200	0.00172		ug/L		86	63 - 170	7	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	71		20 - 175
13C-2,3,7,8-TCDF	80		22 - 152
13C-1,2,3,7,8-PeCDD	72		21 - 227
13C-1,2,3,7,8-PeCDF	78		21 - 192
13C-2,3,4,7,8-PeCDF	77		13 - 328
13C-1,2,3,4,7,8-HxCDD	67		21 - 193
13C-1,2,3,6,7,8-HxCDD	78		25 - 163
13C-1,2,3,4,7,8-HxCDF	72		19 - 202
13C-1,2,3,6,7,8-HxCDF	89		21 - 159

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-667367/3-A
Matrix: Water
Analysis Batch: 668066

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 667367

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-1,2,3,7,8,9-HxCDF	85		17 - 205
13C-2,3,4,6,7,8-HxCDF	88		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	67		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	66		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	71		20 - 186
13C-OCDD	71		13 - 199
13C-OCDF	78		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	90		31 - 191

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-667367/1-A
Matrix: Water
Analysis Batch: 668397

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 667367

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	ND		0.000010	0.00000038	ug/L		04/13/23 06:32	04/18/23 14:49	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF - RA	75		24 - 169	04/13/23 06:32	04/18/23 14:49	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD - RA	94		35 - 197	04/13/23 06:32	04/18/23 14:49	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-133752-2
Project/Site: Boeing NPDES SSFL - Routine Outfall 011 - Comp

Specialty Organics

Prep Batch: 667367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133752-1 - RA	Outfall011_20230405_Comp	Total/NA	Water	1613B	
570-133752-1	Outfall011_20230405_Comp	Total/NA	Water	1613B	
MB 320-667367/1-A - RA	Method Blank	Total/NA	Water	1613B	
MB 320-667367/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-667367/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-667367/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 668066

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133752-1	Outfall011_20230405_Comp	Total/NA	Water	1613B	667367
MB 320-667367/1-A	Method Blank	Total/NA	Water	1613B	667367
LCS 320-667367/2-A	Lab Control Sample	Total/NA	Water	1613B	667367
LCSD 320-667367/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	667367

Analysis Batch: 668397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133752-1 - RA	Outfall011_20230405_Comp	Total/NA	Water	1613B	667367
MB 320-667367/1-A - RA	Method Blank	Total/NA	Water	1613B	667367

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-133752-2
Project/Site: Boeing NPDES SSFL - Routine Outfall 011 - Comp

Client Sample ID: Outfall011_20230405_Comp
Lab Sample ID: 570-133752-1
Date Collected: 04/05/23 07:10
Matrix: Water
Date Received: 04/05/23 18:30

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		1061.5 mL	20.0 uL	667367	04/13/23 06:32	FC	EET SAC
Total/NA	Analysis	1613B	RA	1	1 uL	1 uL	668397	04/18/23 15:32	DB	EET SAC
	Instrument ID: 11D2									
Total/NA	Prep	1613B			1061.5 mL	20.0 uL	667367	04/13/23 06:32	FC	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	668066	04/17/23 19:38	GRB	EET SAC
	Instrument ID: 12D5									

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 011 - Comp

Job ID: 570-133752-2

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	08-11-23
Arkansas DEQ	State	88-0691	06-17-23
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-23
Florida	NELAP	E87570	06-30-23
Georgia	State	4040	01-29-24
Hawaii	State	<cert No.>	01-29-24
Illinois	NELAP	200060	03-17-24
Kansas	NELAP	E-10375	10-31-23
Louisiana	NELAP	01944	06-30-23
Louisiana (All)	NELAP	01944	06-30-23
Maine	State	CA00004	04-14-24
Michigan	State	9947	06-01-23
Nevada	State	CA00044	07-31-23
New Hampshire	NELAP	2997	04-18-23
New Jersey	NELAP	CA005	06-30-23
New York	NELAP	11666	04-01-24
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-24
Texas	NELAP	T104704399-19-13	05-31-23
US Fish & Wildlife	US Federal Programs	58448	04-30-23
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442021-12	02-28-23 *
Virginia	NELAP	460278	03-14-24
Washington	State	C581	05-05-23
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-23
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Routine Outfall 011 - Comp

Job ID: 570-133752-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	EET SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
j ro/ectSBite: goeinNEj DFB BBLR- u oCtine f Ctnall 011 -
Cop _

Job ID: 570-13375P-P

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-13375P-1	f Ctnall0112P0P304052Cop _	Water	04S05SP3 07:10	04S05SP3 18:30

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-133752 Chain of Custody

Loc: 570
133752

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 011 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	
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: Neal Smith	**Field Manager: Mark Dominick** 978.234.5033, 818.599.0702 (cell)

									ANALYSIS REQUIRED															
									R	R	R	R	R	R	R/EP	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: (E200.8): 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-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	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: (E200.8): Mn, Fe			Comments
1	Outfall011_20230405_Comp	4/5/2023 1070	WM	500 mL Poly	1	HNO_3	90	Yes	X										X	X			Outfall 011 analyze for 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 hours Holding Time for Turbidity
Outfall 011			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								
2	Outfall011_20230405_Comp_Extra	4/5/2023 1070	WM	1 L Glass Amber	2	None	110	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, EP=Expert Panel, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	Company:
[signature]	4.5.2023/1210	IT:A	[signature]	4/5/23 1210	EC
[signature]	4/5/23	1830 EC	[signature]	4/5/23	18:30 EC

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__

2.2/2.2 1.9/1.9 2.5/2.5 Soil

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
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: 949-260-3218
ECI Project # 57013187

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: Neal Smith

Project:
Boeing-SSFL NPDES
Permit 2023
Quarterly 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)

ANALYSIS REQUIRED

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R: Total Dissolved Metals: (E200.8): 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	R: Total Dissolved Metals: Mercury (E245.1)	QRSW: Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)	QRSW: Total Recoverable Metals: Hardness as CaCO3	QRSW: Total Dissolved Metals: Hardness as CaCO3	C/EP: Total Dissolved Metals: -ND E200.8 Mn Fe			Comments
3	Outfall011_20230405_Comp_F	4/5/2023 /0710	WM	1 L Poly	1	None	190	No								X				Filter and preserve w/in 24hrs of receipt at lab. Mn Fe
			WM	500 mL Poly	1	HNO_3	80	No							X					
			WM	1L Poly	1	None	200	Yes	X								X			Filter and preserve w/in 24hrs of receipt at lab. Outfall 011 analyze for Mn and Fe.
Outfall 011			WM	1 L Glass Amber	2	None	250	No						X						Chlordane, DDD, DDE, DDT, dieldrin,PCBs,toxaphene at OF011.
			WM	borosilicate vials	2	None	320	No					X							Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
1	Outfall011_20230405_Comp	4/5/2023 /0710	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												

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
[signature]	4-5-2023/ 1210	H+A	[signature]	4/5/23 1210 EC	
[signature]	4/5/23 1830	EC	[signature]	4/5/23 18:30 EC	

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__

2019-2020 Rainy Season
Version 5

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-215545.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-133752-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 5/8/2023			
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 - Routine Outfall 011 - Comp	Project #: 57013187			
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, Y - Trizma, 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_Ca/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall011_20230405_Comp (570-133752-1)	4/5/23	07:10 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation. Ok to Preserve

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our 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: 4/6/23 1428	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
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-215595.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-133752-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 4/25/2023			
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 - Routine Outfall 011 - Comp	Project #: 57013187			
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; Y - Trizma; 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 (MOD) Standard List w/ Totals	1613B/1613B_Sox_Sep_P (MOD) Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall011_20230405_Comp (570-133752-1)	4/5/23	07:10 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall011_20230405_Comp_Extra (570-133752-2)	4/5/23	07:10 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 Calscience places the ownership of method, analyte & accreditation compliance upon our 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:	Company	Received by:	Date/Time:	Company
	4/6/23 1528				
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
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-215595.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-133752-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 4/25/2023			
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 - Routine Outfall 011 - Comp	Project #: 57013187			
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, Y - Trizma, 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 (MOD) Standard List w/ Totals	1613B/1613B_Sox_Sep_P (MOD) Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall011_20230405_Comp (570-133752-1)	4/5/23	07:10 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall011_20230405_Comp_Extra (570-133752-2)	4/5/23	07:10 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 Calscience places the ownership of method, analyte & accreditation compliance upon our 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		4/6/23 1528			4/7/23 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: 2.6

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-133752-2

Login Number: 13375Q
List Number: 1
Creator: , atelVdirenEra

List Source: f uroJns Calscience

Auestion	wnsPer	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: 570-133752-2

Login Number: 13375Q
List Number: 3
Creator: SimmonsV0ason C

List Source: f uroJns Sacramento
List Creation: 4/ 2472203 41:C9 , M

Auestion	wnsPer	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	2.6c
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?	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

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 5/21/2023 10:59:14 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Routine Outfall 011 - Comp

JOB NUMBER

570-133752-3

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

myEOL

Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

Virendra R Patil

Generated
5/21/2023 10:59:14 AM

Authorized for release by
Virendra Patel, Project Manager I
Virendra.Patel@et.eurofinsus.com
(714)895-5494

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Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-133752-3
Project/Site: Boeing NPDES SSFL - Ooutine f utGall 011 -
Co¤ s

Qualifiers

Rad

Qualifier	Qualifier Description
"	Oemult imlemmthan the ma¤ sle detection li¤ it.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
p	Limted under the vDwcolu¤ n to demignate that the remult imresorted on a dry %eight bamim
R O	Percent Oecovery
CFL	ContainmFree Liquid
CF"	Colony For¤ ing " nit
CNF	ContainmNo Free Liquid
DEO	Duslicate Error Oatio Uhor¤ ali(ed abmolute diGerencez
Dil Fac	Dilution Factor
DL	Detection Li¤ it UDoD/Df Ez
DL, OA, OE, IN	Indicatema Dilution, Oe-analymim, Oe-e) traction, or additional Initial ¤ etalm/anion analymimoGthe ma¤ sle
DLC	Decimion Level Concentration UOadioche¤ imtryz
EDL	Emti¤ ated Detection Li¤ it UDio) inz
Lf D	Li¤ it oGDetection UDoD/Df Ez
Lf x	Li¤ it oGx uantitation UDoD/Df Ez
QCL	EPA reco¤ ¤ ended vQa) i¤ u¤ Conta¤ inant Levelw
QDA	Qini¤ u¤ Detectable Activity UOadioche¤ imtryz
QDC	Qini¤ u¤ Detectable Concentration UOadioche¤ imtryz
QDL	Qethod Detection Li¤ it
QL	Qini¤ u¤ Level UDio) inz
QPN	Qomt Probable Nu¤ ber
Qx L	Qethod x uantitation Li¤ it
NC	Not Calculated
ND	Not Detected at the resorting li¤ it Uor QDL or EDL iGmho%nz
NEM	Negative / Abment
Pf S	Pomitive / Prement
Px L	Practical x uantitation Li¤ it
POES	Premu¤ stive
x C	x uality Control
OEO	Oelative Error Oatio UOadioche¤ imtryz
OL	Oesorting Li¤ it or Oequemted Li¤ it UOadioche¤ imtryz
OPD	Oelative Percent DiGerence, a ¤ eamure oGthe relative diGerence bet%een t%o sointm
TEF	To) icity Equivalent Factor UDio) inz
TEx	To) icity Equivalent x uotient UDio) inz
TNTC	Too Nu¤ eroumTo Count

Job ID: 570-133752-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-133752-3

Comments
No additional comments.

Receipt
The samples were received on 4/5/2023 6:30 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 1.9º C, 2.2º C and 2.5º C.

RAD
Method 900.0: Gross Alpha and Gross Beta batch 610354
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_20230405_Comp (570-133752-1), (LCS 160-610354/2-A), (LCSB 160-610354/3-A), (MB 160-610354/1-A), (570-133752-S-1-J DU), (570-133752-S-1-H MS) and (570-133752-S-1-I MSBT)

Method 901.1: Gamma Prep Batch 160-607146
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.

Outfall011_20230405_Comp (570-133752-1), (570-133036-R-1-D) and (570-133036-R-1-F DU)

Methods 903.0, 9315: Radium-226 batch 607889
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

Job ID: 570-133752-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

applied as the Activity Reference Date.
Outfall011_20230405_Comp (570-133752-1), (LCS 160-607889/2-A), (LCSD 160-607889/3-A), (MB 160-607889/1-A), (400-235738-D-4-A), (400-235738-D-4-B MS) and (400-235738-D-4-C MSD)

Methods 904.0, 9320: Radium-228 prep batch 160-611315:

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_20230405_Comp (570-133752-1), (LCS 160-611315/2-A), (LCSD 160-611315/3-A) and (MB 160-611315/1-A)

Method 905: Strontium-90 batch 607355
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_20230405_Comp (570-133752-1), (LCS 160-607355/2-A), (MB 160-607355/1-A), (280-174032-D-4-A) and (280-174032-C-4-A DU)

Method 906.0: Tritium 608493
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 decay corrected to sample date and time as the Activity Reference Date. Outfall011_20230405_Comp (570-133752-1), (LCS 160-608493/2-A), (MB 160-608493/1-A), (570-133752-R-1-C DU) and (570-133752-R-1-D MS)

Method A-01-R: Isotopic Uranium batch 608325
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_20230405_Comp (570-133752-1), (LCS 160-608325/2-A), (MB 160-608325/1-A), (570-133036-R-1-G) and (570-133036-R-1-I DU)

Method PrecSep_0: Radium-228 Prep Batch 160-607906

The following sample was prepared at a reduced aliquot due to Matrix: Outfall011_20230405_Comp (570-133752-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep_0: Radium-228 Prep Batch 160-607906

Insufficient sample volume was available to perform a sample duplicate for the following samples: Outfall011_20230405_Comp (570-133752-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep_0: Radium-228 Prep Batch 160-611315

The following sample was prepared at a reduced aliquot due to Matrix: Outfall011_20230405_Comp (570-133752-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep_0: Radium-228 Prep Batch 160-611315

Insufficient sample volume was available to perform a sample duplicate for the following samples: Outfall011_20230405_Comp (570-133752-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Job ID: 570-133752-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Method PrecSep-21:

Method PrecSep-21: Radium-226 Prep Batch 160-607889

The following sample was prepared at a reduced aliquot due to Matrix: Outfall011_20230405_Comp (570-133752-1). 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 160-607889

Insufficient sample volume was available to perform a sample duplicate for the following samples: Outfall011_20230405_Comp (570-133752-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead 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.
Project/Site: Boeing NPDES SSFL - Routine Outfall 011 - Comp

Job ID: 570-133752-3

Client Sample ID: Outfall011_20230405_Comp **Lab Sample ID: 570-133752-1**

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

I ient H:a yin& A dir cen, . It hP
j co/nhHSBeH: gonet NEj DFB BBLR- u oOHet n f OHyii 011 -
I op U

Job ID: 570-13375C-3

Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: f ut_all0112O0O304052Comp
Date Collected: 04/05/O3 07:10
Date Received: 04/05/O3 18:30

Lab Sample ID: 570-13375O-1
Matrix: Water

Analyte	Result	Quali_ier	Count Uncert. (Oσ+/-)	Total Uncert. (Oσ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
6 co88 diU, y	0P4C9	2	1P11	1P1C	3P00	1Pss	UI eSR	05S05SC3 0G59	05S10SC3 07:55	1
6 co88 gnHy	0P91G	2	0P915	0P91G	4P00	0PssC	UI eSR	05S05SC3 0G59	05S10SC3 07:55	1

Client Sample Results

I ient H:ayin&A dir oeh, . It hP
j oo/nhHBeH: gonet NEj DFB BBLR- u oOHe n f Ohyii 011 -
I op U

Method: EPA 901.1 - Cesium 137 & f ther Gamma Emitters (GS)

Client Sample ID: f ut_all0112O0O304052Comp
Lab Sample ID: 570-13375O-1
Date Collected: 04/05/O3 07:10
Matrix: Water
Date Received: 04/05/O3 18:30

Analyte	Result	Quali_ier	Count Uncert. (Oσ+/-)	Total Uncert. (Oσ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
I n8eOp -137	1F70	2	9F75	9F75	O0F0	7F39	UI eSR	04S1CSC3 1C:53	04S1sSC3 05:3s	1
j oHy88eOp -40	3sF3	2	G7Fs	GGF0		s1F4	UI eSR	04S1CSC3 1C:53	04S1sSC3 05:3s	1

FOorme 8 I yi8hent hn

Client Sample Results

Method: EPA 903.0 - Radium-CC6 (GFPC)

Client Sample ID: f ut_all0112C0C304052Comp
Date Collected: 04/05/C3 07:10
Date Received: 04/05/C3 18:30

Lab Sample ID: 570-13375C-1
Matrix: Water

Analyte	Result	Quali_ier	Count Uncert. (Cσ+/-)	Total Uncert. (Cσ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
u yr eCp -CC9	0P0154	2	0PC01	0PC01	1P00	0P40C	Ul eSR	04S1GSC3 10:45	05S1CSC3 09:0s	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*8. 9Y*		*30 - 110*	*04/18/23 10:45*	*05/12/23 06:0.*	*1*

Job ID: 570-13375C-3

Method: EPA 904.0 - Radium-C8 (GFPC)

Client Sample ID: f ut_all0112C0C304052Comp — **Lab Sample ID: 570-13375C-1**
Date Collected: 04/05/C3 07:10 — **Matrix: Water**
Date Received: 04/05/C3 18:30

Analyte	Result	Quali_ier	Count Uncert. (Co+/-)	Total Uncert. (Co+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
u yr eQp -CCG	-0P07s1	2	0P304	0P304	1P00	0P905	U e8R	05S1C3C3 13:41	05S1s3C3 1C:1G	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*. 898*		*30 - 110*	*05/12/23 13:41*	*05/1. /23 12:18*	*1*
S Carrier	*8690*		*30 - 110*	*05/12/23 13:41*	*05/1. /23 12:18*	*1*

Client Sample Results

I ient H:a yin& A dir oeh, . It hP | Job ID: 570-13375C-3
j oo/nhHBeh: gonet NEj DFB BBLR- u oOHen f Ohyii 011 -
I op U

Method: EPA 905 - Strontium-90 (GFPC)

Client Sample ID: f ut_all0112O0O804052Comp | **Lab Sample ID: 570-13375O-1**
Date Collected: 04/05/O3 07:10 | **Matrix: Water**
Date Received: 04/05/O3 18:30

Analyte	Result	Quali_ier	Count Uncert. (Oσ+/-)	Total Uncert. (Oσ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
BHot HOp -s0	-0POC7	2	0PC39	0PC37	3P00	0P457	UI eSR	04S13SC3 14:5s	04SC4SC3 1s:30	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
7r Carrier	*809B*		*30 - 110*	*04/13/23 14:5.*	*04/24/23 1. :30*	*1*
S Carrier	*Y59*		*30 - 110*	*04/13/23 14:5.*	*04/24/23 1. :30*	*1*

FOoone 8 I yi8hent hn

Client Sample Results

I ient H:a yin& A dir oeh, . It hP
j oo/nhHSBeH: gonet NEj DFB BBLR- u oOHet n f OHyii 011 -
I op U

Method: EPA 906.0 - Tritium, Total (LSC)

Client Sample ID: f ut_all0112O0O804052Comp
Date Collected: 04/05/O3 07:10
Date Received: 04/05/O3 18:30

Lab Sample ID: 570-13375O-1
Matrix: Water

Analyte	Result	Quali_ier	Count Uncert. (Oσ+/-)	Total Uncert. (Oσ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
TeHOp	51FG	2	O01	O01	500	333	UI eSR	04SC4SC3 0s:41	04SC5SC3 1C:33	1

FOcone 8 I yi8hent hn

Client Sample Results

Method: Df E A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: f ut_all0112C0C804052Comp
Lab Sample ID: 570-13375O-1
Date Collected: 04/05/C3 07:10
Matrix: Water
Date Received: 04/05/C3 18:30

Analyte	Result	Quali_ier	Count Uncert. (Cσ+/-)	Total Uncert. (Cσ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	**0.C88**		0F179	0F177	1F00	0F174	Ul eSR	04SC0SC3 19:0G	04SC4SC3 C3:C7	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*849*		*30 - 110*	*04/20/23 16:08*	*04/24/23 23:2Y*	*1*

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water — **Prep Type: Total/NA**

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)
570-13375C-1	f CHyii0114C0C306054I op 8	2_P7
RI B 190-90722_SC-d	Ryb I ot Hoi Byp 8in	75P6
RI BD 190-90722_S3-d	Ryb I ot Hoi Byp 8in DC8	23P3
Mg 190-90722_SI-d	MnH,or giyt k	20PI

Tracer/Carrier Legend

gy = gy I ycoenc

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water — **Prep Type: Total/NA**

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
570-13375C-1	f CHyii0114C0C306054I op 8	_2P2	29P0
RI B 190-911315SC-d	Ryb I ot Hoi Byp 8in	_2P0	2_P3
RI BD 190-911315S3-d	Ryb I ot Hoi Byp 8in DC8	_6P0	29P5
Mg 190-911315SI-d	MnH,or giyt k	_5P0	25PI

Tracer/Carrier Legend

gy = gy I ycoenc
Y = Y I ycoenc

Method: 905 - Strontium-90 (GFPC)

Matrix: Water — **Prep Type: Total/NA**

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Sr (30-110)	Y (30-110)
570-13375C-1	f CHyii0114C0C306054I op 8	20P3	75P_
RI B 190-907355SC-d	Ryb I ot Hoi Byp 8in	29PC	26PI
Mg 190-907355SI-d	MnH,or giyt k	27P2	25P9

Tracer/Carrier Legend

Bc= BcI ycoenc
Y = Y I ycoenc

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water — **Prep Type: Total/NA**

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	U-232 (30-110)
570-13375C-1	f CHyii0114C0C306054I op 8	26P9
RI B 190-9023C5SC-d	Ryb I ot Hoi Byp 8in	27P9
Mg 190-9023C5SI-d	MnH,or giyt k	21P2

Tracer/Carrier Legend

U-C3C = Ucyt eCp -C3C

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-6104/ xW-A **Client Sample ID: Method Blank**
MatriP: T ater **Nrep 7ype: 7otalW/A**
Analysis Batch: 610(/ x **Nrep Batch: 6104/ x**

Analyte	MB Result	MB Quali%er	Count f ncert. 2o+) WF	7otal f ncert. 2o+) WF	RL	MDC	f nit	Nrepared	AnalyUed	Dil zac
4 co99 diU, y	0PC073	2	0PGs7	0PGss	3P00	0P377	UI eSR	05S05SC3 0s:56	05S10SC3 07:G7	1
4 co99 gnHy	0PC67G	2	0P56G	0P565	GP00	0P85s	UI eSR	05S05SC3 0s:56	05S10SC3 07:G7	1

Lab Sample ID: LCS 160-6104/ xW-A **Client Sample ID: Lab Control Sample**
MatriP: T ater **Nrep 7ype: 7otalW/A**
Analysis Batch: 610(/ x **Nrep Batch: 6104/ x**

Analyte	Spike Added	LCS Result	LCS Qual	7otal f ncert. 2o+) WF	RL	MDC	f nit	3 Rec	3 Rec Limits
4 co99 diU, y	G3P6	G7PC7		7PC1	3P00	1P83	UI eSR	85	75 - 1C5

Lab Sample ID: LCSB 160-6104/ xW-A **Client Sample ID: Lab Control Sample**
MatriP: T ater **Nrep 7ype: 7otalW/A**
Analysis Batch: 610(/ x **Nrep Batch: 6104/ x**

Analyte	Spike Added	LCSB Result	LCSB Qual	7otal f ncert. 2o+) WF	RL	MDC	f nit	3 Rec	3 Rec Limits
4 co99 gnHy	73P3	71PG6		7P67	GP00	0P86s	UI eSR	8s	75 - 1C5

Lab Sample ID: / E0-144E/ o-1 MS **Client Sample ID: &ut%all011Oo0o40x0/ OComp**
MatriP: T ater **Nrep 7ype: 7otalW/A**
Analysis Batch: 610(66 **Nrep Batch: 6104/ x**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	7otal f ncert. 2o+) WF	RL	MDC	f nit	3 Rec	3 Rec Limits
4 co99 diU, y	0PG06	2	G3P6	37P1C		5P71	3P00	CP10	UI eSR	7G	60 - 1G0

Lab Sample ID: / E0-144E/ o-1 MSB7 **Client Sample ID: &ut%all011Oo0o40x0/ OComp**
MatriP: T ater **Nrep 7ype: 7otalW/A**
Analysis Batch: 610(66 **Nrep Batch: 6104/ x**

Analyte	Sample Result	Sample Qual	Spike Added	MSB7 Result	MSB7 Qual	7otal f ncert. 2o+) WF	RL	MDC	f nit	3 Rec	3 Rec Limits
4 co99 gnHy	0P61s	2	73P3	71P66		7P6s	GP00	0P350	UI eSR	87	60 - 1G0

Lab Sample ID: / E0-144E/ o-1 Df **Client Sample ID: &ut%all011Oo0o40x0/ OComp**
MatriP: T ater **Nrep 7ype: 7otalW/A**
Analysis Batch: 610(66 **Nrep Batch: 6104/ x**

Analyte	Sample Result	Sample Qual	Df Result	Df Qual	7otal f ncert. 2o+) WF	RL	MDC	f nit	R_R	R_R Limit
4 co99 diU, y	0PG06	2	0P1ssC	2	1P0s	3P00	CP01	UI eSR	0P11	1
4 co99 gnHy	0P61s	2	1P31C		0P676	GP00	0P3s0	UI eSR	0P5G	1

Method: 901.1 - Cesium 14E 5 &ther Gamma _mitters 2GSF

Lab Sample ID: MB 160-60E1x6W-A
MatriP: T ater
Analysis Batch: 60(0/ 0

Client Sample ID: Method Blank
Nrep 7ype: 7otalW A
Nrep Batch: 60E1x6

Analyte	MB Result	MB Quali%er	Count f ncert. 2o+) WF	7otal f ncert. 2o+) WF	RL	MDC	f nit	Nrepared	AnalyUed	Dil zac
I n9eOp -137	-0P255G	2	sP1C	sP1C	C0P0	8P60	Ui eSR	0GS1CSC3 1C:53	0GS18SC3 03:1C	1
j ohy99eOp -G0	71P5G		67P8	6sPG		67PG	Ui eSR	0GS1CSC3 1C:53	0GS18SC3 03:1C	1

Lab Sample ID: LCS 160-60E1x6W-A
MatriP: T ater
Analysis Batch: 60(0/ 4

Client Sample ID: Lab Control Sample
Nrep 7ype: 7otalW A
Nrep Batch: 60E1x6

Analyte	Spike Added	LCS Result	LCS Qual	7otal f ncert. 2o+) WF	RL	MDC	f nit	3 Rec	3 Rec Limits
dp ndheOp -CG1	135000	135500		16100		GG7	Ui eSR	100	78 - 1C1
I n9eOp -137	G0s00	G1770		G8s0	C0P0	110	Ui eSR	10C	s7 - 115
I obyiH60	17700	1s530		CC10		5GP0	Ui eSR	105	ss - 116

Method: 904.0 - Radium-oo6 2Gz NCF

Lab Sample ID: MB 160-60E((9W-A
MatriP: T ater
Analysis Batch: 611o(6

Client Sample ID: Method Blank
Nrep 7ype: 7otalW A
Nrep Batch: 60E((9

Analyte	MB Result	MB Quali%er	Count f ncert. 2o+) WF	7otal f ncert. 2o+) WF	RL	MDC	f nit	Nrepared	AnalyUed	Dil zac
uyreOp -CC6	-0P0C1C6	2	0P1GC	0P1GC	1P00	0P307	Ui eSR	0GS1ssSC3 10:G5	05S1CSC3 06:07	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.1*		*30 - 110*	*04/18/23 10:45*	*05/12/23 06:07*	*1*

Lab Sample ID: LCS 160-60E((9W-A
MatriP: T ater
Analysis Batch: 611o(6

Client Sample ID: Lab Control Sample
Nrep 7ype: 7otalW A
Nrep Batch: 60E((9

Analyte	Spike Added	LCS Result	LCS Qual	7otal f ncert. 2o+) WF	RL	MDC	f nit	3 Rec	3 Rec Limits
uyreOp -CC6	11P3	11P57		1PG7	1P00	0P33C	Ui eSR	10C	75 - 113

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*75.4*		*30 - 110*

Lab Sample ID: LCSD 160-60E((9W-A
MatriP: T ater
Analysis Batch: 611o(6

Client Sample ID: Lab Control Sample Dup
Nrep 7ype: 7otalW A
Nrep Batch: 60E((9

Analyte	Spike Added	LCSD Result	LCSD Qual	7otal f ncert. 2o+) WF	RL	MDC	f nit	3 Rec	3 Rec Limits	R_R	R_R Limit
uyreOp -CC6	11P3	10P56		1P35	1P00	0P35G	Ui eSR	83	75 - 113	0P36	1

QC Sample Results

Method: 904.0 - Radium-σσ6 2Gz NCF2ContinuedF

Lab Sample ID: LCSD 160-60E((9W-A
MatriP: T ater
Analysis Batch: 611σ(6

Client Sample ID: Lab Control Sample Dup
Nrep 7ype: 7otalW/A
Nrep Batch: 60E((9

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	*83.3*		*30 - 110*

Method: 90x.0 - Radium-σσ(2Gz NCF

Lab Sample ID: MB 160-61141/ W-A
MatriP: T ater
Analysis Batch: 61σσ((

Client Sample ID: Method Blank
Nrep 7ype: 7otalW/A
Nrep Batch: 61141/

Analyte	MB Result	MB Quali%er	Count f ncert. 2σ+) WF	7otal f ncert. 2σ+) WF	RL	MDC	f nit	Nrepared	AnalyUed	Dil zac
u yr eOp -CCs	-0P1C0G	2	0PCs6	0PCs6	1P00	0P56C	UI eSR	05S1CSC3 13:G1	05S18SC3 1C:17	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	*95.0*		*30 - 110*	*05/12/23 13:41*	*05/19/23 12:17*	*1*
Y Carrier	*85.1*		*30 - 110*	*05/12/23 13:41*	*05/19/23 12:17*	*1*

Lab Sample ID: LCS 160-61141/ W-A
MatriP: T ater
Analysis Batch: 61σσ((

Client Sample ID: Lab Control Sample
Nrep 7ype: 7otalW/A
Nrep Batch: 61141/

Analyte	Spike Added	LCS Result	LCS Qual	7otal f ncert. 2σ+) WF	RL	MDC	f nit	3 Rec	3 Rec Limits
u yr eOp -CCs	sP18	sP06G		1P1C	1P00	0P501	UI eSR	8s	75 - 1C5

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	*98.0*		*30 - 110*
Y Carrier	*89.3*		*30 - 110*

Lab Sample ID: LCSD 160-61141/ W-A
MatriP: T ater
Analysis Batch: 61σσ90

Client Sample ID: Lab Control Sample Dup
Nrep 7ype: 7otalW/A
Nrep Batch: 61141/

Analyte	Spike Added	LCSD Result	LCSD Qual	7otal f ncert. 2σ+) WF	RL	MDC	f nit	3 Rec	3 Rec Limits	R_R	R_R Limit
u yr eOp -CCs	sP18	8P583		1P55	1P00	0P866	UI eSR	117	75 - 1C5	0P57	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	*94.0*		*30 - 110*
Y Carrier	*86.5*		*30 - 110*

QC Sample Results

I ient H:a yin&A dir ceh, . lt hP Job ID: 570-13375C-3
j co/nhHSBeH: gonet NEj DFB BBLR- u oCHe n f CHyii 011 -
I op U

Method: 90/ - Strontium-90 2GzNCF

Lab Sample ID: MB 160-60E4/ / W-A **Client Sample ID: Method Blank**
MatriP: T ater **Nrep 7ype: 7otalW/A**
Analysis Batch: 60(x9x **Nrep Batch: 60E4/ /**

Analyte	MB Result	MB Quali%er	Count f ncert. 2σ+) WF	7otal f ncert. 2σ+) WF	RL	MDC	f nit	Nrepared	AnalyUed	Dil zac
BHot HOp -80	0F10CC	2	0FC06	0FC06	3F00	0F351	UI eSR	0GS13SC3 1G58	0GSOGSC3 18:C1	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*87.8*		*30 - 110*	*04/13/23 14:59*	*04/24/23 19:21*	*1*
Y Carrier	*85.6*		*30 - 110*	*04/13/23 14:59*	*04/24/23 19:21*	*1*

Lab Sample ID: LCS 160-60E4/ / W-A **Client Sample ID: Lab Control Sample**
MatriP: T ater **Nrep 7ype: 7otalW/A**
Analysis Batch: 60(x9x **Nrep Batch: 60E4/ /**

Analyte	Spike Added	LCS Result	LCS Qual	7otal f ncert. 2σ+) WF	RL	MDC	f nit	3 Rec	3 Rec Limits
BHot HOp -80	7F33	7FG51		0F3C	3F00	0FCss	UI eSR	10C	77 - 1C5

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*86.2*		*30 - 110*
Y Carrier	*84.1*		*30 - 110*

Method: 906.0 - 7ritium, 7otal 2LSCF

Lab Sample ID: MB 160-60(x94W-A **Client Sample ID: Method Blank**
MatriP: T ater **Nrep 7ype: 7otalW/A**
Analysis Batch: 60(Eσ/ **Nrep Batch: 60(x94**

Analyte	MB Result	MB Quali%er	Count f ncert. 2σ+) WF	7otal f ncert. 2σ+) WF	RL	MDC	f nit	Nrepared	AnalyUed	Dil zac
TeHOp	-1C7F0	2	1s5	1s5	500	3Gs	UI eSR	0GSOGSC3 08:G1	0GSC5SC3 11:03	1

Lab Sample ID: LCS 160-60(x94W-A **Client Sample ID: Lab Control Sample**
MatriP: T ater **Nrep 7ype: 7otalW/A**
Analysis Batch: 60(Eσ/ **Nrep Batch: 60(x94**

Analyte	Spike Added	LCS Result	LCS Qual	7otal f ncert. 2σ+) WF	RL	MDC	f nit	3 Rec	3 Rec Limits
TeHOp	C080	CG66		G87	500	G11	UI eSR	11s	75 - 1C5

Lab Sample ID: / E0-144E/ σ-1 MS **Client Sample ID: &ut%all011Cσ0σ40x0/ CComp**
MatriP: T ater **Nrep 7ype: 7otalW/A**
Analysis Batch: 60(Eσ/ **Nrep Batch: 60(x94**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	7otal f ncert. 2σ+) WF	RL	MDC	f nit	3 Rec	3 Rec Limits
TeHOp	51Fs	2	C0s0	1s5G		38G	500	335	UI eSR	s6	60 - 1G0

FCcord 9 I yi9hent hn

QC Sample Results

I ient H:a yin&A dir oh, . It hP
j co/nhHSBeHn: gonet NEj DFB BBLR- u oCHe n f CHyii 011 -
I op U

Job ID: 570-13375C-3

Method: 906.0 - 7ritium, 7otal 2LSCF2ContinuedF

Lab Sample ID: / E0-144E/ σ-1 Df
Client Sample ID: &ut%all011Oσ0σ40x0/ OComp
MatriP: T ater
Nrep 7ype: 7otal8/A
Analysis Batch: 60(Eσ/
Nrep Batch: 60(x94

Analyte	Sample Result	Sample Qual		Df Result	Df Qual	7otal f ncert. 2σ+) WF	RL	MDC	f nit			R_R	R_R Limit
ToHeOp	51Rs	2		-C1sF5	2	16s	500	335	Ul eSR			0F73	1

Method: A-01-R - Isotopic f ranium 2Alpha SpectrometryF

Lab Sample ID: MB 160-60(4σ/ W-A
Client Sample ID: Method Blank
MatriP: T ater
Nrep 7ype: 7otal8/A
Analysis Batch: 60(/ / 1
Nrep Batch: 60(4σ/

Analyte	MB Result	MB Quali%er	Count f ncert. 2σ+) WF	7otal f ncert. 2σ+) WF	RL	MDC	f nit	Nrepared	AnalyUed	Dil zac
ToHyi 2 oyt eOp	0F07C77	2	0F115C	0F1153	1F00	0F1sG	Ul eSR	0GSC0SC3 16:0s	0GSCGSC3 C3:C7	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*81.8*		*30 - 110*	*04/20/23 16:08*	*04/24/23 23:27*	*1*

Lab Sample ID: LCS 160-60(4σ/ W-A
Client Sample ID: Lab Control Sample
MatriP: T ater
Nrep 7ype: 7otal8/A
Analysis Batch: 60(/ / /
Nrep Batch: 60(4σ/

Analyte			Spike Added	LCS Result	LCS Qual	7otal f ncert. 2σ+) WF	RL	MDC	f nit	3 Rec	3 Rec Limits		
2 oyt eOp -C3G			1CF7	13Rs6		1F58	1F00	0F1GG	Ul eSR	108	75 - 1C5		
2 oyt eOp -C3s			13F0	1GF83		1F6s	1F00	0F150	Ul eSR	115	75 - 1C5		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*87.6*		*30 - 110*

Rad

Prep Batch: 607146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133752-1	Outfall011_20230405_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-607146/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-607146/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	

Prep Batch: 607355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133752-1	Outfall011_20230405_Comp	Total/NA	Water	PrecSep-7	
MB 160-607355/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-607355/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	

Prep Batch: 607889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133752-1	Outfall011_20230405_Comp	Total/NA	Water	PrecSep-21	
MB 160-607889/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-607889/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-607889/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 608325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133752-1	Outfall011_20230405_Comp	Total/NA	Water	ExtChrom	
MB 160-608325/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-608325/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	

Prep Batch: 608493

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133752-1	Outfall011_20230405_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-608493/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-608493/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
570-133752-1 MS	Outfall011_20230405_Comp	Total/NA	Water	LSC_Dist_Susp	
570-133752-1 DU	Outfall011_20230405_Comp	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 610354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133752-1	Outfall011_20230405_Comp	Total/NA	Water	Evaporation	
MB 160-610354/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-610354/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-610354/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-133752-1 MS	Outfall011_20230405_Comp	Total/NA	Water	Evaporation	
570-133752-1 MSBT	Outfall011_20230405_Comp	Total/NA	Water	Evaporation	
570-133752-1 DU	Outfall011_20230405_Comp	Total/NA	Water	Evaporation	

Prep Batch: 611315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133752-1	Outfall011_20230405_Comp	Total/NA	Water	PrecSep_0	
MB 160-611315/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-611315/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-611315/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Haley & Aldrich, Inc.
j ro/ectSBite: goeinNEj DFB BBLR- u oQtine f Qtnall 011 - Cop v

Job ID: 570-13375P-3

Client Sample ID: Outfall011_20230405_Comp

Date Collected: 04/05/23 07:10
Date Received: 04/05/23 18:30

Lab Sample ID: 570-133752-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
2otalSEA	j rev	FMavoration			P00.01 p R	1.0 N	81035s	05S05P3 06:58	T B2	FF2 BR
2otalSEA	Analy9i9	G00.0		1			810688	05S10P3 07:55	LRC	FF2 BR
	In9trQp ent ID: ULj Cj _uj RF									
2otalSEA	j rev	Lill4Ueo-0			1000 p R	1.0 N	8071s8	0sS1P3P3 1P:53	AJj	FF2 BR
2otalSEA	Analy9i9	G01.1		1			806050	0sS1G3P3 05:3G	CAH	FF2 BR
	In9trQp ent ID: UAT T AVIBIf E									
2otalSEA	j rev	j recBev-P1			757.GP p R	1.0 N	80766G	0sS16P3 10:s5	KAC	FF2 BR
2otalSEA	Analy9i9	G03.0		1			811P68	05S1P3P3 08:0G	LRC	FF2 BR
	In9trQp ent ID: ULj CgR_F									
2otalSEA	j rev	j recBev40			7s3.01 p R	1.0 N	811315	05S1P3P3 13:s1	KAC	FF2 BR
2otalSEA	Analy9i9	G0s.0		1			81PP66	05S1G3P3 1P:16	LRC	FF2 BR
	In9trQp ent ID: ULj Cj _uj RF									
2otalSEA	j rev	j recBev-7			GGP.00 p R	1.0 N	807355	0sS13P3 1s:5G	KAC	FF2 BR
2otalSEA	Analy9i9	G05		1			8068P5	0sSPsP3 1G:30	LRC	FF2 BR
	In9trQp ent ID: ULj Cj _uj RF									
2otalSEA	j rev	RBC4Di9t4BC9v			100.1Gp R	1.0 N	806sG3	0sSPsP3 0Gs1	DJj	FF2 BR
2otalSEA	Analy9i9	G08.0		1			8067P5	0sSP5P3 1P:33	uFV	FF2 BR
	In9trQp ent ID: RBC2FAR									
2otalSEA	j rev	FxtChrop			505.3 p R	1.0 p R	8063P5	0sSP0P3 18:06	BFH	FF2 BR
2otalSEA	Analy9i9	A-01-u		1			8065ss	0sSPsP3 P3:P7	LRC	FF2 BR
	In9trQp ent ID: ARj HAVIBIf E									

Laboratory References:

FF2 BR= FQrorim9 Bt. RoQ9, 13715 u ider 2rail Eorth, Farth City, T f 830s5, 2FR(31s)PG6-6588

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-13375P-3

j ro/ectSBite: goeinNEj DFB BBLR- u oQtine f Qtnall 011 - Cop s

Laboratory: Eurofins Stl Louis

All accreditationkSertinicationk held by thik laboratory are likted. Eot all accreditationkSertinicationk are asslicable to thik resort.

Authority	Program	Identification Number	Expiration Date
Alak(a UTB) 2	Btate	P0-001	05-06-P5
AEAg	Dest. omDeranke FRAj	RP305	04-06-P5
AEAg	Dest. omFnerNy	RP305.01	04-06-P5
AEAg	IBf 3FC 170P5	RP305	04-06-P5
Arizona	Btate	AZ0813	1P-08-P3
Calirnrnia	Rok AnNelek CoQnty Banitation Diktrictk	10P59	06-30-PP *
Calirnrnia	Btate	P886	06-30-P3
Llorida	EFRAj	F87689	06-30-P3
HI - u adChep u ecoNnition	Btate	nSa	06-30-P3
Illinoik	EFRAj	P000P3	11-30-P3
Iowa	Btate	373	1P-01-P4
Kankak	EFRAj	F-10P36	10-31-P3
KentOc(y UDW2	Btate	KY901P5	1P-31-P3
KentOc(y UWW2	Btate	KY901P5 Uj erp it KY00040492	1P-31-P3
RoOkiana UAll2	EFRAj	04080	06-30-P3
RoOkiana UDW2	Btate	RA011	1P-31-P3
Maryland	Btate	310	09-30-P3
MI - u adChep u ecoNnition	Btate	9005	06-30-P3
MikkoOri	Btate	780	06-30-P5
Eevada	Btate	Mf 00054P0P0-1	07-31-P3
Eew Jerkey	EFRAj	Mf 00P	06-30-P3
Eew Yor(	EFRAj	11616	03-31-P4
Eorth Carolina UDW2	Btate	P9700	07-31-P3
Eorth Da(ota	Btate	u -P07	06-30-P3
f (lahop a	EFRAj	9997	08-31-P3
f reNon	EFRAj	4157	09-01-P3
j ennkylvania	EFRAj	68-00540	0P-P8-P4
BoOth Carolina	Btate	8500P001	06-30-P3
)exak	EFRAj	) 104704193	07-31-P3
TB Likh & Wildlira	TB Lederal j roNrap k	058448	07-31-P3
TBDA	TB Lederal j roNrap k	j 330-17-000P8	05-18-P6
Ttah	EFRAj	Mf 00054P0P1-14	07-31-P3
VirNinia	EFRAj	10310	06-14-P3
WakhinNton	Btate	C59P	08-30-P3
Wekt VirNinia DFj	Btate	381	10-31-P3

* AccreditationSCertinication renewal sendinN - accreditationSertinication conkidered valid.

FOrorink Calkcience

Method Summary

I ient H:a yin& A dir ceh, . It hP
j co/nhHSBeH: gonet NEj DFB BBLR- u oCHe n f CHyii 011 -
I op 9

Job ID: 570-13375C-3

Method	Method Description	Protocol	Laboratory
G00PP0	s covv di9, y yt r s covv gnHy u yr eoyhHeTeH&	Fj d	FF(BR
G01PI	I nveOp 137 A f H,ncs yp p y Fp eHHov)s B2	Fj d	FF(BR
G03PP0	u yr eOp -CC6)s Lj I 2	Fj d	FF(BR
G04PP0	u yr eOp -CC8)s Lj I 2	Fj d	FF(BR
G05	BHot HeOp -G0)s Lj I 2	Fj d	FF(BR
G06PP0	(oeHeOp . (oHyi)RBI 2	Fj d	FF(BR
d-01-u	IvoHo9eh Ucyt eOp)di9, y B9nhHop nHe&2	Df F	FF(BR
FTy9oocyHebt	j cn9ycyHebt . FTy9oocyHebt	Eot n	FF(BR
FxHI , cop	j cn9ycyHebt . FxHoyhHebt I , cop yHoNcy9, & u nvet dhHet e n Bn9ycyHebt	Eot n	FF(BR
Leii_s no-0	Leii s nop nHe& Eo It -s cowH,I	Eot n	FF(BR
RBI _DevH_BOv9	DevHeiyHebt yt r BOv9nt veot)RBI 2	Eot n	FF(BR
j cnhBn9_0	j cn9ycyHebt . j cnhe9eHyHn Bn9ycyHebt	Eot n	FF(BR
j cnhBn9-C1	j cn9ycyHebt . j cnhe9eHyHn Bn9ycyHebt)C1-Dy& It -s cowH,2	Eot n	FF(BR
j cnhBn9-7	j cn9ycyHebt . j cnhe9eHyHn Bn9ycyHebt)7-Dy& It -s cowH,2	Eot n	FF(BR

Protocol References:

Df F = UFBPDn9ydHp nt HomFt ndN&

Fj d = UB Ft Teot p nt Hyi j coHhHebt dNnt h&

Eot n = Eot n

Laboratory References:

FF(BR = FOcone v BHPRoOe. 13715 u e nc(oyei EodH,I . FydH,I eH& Mf 63045. (FR)3142CG3-8566

Sample Summary

Client: Haley & Aldrich, Inc.
j ro/ectSBite: goeinNEj DFB BBLR- u oCtine f Ctnall 011 -
Cop _

Job ID: 570-13375P-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-13375P-1	f Ctnall0112P0P304052Cop _	Water	04S05SP3 07:10	04S05SP3 18:30

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-133752 Chain of Custody

Loc: 570
133752

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 011 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	
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: Neal Smith	**Field Manager: Mark Dominick** 978.234.5033, 818.599.0702 (cell)

									ANALYSIS REQUIRED															
									R	R	R	R	R	R	R/EP	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: (E200.8): 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-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	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: (E200.8): Mn, Fe			Comments
1	Outfall011_20230405_Comp	4/5/2023 1070	WM	500 mL Poly	1	HNO_3	90	Yes	X										X	X			Outfall 011 analyze for 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 hours Holding Time for Turbidity
Outfall 011			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								
2	Outfall011_20230405_Comp_Extra	4/5/2023 1070	WM	1 L Glass Amber	2	None	110	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, EP=Expert Panel, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	Company:
[signature]	4.5.2023/1210	HA	[signature]	4/5/23 1210	EC
[signature]	4/5/23 1830	EC	[signature]	4/5/23 18:30	EC

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__

2.2/2.2 1.9/1.9 2.5/2.5 Soil

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 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 011 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	
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: Neal Smith	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	R Total Dissolved Metals: (E200.8): 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	R Total Dissolved Metals: Mercury (E245.1)	QRSW Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)	QRSW Total Recoverable Metals: Hardness as CaCO3	QRSW Total Dissolved Metals: Hardness as CaCO3	C/EP Total Dissolved Metals: [redacted] -TD E200.8	Mn Fe		Comments
3 Outfall 011	Outfall011_20230405_Comp_F	4/5/2023 /0710	WM	1 L Poly	1	None	190	No								X				Filter and preserve w/in 24hrs of receipt at lab. Mn Fe
			WM	500 mL Poly	1	HNO_3	80	No							X					
			WM	1L Poly	1	None	200	Yes	X								X			Filter and preserve w/in 24hrs of receipt at lab. Outfall 011 analyze for Mn and Fe.
			WM	1 L Glass Amber	2	None	250	No						X						Chlordane, DDD, DDE, DDT, dieldrin, PCBs, toxaphene at OF011.
			WM	borosilicate vials	2	None	320	No					X							Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
1	Outfall011_20230405_Comp	4/5/2023 /0710	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												

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
[signature]	4-5-2023/ 1210	H+A	[signature]	4/5/23 1210 EC	Turn-around time: (Check) 24 Hour: ____ 72 Hour: ____ 10 Day: X 48 Hour: ____ 5 Day: ____ Normal: ____
[signature]	4/5/23 1830	EC	[signature]	4/5/23 18:30 EC	Sample Integrity: (Check) Intact: ____ On Ice: ____
					Store samples for 6 months. Data Requirements: (Check) No Level IV: ____ All Level IV: X

2019-2020 Rainy Season
Version 5

5/21/2023

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-215545.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-133752-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 5/8/2023			
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 - Routine Outfall 011 - Comp	Project #: 57013187			
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, Y - Trizma, 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_Ca/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall011_20230405_Comp (570-133752-1)	4/5/23	07:10 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation. Ok to Preserve

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our 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: 4/6/23 1428	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
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-215595.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-133752-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 4/25/2023			
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 - Routine Outfall 011 - Comp	Project #: 57013187			
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; Y - Trizma; 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 (MOD) Standard List w/ Totals	1613B/1613B_Sox_Sep_P (MOD) Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall011_20230405_Comp (570-133752-1)	4/5/23	07:10 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall011_20230405_Comp_Extra (570-133752-2)	4/5/23	07:10 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 Calscience places the ownership of method, analyte & accreditation compliance upon our 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:	Company	Received by:	Date/Time:	Company
	4/6/23 1528				
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
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-215545.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-133752-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 5/8/2023			
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 - Routine Outfall 011 - Comp	Project #: 57013187			
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)	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_20230405_Comp (570-133752-1)	4/5/23	07:10 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation. Ok to Preserve

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
Y - Trizma
Z - other (specify)

Other:

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our 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: [signature]	Date/Time: 4/6/23 1428	Company	Received by: fedex	Date/Time:	Company
Relinquished by: fedex	Date/Time:	Company	Received by: Briana Shanbory-Hagg	Date/Time: 4/7/23 0915	Company: ETASTL
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: 570-133752-3

Login Number: 13375Q
List Number: 1
Creator: , atelVdirenEra

List Source: f uroyins Calscience

Auestion	wnsPer	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: 570-133752-3

Login Number: 13375Q
List Number: Q
Creator: Sharke- G t onBaleBV. riana L

List Source: f uroyins St0Louis
List Creation: 4/ 2472203 4Q47 , M

Auestion	wnsPer	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

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 6/23/2023 8:20:18 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Outfall 018 - Grab

JOB NUMBER

570-140560-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

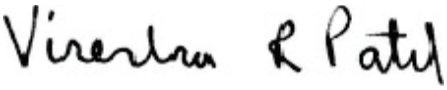
myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization



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Authorized for release by
Virendra Patel, Project Manager I
Virendra.Patel@et.eurofinsus.com
(714)895-5494

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Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-140560-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Grab

Qualifiers

GC/MS mV O

Qualifier	Qualifier DesAriction
LQ	LCS/LCSD recovery above method control limits

Glossary

Obbreviation	phese AoT T only used abbreviations T ay or T ay not be cresent in this recort.
¤	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: 570-140560-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-140560-1

Comments
No additional comments.

Receipt
The samples were received on 6/6/2023 6:08 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 1.8º C.

GC/MS VOA
Method 624.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-334860. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method 624.1: The continuing calibration verification (CCV) associated with batch 570-334860 recovered above the upper control limit for 1,1,2-Trichloro-1,2,2-trifluoroethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: Outfall018_20230605_Grab (570-140560-1), TB-20230605 (570-140560-3) and (CCVIS 570-334860/3).

Method 624.1: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 570-334860 recovered outside control limits for the following analyte: 1,1,2-Trichloro-1,2,2-trifluoroethane. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method 624.1: The preservative used in the sample containers provided is not compatible with the Method 624 analytes requested. The following samples were received preserved with hydrochloric acid: Outfall018_20230605_Grab (570-140560-1) and TB-20230605 (570-140560-3). The requested target analyte list contains 2-Chloroethyl vinyl ether and/or Acrolein, which are acid-labile compounds that degrade in an acidic medium.

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.

General Chemistry
Method SM 2540F: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with analytical batch 570-335046.

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

Organic Prep
Method 1664A: The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.
Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-335118.
Method 1664A.

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: 570-140560-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Grab

Client Sample ID: Outfall018_20230605_Grab
Lab Sample ID: 570-140560-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	740		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: TB-20230605
Lab Sample ID: 570-140560-3

No Detections.

This Detection Summary does not include radiochemical test results.

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall018_20230605_Grab
Lab Sample ID: 570-140560-1
Date Collected: 06/05/23 15:15
Matrix: Water
Date Received: 06/06/23 18:08

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			06/06/23 22:15	2
1,1,2,2-Tetrachloroethane	ND		1.0	0.40	ug/L			06/06/23 22:15	2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	LQ	4.0	0.66	ug/L			06/06/23 22:15	2
1,1,2-Trichloroethane	ND		1.0	0.35	ug/L			06/06/23 22:15	2
1,1-Dichloroethane	ND		1.0	0.79	ug/L			06/06/23 22:15	2
1,1-Dichloroethene	ND		1.0	0.67	ug/L			06/06/23 22:15	2
1,2-Dichlorobenzene	ND		1.0	0.33	ug/L			06/06/23 22:15	2
1,2-Dichloroethane	ND		1.0	0.30	ug/L			06/06/23 22:15	2
1,2-Dichloropropane	ND		1.0	0.34	ug/L			06/06/23 22:15	2
1,3-Dichlorobenzene	ND		1.0	0.31	ug/L			06/06/23 22:15	2
1,4-Dichlorobenzene	ND		1.0	0.23	ug/L			06/06/23 22:15	2
Acrolein	ND		10	9.3	ug/L			06/06/23 22:15	2
Acrylonitrile	ND		4.0	2.9	ug/L			06/06/23 22:15	2
Benzene	ND		1.0	0.56	ug/L			06/06/23 22:15	2
Bromodichloromethane	ND		1.0	0.38	ug/L			06/06/23 22:15	2
Bromoform	ND		2.0	0.50	ug/L			06/06/23 22:15	2
Bromomethane	ND		1.0	0.45	ug/L			06/06/23 22:15	2
Carbon tetrachloride	ND		1.0	0.55	ug/L			06/06/23 22:15	2
Chlorobenzene	ND		1.0	0.37	ug/L			06/06/23 22:15	2
Chloroethane	ND		2.0	0.57	ug/L			06/06/23 22:15	2
Chloroform	ND		1.0	0.37	ug/L			06/06/23 22:15	2
Chloromethane	ND		1.0	0.61	ug/L			06/06/23 22:15	2
cis-1,2-Dichloroethene	ND		1.0	0.41	ug/L			06/06/23 22:15	2
cis-1,3-Dichloropropene	ND		1.0	0.60	ug/L			06/06/23 22:15	2
Dibromochloromethane	ND		1.0	0.31	ug/L			06/06/23 22:15	2
Ethylbenzene	ND		1.0	0.49	ug/L			06/06/23 22:15	2
Methylene Chloride	ND		4.0	1.1	ug/L			06/06/23 22:15	2
Naphthalene	ND		2.0	0.65	ug/L			06/06/23 22:15	2
o-Xylene	ND		1.0	0.29	ug/L			06/06/23 22:15	2
m,p-Xylene	ND		2.0	0.33	ug/L			06/06/23 22:15	2
Tetrachloroethene	ND		1.0	0.43	ug/L			06/06/23 22:15	2
Toluene	ND		1.0	0.47	ug/L			06/06/23 22:15	2
trans-1,2-Dichloroethene	ND		1.0	0.48	ug/L			06/06/23 22:15	2
trans-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/06/23 22:15	2
Trichloroethene	ND		1.0	0.35	ug/L			06/06/23 22:15	2
Trichlorofluoromethane	ND		1.0	0.58	ug/L			06/06/23 22:15	2
Vinyl chloride	ND		1.0	0.94	ug/L			06/06/23 22:15	2
Xylenes, Total	ND		2.0	0.33	ug/L			06/06/23 22:15	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*60 - 140*		*06/06/23 22:15*	*2*
Dibromofluoromethane (Surr)	*97*		*60 - 140*		*06/06/23 22:15*	*2*
Toluene-d8 (Surr)	*101*		*60 - 140*		*06/06/23 22:15*	*2*

Client Sample ID: TB-20230605
Lab Sample ID: 570-140560-3
Date Collected: 06/05/23 15:15
Matrix: Water
Date Received: 06/06/23 18:08

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			06/06/23 21:09	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			06/06/23 21:09	1

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: TB-20230605
Date Collected: 06/05/23 15:15
Date Received: 06/06/23 18:08

Lab Sample ID: 570-140560-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	LQ	2.0	0.33	ug/L			06/06/23 21:09	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			06/06/23 21:09	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			06/06/23 21:09	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			06/06/23 21:09	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			06/06/23 21:09	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			06/06/23 21:09	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			06/06/23 21:09	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			06/06/23 21:09	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			06/06/23 21:09	1
Acrolein	ND		5.0	4.6	ug/L			06/06/23 21:09	1
Acrylonitrile	ND		2.0	1.4	ug/L			06/06/23 21:09	1
Benzene	ND		0.50	0.28	ug/L			06/06/23 21:09	1
Bromodichloromethane	ND		0.50	0.19	ug/L			06/06/23 21:09	1
Bromoform	ND		1.0	0.25	ug/L			06/06/23 21:09	1
Bromomethane	ND		0.50	0.22	ug/L			06/06/23 21:09	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			06/06/23 21:09	1
Chlorobenzene	ND		0.50	0.19	ug/L			06/06/23 21:09	1
Chloroethane	ND		1.0	0.29	ug/L			06/06/23 21:09	1
Chloroform	ND		0.50	0.19	ug/L			06/06/23 21:09	1
Chloromethane	ND		0.50	0.30	ug/L			06/06/23 21:09	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			06/06/23 21:09	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			06/06/23 21:09	1
Dibromochloromethane	ND		0.50	0.15	ug/L			06/06/23 21:09	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/06/23 21:09	1
Methylene Chloride	ND		2.0	0.57	ug/L			06/06/23 21:09	1
Naphthalene	ND		1.0	0.33	ug/L			06/06/23 21:09	1
o-Xylene	ND		0.50	0.15	ug/L			06/06/23 21:09	1
m,p-Xylene	ND		1.0	0.17	ug/L			06/06/23 21:09	1
Tetrachloroethene	ND		0.50	0.21	ug/L			06/06/23 21:09	1
Toluene	ND		0.50	0.23	ug/L			06/06/23 21:09	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			06/06/23 21:09	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			06/06/23 21:09	1
Trichloroethene	ND		0.50	0.17	ug/L			06/06/23 21:09	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			06/06/23 21:09	1
Vinyl chloride	ND		0.50	0.47	ug/L			06/06/23 21:09	1
Xylenes, Total	ND		1.0	0.17	ug/L			06/06/23 21:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*60 - 140*		*06/06/23 21:09*	*1*
Dibromofluoromethane (Surr)	*106*		*60 - 140*		*06/06/23 21:09*	*1*
Toluene-d8 (Surr)	*100*		*60 - 140*		*06/06/23 21:09*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-140560-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Grab

General Chemistry

Client Sample ID: Outfall018_20230605_Grab
Lab Sample ID: 570-140560-1
Date Collected: 06/05/23 15:15
Matrix: Water
Date Received: 06/06/23 18:08

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664A)	ND		1.0	0.51	mg/L		06/07/23 08:28	06/07/23 12:56	1
Specific Conductance (SM 2510B)	**740**		1.0	1.0	umhos/cm			06/17/23 00:20	1
Settleable Solids (SM 2540F)	ND		0.10	0.10	mL/L			06/06/23 22:01	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Outfall 01G- 9 rab

Job ID: 570-130520-1

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)
570-130520-1	Outfall01G_40460205_9 rab	85	87	101
570-130520-6	TB-40460205	83	102	100
LCS 570-663G20/1006	Lab Control Sample	85	8G	100
LCSD 570-663G20/3	Lab Control Sample Dup	88	87	105
MB 570-663G20/2	Method Blank	100	100	103

Surrogate Legend

BFB = 3-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-dG(Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-334x60/6
MatriW P ater
F nalNsis Batch: 334x60

Client Sample ID: Method Blank
Trep yNpe: yotal/AF

FnalNte	MB Result	MB Quali%er	RL	MDL	f nit	D	Trepared	FnalNUed	Dil zac
1,1,1-2richloroethane	ND		0.50	0.35	ug/L			06/06/3T 15:30	1
1,1,3,3-2etrachloroethane	ND		0.50	0.30	ug/L			06/06/3T 15:30	1
1,1,3-2richloro-1,3,3-trifluoroethane	ND		3.0	0.TT	ug/L			06/06/3T 15:30	1
1,1,3-2richloroethane	ND		0.50	0.17	ug/L			06/06/3T 15:30	1
1,1-Dichloroethane	ND		0.50	0.TQ	ug/L			06/06/3T 15:30	1
1,1-Dichloroethene	ND		0.50	0.TT	ug/L			06/06/3T 15:30	1
1,3-Dichloroben9ene	ND		0.50	0.16	ug/L			06/06/3T 15:30	1
1,3-Dichloroethane	ND		0.50	0.15	ug/L			06/06/3T 15:30	1
1,3-Dichlorozrozane	ND		0.50	0.17	ug/L			06/06/3T 15:30	1
1,T-Dichloroben9ene	ND		0.50	0.16	ug/L			06/06/3T 15:30	1
1,4-Dichloroben9ene	ND		0.50	0.11	ug/L			06/06/3T 15:30	1
Acrolein	ND		5.0	4.6	ug/L			06/06/3T 15:30	1
Acrylonitrile	ND		3.0	1.4	ug/L			06/06/3T 15:30	1
Ben9ene	ND		0.50	0.38	ug/L			06/06/3T 15:30	1
Brop odichlorop ethane	ND		0.50	0.1Q	ug/L			06/06/3T 15:30	1
Brop oforp	ND		1.0	0.35	ug/L			06/06/3T 15:30	1
Brop op ethane	ND		0.50	0.33	ug/L			06/06/3T 15:30	1
Carbon tetrachloride	ND		0.50	0.38	ug/L			06/06/3T 15:30	1
Chloroben9ene	ND		0.50	0.1Q	ug/L			06/06/3T 15:30	1
Chloroethane	ND		1.0	0.3Q	ug/L			06/06/3T 15:30	1
Chloroforp	ND		0.50	0.1Q	ug/L			06/06/3T 15:30	1
Chlorop ethane	ND		0.50	0.T0	ug/L			06/06/3T 15:30	1
cim1,3-Dichloroethene	ND		0.50	0.31	ug/L			06/06/3T 15:30	1
cim1,T-Dichlorozrozene	ND		0.50	0.T0	ug/L			06/06/3T 15:30	1
Dibrop ochlorop ethane	ND		0.50	0.15	ug/L			06/06/3T 15:30	1
Ethylben9ene	ND		0.50	0.35	ug/L			06/06/3T 15:30	1
s ethylene Chloride	ND		3.0	0.57	ug/L			06/06/3T 15:30	1
Nazhthalene	ND		1.0	0.TT	ug/L			06/06/3T 15:30	1
o-Mylene	ND		0.50	0.15	ug/L			06/06/3T 15:30	1
p ,z-Mylene	ND		1.0	0.17	ug/L			06/06/3T 15:30	1
2etrachloroethene	ND		0.50	0.31	ug/L			06/06/3T 15:30	1
2oluene	ND		0.50	0.3T	ug/L			06/06/3T 15:30	1
tranm1,3-Dichloroethene	ND		0.50	0.34	ug/L			06/06/3T 15:30	1
tranm1,T-Dichlorozrozene	ND		0.50	0.18	ug/L			06/06/3T 15:30	1
2richloroethene	ND		0.50	0.17	ug/L			06/06/3T 15:30	1
2richlorofluorop ethane	ND		0.50	0.3Q	ug/L			06/06/3T 15:30	1
Xinyl chloride	ND		0.50	0.47	ug/L			06/06/3T 15:30	1
Mylenem 2otal	ND		1.0	0.17	ug/L			06/06/3T 15:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*60 - 140*		*06/06/23 15:20*	*1*
Dibromofluoromethane (Surr)	*100*		*60 - 140*		*06/06/23 15:20*	*1*
Toluene-d8 (Surr)	*104*		*60 - 140*		*06/06/23 15:20*	*1*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-334x60/1003
MatriW P ater
F nalNsis Batch: 334x60

Client Sample ID: Lab Control Sample
Trep yNpe: yotal/AF

F nalNte	Spike F dded	LCS Result	LCS Quali%er	f nit	D	H Rec	H Rec Limits
1,1,1-2richloroethane	10.0	11.7		ug/L		117	70 - 1T0
1,1,3,3-2etrachloroethane	10.0	8.86		ug/L		8Q	60 - 140
1,1,3-2richloro-1,3,3-trifluoroetha ne	10.0	17.1	LV	ug/L		171	60 - 140
1,1,3-2richloroethane	10.0	Q41		ug/L		Q4	70 - 1T0
1,1-Dichloroethane	10.0	10.8		ug/L		108	70 - 1T0
1,1-Dichloroethene	10.0	13.7		ug/L		137	50 - 150
1,3-Dichloroben9ene	10.0	Q65		ug/L		Q7	65 - 1T5
1,3-Dichloroethane	10.0	10.3		ug/L		103	70 - 1T0
1,3-Dichlorozrozane	10.0	10.5		ug/L		105	T5 - 165
1,T-Dichloroben9ene	10.0	10.0		ug/L		100	70 - 1T0
1,4-Dichloroben9ene	10.0	Q50		ug/L		Q5	65 - 1T5
Acrolein	30.0	1Q8		ug/L		QQ	60 - 140
Acrylonitrile	10.0	QT8		ug/L		Q4	60 - 140
Ben9ene	10.0	10.5		ug/L		105	65 - 1T5
Brop odichlorop ethane	10.0	10.3		ug/L		103	65 - 1T5
Brop oforp	10.0	QQ4		ug/L		QQ	70 - 1T0
Brop op ethane	10.0	10.1		ug/L		101	15 - 185
Carbon tetrachloride	10.0	1T.0		ug/L		1T0	70 - 1T0
Chloroben9ene	10.0	Q33		ug/L		Q3	65 - 1T5
Chloroethane	10.0	10.1		ug/L		101	40 - 160
Chloroforp	10.0	10.0		ug/L		100	70 - 1T5
Chlorop ethane	10.0	Q45		ug/L		Q5	1 - 305
cim1,3-Dichloroethene	10.0	10.4		ug/L		104	60 - 140
cim1,T-Dichlorozrozene	10.0	10.5		ug/L		105	35 - 175
Dibrop ochlorop ethane	10.0	10.T		ug/L		10T	70 - 1T5
Ethylben9ene	10.0	QQQ		ug/L		100	60 - 140
s ethylene Chloride	10.0	11.4		ug/L		114	60 - 140
Nazhthalene	10.0	QTQ		ug/L		Q4	60 - 140
o-Mylene	10.0	10.3		ug/L		103	60 - 140
p ,z-Mylene	30.0	30.8		ug/L		104	60 - 140
2etrachloroethene	10.0	11.0		ug/L		110	70 - 1T0
2oluene	10.0	10.5		ug/L		105	70 - 1T0
tranm1,3-Dichloroethene	10.0	10.8		ug/L		108	70 - 1T0
tranm1,T-Dichlorozrozene	10.0	QQT		ug/L		QQ	50 - 150
2richloroethene	10.0	QQ0		ug/L		QQ	65 - 1T5
2richlorofluorop ethane	10.0	1T.6		ug/L		1T6	50 - 150
Xinyl chloride	10.0	10.3		ug/L		103	5 - 1Q5
Mylenem, 2otal	T0.0	T1.0		ug/L		10T	60 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*60 - 140*
Dibromofluoromethane (Surr)	*98*		*60 - 140*
Toluene-d8 (Surr)	*100*		*60 - 140*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 570-334x60/4
Client Sample ID: Lab Control Sample Dup
MatriW P ater
Trep yNpe: yotal/AF
FnalNsis Batch: 334x60

FnalNte			Spike Fdded	LCSD Result	LCSD Quali%er	f nit	D	H Rec	H Rec Limits	RTD	RTD Limit
1,1,1-2richloroethane			10.0	11.5		ug/L		115	70 - 1T0	3	T6
1,1,3,3-2etrachloroethane			10.0	Q1T		ug/L		Q1	60 - 140	T	61
1,1,3-2richloro-1,3,3-trifluoroetha ne			10.0	17.1	LV	ug/L		171	60 - 140	0	T0
1,1,3-2richloroethane			10.0	Q51		ug/L		Q5	70 - 1T0	1	45
1,1-Dichloroethane			10.0	10.5		ug/L		105	70 - 1T0	T	40
1,1-Dichloroethene			10.0	11.8		ug/L		118	50 - 150	8	T3
1,3-Dichloroben9ene			10.0	QT1		ug/L		QT	65 - 1T5	4	57
1,3-Dichloroethane			10.0	10.4		ug/L		104	70 - 1T0	T	4Q
1,3-Dichlorozrozane			10.0	11.3		ug/L		113	T5 - 165	7	55
1,T-Dichloroben9ene			10.0	Q81		ug/L		Q8	70 - 1T0	3	4T
1,4-Dichloroben9ene			10.0	Q55		ug/L		Q6	65 - 1T5	1	57
Acrolein			30.0	30.1		ug/L		100	60 - 140	1	60
Acrylonitrile			10.0	11.6		ug/L		116	60 - 140	31	60
Ben9ene			10.0	10.4		ug/L		104	65 - 1T5	0	61
Brop odichlorop ethane			10.0	10.3		ug/L		103	65 - 1T5	0	56
Brop oforp			10.0	10.4		ug/L		104	70 - 1T0	4	43
Brop op ethane			10.0	Q66		ug/L		Q7	15 - 185	5	61
Carbon tetrachloride			10.0	13.6		ug/L		136	70 - 1T0	T	41
Chloroben9ene			10.0	Q5T		ug/L		Q5	65 - 1T5	T	5T
Chloroethane			10.0	10.1		ug/L		101	40 - 160	0	78
Chloroforp			10.0	10.3		ug/L		103	70 - 1T5	3	T0
Chlorop ethane			10.0	Q15		ug/L		Q1	1 - 305	T	60
cim1,3-Dichloroethene			10.0	10.3		ug/L		103	60 - 140	3	T0
cim1,T-Dichlorozrozene			10.0	10.Q		ug/L		10Q	35 - 175	4	58
Dibrop ochlorop ethane			10.0	10.6		ug/L		106	70 - 1T5	4	50
Ethylben9ene			10.0	Q7Q		ug/L		Q8	60 - 140	3	6T
s ethylene Chloride			10.0	11.3		ug/L		113	60 - 140	1	38
Nazhthalene			10.0	Q86		ug/L		QQ	60 - 140	5	T0
o-Mylene			10.0	10.4		ug/L		104	60 - 140	3	T0
p ,z-Mylene			30.0	30.3		ug/L		101	60 - 140	T	T0
2etrachloroethene			10.0	10.7		ug/L		107	70 - 1T0	3	TQ
2oluene			10.0	10.T		ug/L		10T	70 - 1T0	3	41
tranm1,3-Dichloroethene			10.0	10.5		ug/L		105	70 - 1T0	T	45
tranm1,T-Dichlorozrozene			10.0	10.3		ug/L		103	50 - 150	T	86
2richloroethene			10.0	10.6		ug/L		106	65 - 1T5	7	48
2richlorofluorop ethane			10.0	1T.7		ug/L		1T7	50 - 150	1	84
Xinyl chloride			10.0	10.4		ug/L		104	5 - 1Q5	T	66
Mylenem, 2otal			T0.0	T0.6		ug/L		103	60 - 140	1	T0

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*60 - 140*
Dibromofluoromethane (Surr)	*97*		*60 - 140*
Toluene-d8 (Surr)	*105*		*60 - 140*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Outfall 018 - Grab

Job ID: 570-140560-1

Method: 1664F - E8M and SGy-E8M

Lab Sample ID: MB 570-33511x/1-F
MatriW P ater
FnalNsis Batch: 335235

Client Sample ID: Method Blank
Trep yNpe: yotal/AF
Trep Batch: 33511x

FnalNte	MB Result	MB Quali%er	RL	MDL	f nit	D	Trepared	FnalNued	Dil zac
HEs (Oil & Greame)	ND		1.0	0.51	p g/L		06/07/3T 08:38	06/07/3T 13:56	1

Lab Sample ID: LCS 570-33511x/2-F
MatriW P ater
FnalNsis Batch: 335235

Client Sample ID: Lab Control Sample
Trep yNpe: yotal/AF
Trep Batch: 33511x

FnalNte			Spike Fdded	LCS Result	LCS Quali%er	f nit	D	H Rec	H Rec Limits		
HEs (Oil & Greame)			40.0	T7.6		p g/L		Q4	78 - 114		

Lab Sample ID: LCSD 570-33511x/3-F
MatriW P ater
FnalNsis Batch: 335235

Client Sample ID: Lab Control Sample Dup
Trep yNpe: yotal/AF
Trep Batch: 33511x

FnalNte			Spike Fdded	LCSD Result	LCSD Quali%er	f nit	D	H Rec	H Rec Limits	RTD	RTD Limit
HEs (Oil & Greame)			40.0	T7.1		p g/L		QT	78 - 114	1	18

Method: SM 2510B - Conducti9itNvSpeci%c Conductance

Lab Sample ID: MB 570-33x10, /141
MatriW P ater
FnalNsis Batch: 33x10,

Client Sample ID: Method Blank
Trep yNpe: yotal/AF

FnalNte	MB Result	MB Quali%er	RL	MDL	f nit	D	Trepared	FnalNued	Dil zac
Szecific Conductance	ND		1.0	1.0	up hom/cp			06/16/3T 3T:5T	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Outfall 01G- Wrab

Job ID: 570-130520-1

GC/MS VOA

Analysis Batch: 334860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130520-1	Outfall01G_404T0205_Wrab	Mbtal/NA	6 ater	243.1	
570-130520-T	MB-404T0205	Mbtal/NA	6 ater	243.1	
8 B 570-TT3G20/2	8 ethod Blan9	Mbtal/NA	6 ater	243.1	
LCS 570-TT3G20/100T	Lab Control Sak mle	Mbtal/NA	6 ater	243.1	
LCSD 570-TT3G20/3	Lab Control Sak mle Dum	Mbtal/NA	6 ater	243.1	

General Chemistry

Analysis Batch: 335046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130520-1	Outfall01G_404T0205_Wrab	Mbtal/NA	6 ater	S8 4530F	

Prep Batch: 335118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130520-1	Outfall01G_404T0205_Wrab	Mbtal/NA	6 ater	1223A	
8 B 570-TT511G/1-A	8 ethod Blan9	Mbtal/NA	6 ater	1223A	
LCS 570-TT511G/4-A	Lab Control Sak mle	Mbtal/NA	6 ater	1223A	
LCSD 570-TT511G/T-A	Lab Control Sak mle Dum	Mbtal/NA	6 ater	1223A	

Analysis Batch: 335235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130520-1	Outfall01G_404T0205_Wrab	Mbtal/NA	6 ater	1223A	TT511G
8 B 570-TT511G/1-A	8 ethod Blan9	Mbtal/NA	6 ater	1223A	TT511G
LCS 570-TT511G/4-A	Lab Control Sak mle	Mbtal/NA	6 ater	1223A	TT511G
LCSD 570-TT511G/T-A	Lab Control Sak mle Dum	Mbtal/NA	6 ater	1223A	TT511G

Analysis Batch: 338109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130520-1	Outfall01G_404T0205_Wrab	Mbtal/NA	6 ater	S8 4510B	
8 B 570-TTG10p/131	8 ethod Blan9	Mbtal/NA	6 ater	S8 4510B	

Lab Chronicle

Client: Haley & Aldrich, Inc.
2 roRectj/ ite: SoeinB g 2 DN/ / / EF - L Ctuall 01f - Grab

Job ID: 570-140560-1

Client Sample ID: Outfall02_3606G05073- rab

Date Collecte/ : 05R07R6G27:27
Date v ecei8e/ : 05R05R6G2_:0_

Lab Sample ID: 71042M07504 2

x atriW d ater

Prep Type	Batch Type	Batch x etho/	v un	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepare/ or Analyze/	Analyst	Lab
8otaljg A	Analysis	634.1		3	10 mF	10 mF	TT4f 60	06j06j3T 33:15	g 1A	NN8 CAF 4
	InstrOment ID: GCM/ JJ									
8otaljg A	2rep	1664A			1004 mF	1000 mF	TT511f	06j07j3T 0f :3f	RY42	NN8 CAF 4
8otaljg A	Analysis	1664A		1			TT53T5	06j07j3T 13:56	VS5/	NN8 CAF 4
	InstrOment ID: g L NQUIQ									
8otaljg A	Analysis	/ M 3510S		1			TTf 109	06j17j3T 00:30	UA2D	NN8 CAF 4
	InstrOment ID: Man/ ciMantech									
8otaljg A	Analysis	/ M 3540E		1	1000 mF	1 F	TT5046	06j06j3T 33:01	8XAf	NN8 CAF 4
	InstrOment ID: g L NQUI2									

Client Sample ID: TB4606G0507

Date Collecte/ : 05R07R6G27:27
Date v ecei8e/ : 05R05R6G2_:0_

Lab Sample ID: 71042M07504G

x atriW d ater

Prep Type	Batch Type	Batch x etho/	v un	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepare/ or Analyze/	Analyst	Lab
8otaljg A	Analysis	634.1		1	10 mF	10 mF	TT4f 60	06j06j3T 31:09	g 1A	NN8 CAF 4
	InstrOment ID: GCM/ JJ									

Laboratory v eferences:

NN8 CAF 4 = NOrouins Calscience 8Ostin, 3f 41 Dow AvenOe, 8Ostin, CA 937f 0, 8NF (714)f 95-5494

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-140560-1

2roRectj/ ite: SoeinBg 2DN/ / / EF - L Ctuall 01f - Grab

Laboratory: Eurofins Calscience

All accreditationsjcertiucations held by this laboratory are listed. got all accreditationsjcertiucations are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	/ tate	AZ0f 80	11-16-38
Caliuornia	Fos AnBeles CoCnty / anitation Districts	10109	07-81-38
Caliuornia	/ CAQMD FA2	17FA0919	11-80-38
Caliuornia	/ tate	80f 3	07-81-34
Kansas	gNFA2	N-10430	07-81-38
gevada	/ tate	CA00111	07-81-34
L reBon	gNFA2	4175	03-03-34
U/ DA	U/ Eederal 2roBrams	2880-33-00059	05-34-38 *
WashinBton	/ tate	C916-1f	10-11-38

* AccreditationjCertiucation renewal pendinB - accreditationjcertiucation considered valid.

NCrouins Calscience

Method Summary

2ƒ en t Hƒa y &ƒdr chler,
. dbPrrj/ lni : Soi leB g . DN/ / / EF- L ƒnHƒ01f - GdHb

Job ID: 570-140560-1

Method	Method Description	Protocol	Laboratory
6V4,1	moƒHƒ L dBHelr 2op soƒeA(MG2j) / T	N. &	NNv 2&F4
1664&	t N) HeA/ Gv-t N)	1664&	NNv 2&F4
/) V510S	2oeAƒrnqlnah/ si rlulr 2oeAƒrnHeri	/)	NNv 2&F4
/) V540E	/ oƒA(h/ i mƒHbƒ	/)	NNv 2&F4
1664&	t N) HeA/ Gv-t N) M&=ƒi oƒ(T	1664&	NNv 2&F4

Protocol References:

1664& 8 N. &-f V1-9f -00V

N. & 8 U/ Neqldbep i erHƒ dbni r rnoe &Bi er a

/) 8 "/ rHeAHdA) i ncoA(Eodvci NxHp leHnoe L uWHni d&eA WH(ni wHni d"

Laboratory References:

NNv 2&F4 8 Nƒdbule(2Hƒrli eri vƒ(nlehVf 41 Dow &qi eƒi hvƒ(nleh2& 9V7f 0hvNF M14Tf 95-5494

Sample Summary

Client: Haley & Aldrich, Inc.
2 roRectj/ ite: SoeinB g 2 DN/ / / EF - L Ctuall 01f - Grab

Job ID: 570-140560-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-140560-1	L Ctuall01f _303W0605_Grab	8 ater	06j05j3W15:15	06j06j3W1f :0f
570-140560-W	TS-303W0605	8 ater	06j05j3W15:15	06j06j3W1f :0f

Loc: 570
140560
Page 1 of 1

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

EDBPJ6UX

Client Name/Address:	Project:	Field Readings	Meter serial #
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 018 Grab	Field Readings: (Include units) Time of Readings: 1515	
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**		DO 8.66 mg/L pH 7.26 pH unit Temp 68.8 °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)		
Sampler: Adrien Mobeka	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)	Field readings QC Checked by: Date/Time: 6.5.2023/1515	

									ANALYSIS REQUIRED											
									R	Q/S	R	R								
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Oil & Grease (E1664A-HEM)	VOCs + 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) (E624)	Settleable Solids (E160.5 (SM2540F))	Conductivity (SM2510B / E120.1)								Comments
1 Outfall 018	Outfall018_20230605_Grab	6/5/2023 1515	WM	1 L Glass Amber	2	HCl	15	No	X											
			WM	40 mL VOA	3	HCl	20	No		X										
			WM	1 L Poly	1	None	70	No			X									
			WM	500 mL Poly	1	None	75	No				X								
2	Outfall018_20230605_Grab_Extra	6/5/2023 1515	WM	1 L Glass Amber	2	HCl	15	No	H											Hold
			WM	40 mL VOA	3	HCl	20	No		H										Hold
			WM	500 mL Poly	1	None	75	No				H								Hold
3 Trip Blank	TB-20230605	6/5/2023 1515	WQ	40 mL VOA	2	HCl	20	No		X										

570-140560 Chain of Custody

Legend: R=Routine, Q=Quarterly, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	6.6.2023/1100	HA		6/6/23 1100 EC
	6/6/23 1808	EC		6-6-23 18:08

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

1.9/1.8 SC12

2019-2020 Rainy Season
Version 5

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-140560-1

Login Number: 140560
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

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 6/23/2023 8:24:44 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Outfall 018 - Grab

JOB NUMBER

570-140737-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

Virendra R Patil

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6/23/2023 8:24:44 AM

Authorized for release by
Virendra Patel, Project Manager I
Virendra.Patel@et.eurofinsus.com
(714)895-5494

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-140737-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Grab

Qualifiers

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
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: 570-140737-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-140737-1

Comments
No additional comments.

Receipt
The samples were received on 3/7/M0M6 3:07 PU. q nless otherwise noted below, the samples arrived in good condition, and where re° uired, properly preserved and on ice. The temperatures of the 6 coolers at receipt time were 1.7(C, 1.2(C and M1(C.

GC/MS Semi VOA
U ethod 3M5.1 SIU: The laboratory control sample and/or the laboratory control sample duplicate)LCS/LCSD8for preparation batch 570-663320 and analytical batch 570-667M34 recovered outside control limits for the following analyte)s8 Pyridine. Pyridine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte)s8. These results have been reported and ° ualified.

U ethod 3M5.1 SIU: The RPD of the laboratory control sample)LCS8and laboratory control sample duplicate)LCSD8for preparation batch 570-663320 and analytical batch 570-667M34 recovered outside control limits for the following analytes: Pyridine.

No additional analytical or ° uality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
U ethod 600.0: Due to the high concentration of Chloride and Sulfate, the matrix spike / matrix spike duplicate)U S/U SD8for analytical batch 570-665075 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate)LCS/LCSD8met acceptance criteria.

No additional analytical or ° uality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
No analytical or ° uality issues were noted, other than those described in the Definitions/Glossary page.

Metals
U ethod M45.1: The method blank for preparation batch 570-6654M7 and 570-6654M2 and analytical batch 570-6653M7 contained U ercury above the method detection limit. This target analyte concentration was less than the reporting limit)RL8; therefore, re-extraction and/or re-analysis of samples was not performed.

U ethod Filtration: The following samples were not filtered within 15 minutes of sample collection as re° uired by the method: Outfall012_M0M60307_Comp_F)570-140767-68; Outfall012_M0M60307_Comp_F)570-140767-6[U S]8and Outfall012_M0M60307_Comp_F)570-140767-6[U SD]8. The sample)s8was filtered prior to analysis at the laboratory, and the results have been reported.

U ethod Filtration: The following sample was not filtered within 15 minutes of sample collection as re° uired by the method: Outfall012_M0M60307_Comp_F)570-140767-68. The sample)s8was filtered prior to analysis at the laboratory, and the results have been reported.

No additional analytical or ° uality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
U ethod SU 5540C: Sample result concentrations for methylene blue active substances)U BAS8are calculated as LAS, mol. wt. 6M0.

U ethod Kelada 01: The matrix spike / matrix spike duplicate)U S/U SD8recoveries for analytical batch 570-663902 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample)LCS8recovery was within acceptance

Job ID: 570-140737-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

limits.

No additional analytical or ºuality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Uethod 302: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate)US/USD8associated with preparation batch 570-663609. The laboratory control sample)LCS8was performed in duplicate)LCSD8to provide precision data for this batch. 302LL

Uethod 3M5: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate)US/USD8associated with preparation batch 570-663320. The laboratory control sample)LCS8was performed in duplicate)LCSD8to provide precision data for this batch. Uethod 3M5.1 Sim

No additional analytical or ºuality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-140737-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Grab

Client Sample ID: Outfall018_20230607_Comp
Lab Sample ID: 570-140737-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	25		1.0	0.36	mg/L	1		300.0	Total/NA
Sulfate - DL	120		10	2.4	mg/L	10		300.0	Total/NA
Aluminum	60		15	8.6	ug/L	1		200.8	Total Recoverable
Selenium	0.55	J,DX	2.0	0.52	ug/L	1		200.8	Total Recoverable
Ammonia	0.070	J,DX	0.075	0.029	mg/L	1		350.1	Total/NA
Turbidity	0.20		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Dissolved Solids	470		10	8.7	mg/L	1		SM 2540C	Total/NA
Biochemical Oxygen Demand	4.4		2.0	1.0	mg/L	1		SM 5210B	Total/NA

Client Sample ID: Outfall018_20230607_Comp_F
Lab Sample ID: 570-140737-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	56	BU	15	8.6	ug/L	1		200.8	Dissolved
Cadmium	0.23	J,DX BU	1.0	0.13	ug/L	1		200.8	Dissolved
Lead	0.27	J,DX BU	1.0	0.12	ug/L	1		200.8	Dissolved
Selenium	0.96	J,DX BU	2.0	0.52	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-140767-1
Project/Site: Boeing NPDES SSFL - Outfall 012 - Grab

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: Outfall018_20230607_Comp
Date Collected: 06/07/23 08:00
Date Received: 06/07/23 18:07

Lab Sample ID: 570-140737-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8,4,3-Trichlorophenol	ND		0.95	0.16	ug/L		03/16/86 03:12	03/14/86 12:05	1
8,4-Dinitrotoluene	ND		0.19	0.11	ug/L		03/16/86 03:12	03/14/86 12:05	1
Bis(8-ethylhexyl) phthalate	ND		4.2	6.4	ug/L		03/16/86 03:12	03/14/86 12:05	1
N-Nitrosodimethylamine	ND		0.19	0.12	ug/L		03/16/86 03:12	03/14/86 12:05	1
Pentachlorophenol	ND		0.95	0.20	ug/L		03/16/86 03:12	03/14/86 12:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*77*		*03 - 321*	*14/30/20 1483:*	*14/36/20 3: 817*	*3*
5henol-P4 (Surr)	*2d*		*31 - 321*	*14/30/20 1483:*	*14/36/20 3: 817*	*3*
p-Terphenyl-P36 (Surr)	*d:*		*67 - 321*	*14/30/20 1483:*	*14/36/20 3: 817*	*3*
2964-Tribro, ophenol	*: 0*		*2: - 32d*	*14/30/20 1483:*	*14/36/20 3: 817*	*3*
2-Fluorophenol	*61*		*3d - 321*	*14/30/20 1483:*	*14/36/20 3: 817*	*3*
mixobent ene-P7	*7:*		*2d - 321*	*14/30/20 1483:*	*14/36/20 3: 817*	*3*

Client: Haley & Aldrich, Inc.
Job ID: 570-140767-1
Project/Site: Boeing NPDES SSFL - Outfall 012 - Grab

Method: EPA 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall018_20230607_Comp
Date Collected: 06/07/23 08:00
Date Received: 06/07/23 18:07

Lab Sample ID: 570-140737-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0016	0.0018	ug/L		03/18/86 02:67	03/16/86 16:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*62*		*21 - 30x*	*14/32/20 1: 80d*	*14/30/20 3087 7*	*3*
DCB Decachlorobiphenyl (Surr)	*7:*		*21 - 376*	*14/32/20 1: 80d*	*14/30/20 3087 7*	*3*

Client: Haley & Aldrich, Inc.
Job ID: 570-140767-1
Project/Site: Boeing NPDES SSFL - Outfall 012 - Grab

Method: EPA 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall018_20230607_Comp
Lab Sample ID: 570-140737-1
Date Collected: 06/07/23 08:00
Matrix: Water
Date Received: 06/07/23 18:07

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**25**		1.0	0.63	mg/L			03/02/86 04:14	1
Nitrite as N	ND		0.10	0.046	mg/L			03/02/86 04:14	1
Nitrate as N	ND		0.10	0.080	mg/L			03/02/86 04:14	1

Client: Haley & Aldrich, Inc.
Job ID: 570-140767-1
Project/Site: Boeing NPDES SSFL - Outfall 012 - Grab

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Client Sample ID: Outfall018_20230607_Comp
Lab Sample ID: 570-140737-1
Date Collected: 06/07/23 08:00
Matrix: Water
Date Received: 06/07/23 18:07

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	120		10	8.4	mg/L			03/02/86 04:61	10

Client: Haley & Aldrich, Inc.
Job ID: 570-140767-1
Project/Site: Boeing NPDES SSFL - Outfall 012 - Grab

Method: EPA 314.0 - Perchlorate (IC)

Client Sample ID: Outfall018_20230607_Comp
Lab Sample ID: 570-140737-1
Date Collected: 06/07/23 08:00
Matrix: Water
Date Received: 06/07/23 18:07

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		8.0	0.91	ug/L			03/02/86 14:52	1

Client: Haley & Aldrich, Inc.
Job ID: 570-140767-1
Project/Site: Boeing NPDES SSFL - Outfall 012 - Grab

Method: EPA NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall018_20230607_Comp
Lab Sample ID: 570-140737-1
Date Collected: 06/07/23 08:00
Matrix: Water
Date Received: 06/07/23 18:07

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	0.080	mg/L			03/09/86 14:61	1

Client: Haley & Aldrich, Inc.
Job ID: 570-140767-1
Project/Site: Boeing NPDES SSFL - Outfall 012 - Grab

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall018_20230607_Comp
Lab Sample ID: 570-140737-1
Date Collected: 06/07/23 08:00
Matrix: Water
Date Received: 06/07/23 18:07

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**60**		15	2.3	ug/L		03/02/86 03:41	03/02/86 10:68	1
Cadmium	ND		1.0	0.16	ug/L		03/02/86 03:41	03/02/86 10:68	1
Copper	ND		8.0	0.68	ug/L		03/02/86 03:41	03/02/86 10:68	1
Lead	ND		1.0	0.18	ug/L		03/02/86 03:41	03/02/86 10:68	1
Selenium	**0.55**	**J,DX**	8.0	0.58	ug/L		03/02/86 03:41	03/02/86 10:68	1
Uinc	ND		80	8.2	ug/L		03/02/86 03:41	03/02/86 10:68	1

Client: Haley & Aldrich, Inc.
Job ID: 570-140767-1
Project/Site: Boeing NPDES SSFL - Outfall 012 - Grab

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall018_20230607_Comp_F
Lab Sample ID: 570-140737-3
Date Collected: 06/07/23 08:00
Matrix: Water
Date Received: 06/07/23 18:07

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**56**	**BU**	15	2.3	ug/L			03/02/86 16:48	1
Cadmium	**0.23**	**J,DX BU**	1.0	0.16	ug/L			03/02/86 16:48	1
Copper	ND	BZ	8.0	0.68	ug/L			03/02/86 16:48	1
Lead	**0.27**	**J,DX BU**	1.0	0.18	ug/L			03/02/86 16:48	1
Selenium	**0.96**	**J,DX BU**	8.0	0.58	ug/L			03/02/86 16:48	1
Uinc	ND	BZ	80	8.2	ug/L			03/02/86 16:48	1

Client: Haley & Aldrich, Inc.
Job ID: 570-140767-1
Project/Site: Boeing NPDES SSFL - Outfall 012 - Grab

Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: Outfall018_20230607_Comp
Lab Sample ID: 570-140737-1
Date Collected: 06/07/23 08:00
Matrix: Water
Date Received: 06/07/23 18:07

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.80	0.18	ug/L		03/07/86 81:15	03/02/86 13:06	1

Client: Haley & Aldrich, Inc.
Job ID: 570-140767-1
Project/Site: Boeing NPDES SSFL - Outfall 012 - Grab

Method: EPA 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall018_20230607_Comp_F
Lab Sample ID: 570-140737-3
Date Collected: 06/07/23 08:00
Matrix: Water
Date Received: 06/07/23 18:07

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BZ	0.80	0.18	ug/L		03/07/86 81:85	03/02/86 15:10	1

Client: Haley & Aldrich, Inc.
Job ID: 570-140767-1
Project/Site: Boeing NPDES SSFL - Outfall 012 - Grab

General Chemistry

Client Sample ID: Outfall018_20230607_Comp
Date Collected: 06/07/23 08:00
Date Received: 06/07/23 18:07

Lab Sample ID: 570-140737-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	**0.070**	**J,DX**	0.075	0.089	mg/L		03/16/86 11:08	03/16/86 18:40	1
Cyanide, Total (EPA Kelada 01)	ND		5.0	8.5	ug/L			03/18/86 17:08	1
Turbidity (SM 2130B)	**0.20**		0.05	0.05	NTZ			03/02/86 15:62	1
Total Dissolved Solids (SM 2540C)	**470**		10	2.7	mg/L			03/16/86 80:81	1
Total Suspended Solids (SM 8540D)	ND		1.0	0.26	mg/L			03/02/86 18:68	1
Biochemical Oxygen Demand (SM 5210B)	**4.4**		8.0	1.0	mg/L		03/02/86 11:56	03/02/86 16:63	1
MBAS (SM 5540C)	ND		0.80	0.050	mg/L		03/07/86 80:60	03/07/86 81:67	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Outfall 012 - Grab

Job ID: 570-140767-1

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)
570-140767-1	Outfall0129303608079Co_ m	55	37	72	26	40	52
LCS 570-668820/3-A	Lab Control Sa_ mle	p7	50	p7	118	73	22
LCSD 570-668820/6-A	Lab Control Sa_ mle Dum	p2	50	pp	112	73	2p
MB 570-668820/1-A	Method Blank	70	46	28	130	86	22

Surrogate Legend

FBP = 3-Fluorobinhenyl (Surr)
PHL8 = Phenol-d8 (Surr)
TPHd14 = m-Terphenyl-d14 (Surr)
TBP = 3,4,8-Tribro_ onhenol
3FP = 3-Fluoronhenol
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)
570-140767-1	Outfall0129303608079Co_ m	43	52
LCS 570-66860p/3-A	Lab Control Sa_ mle	85	87
LCSD 570-66860p/6-A	Lab Control Sa_ mle Dum	52	81
MB 570-66860p/1-A	Method Blank	57	81

Surrogate Legend

TCX = Tetrachloro-_ -xylene
DCB = DCB Decachlorobinhenyl (Surr)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-336690/1-4
MatriA: x ater
4 nalTsis Batch: 33726N

Client Sample ID: Method Blank
Wrep PTpe: Potal/y 4
Wrep Batch: 336690

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
T,4,p-3richloro8henol	ND		1.0	0.14	ug/L		0p/16/T6 0p:12	0p/14/T6 16:6p	1
T,4-Dinitrotoluene	ND		0.T0	0.1T	ug/L		0p/16/T6 0p:12	0p/14/T6 16:6p	1
Bis(T-ethylhexyl) 8hthalate	ND		5.0	6.p	ug/L		0p/16/T6 0p:12	0p/14/T6 16:6p	1
N-Nitrosodimethylamine	ND		0.T0	0.19	ug/L		0p/16/T6 0p:12	0p/14/T6 16:6p	1
Pentachloro8henol	ND		1.0	0.24	ug/L		0p/16/T6 0p:12	0p/14/T6 16:6p	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*70*		*31 - 120*	*04/13/23 04:16*	*04/18/23 13:34*	*1*
5henol-P4 (Surr)	*83*		*10 - 120*	*04/13/23 04:16*	*04/18/23 13:34*	*1*
p-derphenyl-P18 (Surr)	*64*		*8T - 120*	*04/13/23 04:16*	*04/18/23 13:34*	*1*
29894-dribro, ophenol	*120*		*26 - 127*	*04/13/23 04:16*	*04/18/23 13:34*	*1*
2-Fluorophenol	*43*		*17 - 120*	*04/13/23 04:16*	*04/18/23 13:34*	*1*
mixobent ene-PT	*66*		*27 - 120*	*04/13/23 04:16*	*04/18/23 13:34*	*1*

Lab Sample ID: LCS 570-336690/2-4
MatriA: x ater
4 nalTsis Batch: 33726N

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4
Wrep Batch: 336690

4 nalTte	Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
T,4,p-3richloro8henol	T0.0	T0.5		ug/L		106	5T - 1T9
T,4-Dinitrotoluene	T0.0	T4.6		ug/L		1TT	42 - 1T7
Bis(T-ethylhexyl) 8hthalate	T0.0	T1.p		ug/L		102	T9 - 167
N-Nitrosodimethylamine	T0.0	1T.9		ug/L		p5	T0 - 1T0
Pentachloro8henol	T0.0	TT.0		ug/L		110	62 - 15T

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*z7*		*31 - 120*
5henol-P4 (Surr)	*T0*		*10 - 120*
p-derphenyl-P18 (Surr)	*z7*		*8T - 120*
29894-dribro, ophenol	*114*		*26 - 127*
2-Fluorophenol	*72*		*17 - 120*
mixobent ene-PT	*66*		*27 - 120*

Lab Sample ID: LCSD 570-336690/3-4
MatriA: x ater
4 nalTsis Batch: 33726N

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Potal/y 4
Wrep Batch: 336690

4 nalTte	Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
T,4,p-3richloro8henol	T0.0	T0.p		ug/L		106	5T - 1T9	0	65
T,4-Dinitrotoluene	T0.0	T4.2		ug/L		1T4	42 - 1T7	T	T5
Bis(T-ethylhexyl) 8hthalate	T0.0	T1.9		ug/L		109	T9 - 167	1	50
N-Nitrosodimethylamine	T0.0	16.9		ug/L		70	T0 - 1T0	7	T1
Pentachloro8henol	T0.0	T6.4		ug/L		117	62 - 15T	p	5T

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*z6*		*31 - 120*
5henol-P4 (Surr)	*T0*		*10 - 120*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-336690/3-4
MatriA: x ater
4 nalTsis Batch: 33726N

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Potal/y 4
Wrep Batch: 336690

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
p-derphenyl-P18 (Surr)	zz		8T - 120
2989 4-dribro, ophenol	116		26 - 127
2-Fluorophenol	72		17 - 120
mitobent ene-PT	6z		27 - 120

Method: 609.3 - Organochlorine Westicides in x ater

Lab Sample ID: MB 570-336308/1-4
MatriA: x ater
4 nalTsis Batch: 336N50

Client Sample ID: Method Blank
Wrep PTpe: Potal/y 4
Wrep Batch: 336308

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
al8ha-BHC	ND		0.0016	0.001T	ug/L		0p/1T/T6 02:6p	0p/16/T6 1T:T9	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
delachloro-, -xylene	T7		20 - 13z	04/12/23 06:34	04/13/23 12:2z	1
DCB Decachlorobiphenyl (Surr)	41		20 - 1T8	04/12/23 06:34	04/13/23 12:2z	1

Lab Sample ID: LCS 570-336308/2-4
MatriA: x ater
4 nalTsis Batch: 336N50

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4
Wrep Batch: 336308

4 nalTte			Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
al8ha-BHC			0.0666	0.0TT7		ug/L		p2	67 - 140		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
delachloro-, -xylene	4T		20 - 13z
DCB Decachlorobiphenyl (Surr)	47		20 - 1T8

Lab Sample ID: LCSD 570-336308/3-4
MatriA: x ater
4 nalTsis Batch: 336N50

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Potal/y 4
Wrep Batch: 336308

4 nalTte			Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
al8ha-BHC			0.0666	0.0T0T		ug/L		p1	67 - 140	11	6p

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
delachloro-, -xylene	T6		20 - 13z
DCB Decachlorobiphenyl (Surr)	41		20 - 1T8

Method: 300.0 - 4 nions, Ion ChromatographT

Lab Sample ID: MB 570-33507N/5
MatriA: x ater
4 nalTsis Batch: 33507N

Client Sample ID: Method Blank
Wrep PTpe: Potal/y 4

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
Nitrite as N	ND		0.10	0.046	mg/L			0p/07/T6 0p:T9	1

Method: 300.0 - 4 nions, Ion ChromatographT (Continued)

Lab Sample ID: MB 570-33507N/5
MatriA: x ater
4 nalTsis Batch: 33507N

Client Sample ID: Method Blank
Wrep PTpe: Potal/y 4

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
Nitrate as N	ND		0.10	0.0T0	mg/L			0p/07/T6 0p:T9	1

Lab Sample ID: LCS 570-33507N/6
MatriA: x ater
4 nalTsis Batch: 33507N

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4

4 nalTte			Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrite as N			T.50	T.49		mg/L		100	90 - 110		
Nitrate as N			5.00	4.27		mg/L		97	90 - 110		

Lab Sample ID: LCSD 570-33507N/7
MatriA: x ater
4 nalTsis Batch: 33507N

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Potal/y 4

4 nalTte			Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Nitrite as N			T.50	T.54		mg/L		10T	90 - 110	T	15
Nitrate as N			5.00	4.2p		mg/L		97	90 - 110	0	15

Lab Sample ID: MB 570-335075/5
MatriA: x ater
4 nalTsis Batch: 335075

Client Sample ID: Method Blank
Wrep PTpe: Potal/y 4

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
Chloride	ND		1.0	0.6p	mg/L			0p/07/T6 0p:T9	1
Sulfate	ND		1.0	0.T4	mg/L			0p/07/T6 0p:T9	1

Lab Sample ID: LCS 570-335075/6
MatriA: x ater
4 nalTsis Batch: 335075

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4

4 nalTte			Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			50.0	42.T		mg/L		9p	90 - 110		
Sulfate			50.0	42.5		mg/L		97	90 - 110		

Lab Sample ID: LCSD 570-335075/7
MatriA: x ater
4 nalTsis Batch: 335075

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Potal/y 4

4 nalTte			Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Chloride			50.0	42.T		mg/L		9p	90 - 110	0	15
Sulfate			50.0	42.5		mg/L		97	90 - 110	0	15

Method: 31N.0 - Werchlorate (IC)

Lab Sample ID: MB 570-335523/7
MatriA: x ater
4 nalTsis Batch: 335523

Client Sample ID: Method Blank
Wrep PTpe: Potal/y 4

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
Perchlorate	ND		T.0	0.91	ug/L			0p/02/T6 11:50	1

Method: 31N.0 - Werchlorate (IC) (Continued)

Lab Sample ID: LCS 570-335523/9
MatriA: x ater
4 nalTsis Batch: 335523

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	T5.0	T4.7		ug/L		99	25 - 115

Lab Sample ID: LCSD 570-335523/8
MatriA: x ater
4 nalTsis Batch: 335523

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Perchlorate	T5.0	T4.6		ug/L		97	25 - 115	T	15

Method: 200.9 - Metals (ICWMS)

Lab Sample ID: MB 570-335N50/1-4
MatriA: x ater
4 nalTsis Batch: 335598

Client Sample ID: Method Blank
Wrep PTpe: Potal Recoverable
Wrep Batch: 335N50

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
Aluminum	ND		15	2.p	ug/L		0p/02/T6 0p:41	0p/02/T6 10:41	1
Cadmium	ND		1.0	0.16	ug/L		0p/02/T6 0p:41	0p/02/T6 10:41	1
Co88er	ND		T.0	0.6T	ug/L		0p/02/T6 0p:41	0p/02/T6 10:41	1
Lead	ND		1.0	0.1T	ug/L		0p/02/T6 0p:41	0p/02/T6 10:41	1
Selenium	ND		T.0	0.5T	ug/L		0p/02/T6 0p:41	0p/02/T6 10:41	1
Zinc	ND		T0	T.2	ug/L		0p/02/T6 0p:41	0p/02/T6 10:41	1

Lab Sample ID: LCS 570-335N50/2-4
MatriA: x ater
4 nalTsis Batch: 335598

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal Recoverable
Wrep Batch: 335N50

4 nalTte	Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	20.0	24.9		ug/L		10p	25 - 115
Cadmium	20.0	25.0		ug/L		10p	25 - 115
Co88er	20.0	2p.6		ug/L		102	25 - 115
Lead	20.0	24.5		ug/L		10p	25 - 115
Selenium	20.0	20.p		ug/L		101	25 - 115
Zinc	20.0	26.T		ug/L		104	25 - 115

Lab Sample ID: LCSD 570-335N50/3-4
MatriA: x ater
4 nalTsis Batch: 335598

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Potal Recoverable
Wrep Batch: 335N50

4 nalTte	Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Aluminum	20.0	20.p		ug/L		101	25 - 115	5	T0
Cadmium	20.0	26.1		ug/L		104	25 - 115	T	T0
Co88er	20.0	26.2		ug/L		105	25 - 115	6	T0
Lead	20.0	26.4		ug/L		104	25 - 115	1	T0
Selenium	20.0	79.0		ug/L		99	25 - 115	T	T0
Zinc	20.0	20.p		ug/L		101	25 - 115	6	T0

Method: 200.9 - Metals (ICWMS) (Continued)

Lab Sample ID: 570-1N0737-1 MS
MatriA: x ater
4 nalTsis Batch: 3355N9

Client Sample ID: Outfall019_20230607_Comp
Wrep PTpe: Potal Recoverable
Wrep Batch: 335N50

4 nalTte	Sample Result	Sample Qualifier	Spike 4 dded	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	p0		20.0	16p		ug/L		95	20 - 1T0
Cadmium	ND		20.0	7p.9		ug/L		9p	20 - 1T0
Co88er	ND		20.0	74.9		ug/L		94	20 - 1T0
Lead	ND		20.0	75.5		ug/L		94	20 - 1T0
Selenium	0.55	J,DX	20.0	77.p		ug/L		9p	20 - 1T0
Zinc	ND		20.0	74.4		ug/L		96	20 - 1T0

Lab Sample ID: 570-1N0737-1 MSD
MatriA: x ater
4 nalTsis Batch: 3355N9

Client Sample ID: Outfall019_20230607_Comp
Wrep PTpe: Potal Recoverable
Wrep Batch: 335N50

4 nalTte	Sample Result	Sample Qualifier	Spike 4 dded	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Aluminum	p0		20.0	167		ug/L		97	20 - 1T0	1	T0
Cadmium	ND		20.0	77.6		ug/L		97	20 - 1T0	1	T0
Co88er	ND		20.0	75.1		ug/L		94	20 - 1T0	0	T0
Lead	ND		20.0	75.7		ug/L		95	20 - 1T0	0	T0
Selenium	0.55	J,DX	20.0	79.5		ug/L		99	20 - 1T0	T	T0
Zinc	ND		20.0	75.1		ug/L		94	20 - 1T0	1	T0

Lab Sample ID: MB 570-33560N1-4
MatriA: x ater
4 nalTsis Batch: 3356N1

Client Sample ID: Method Blank
Wrep PTpe: Dissolved

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
Aluminum	ND		15	2.p	ug/L			0p/02/T6 16:65	1
Cadmium	ND		1.0	0.16	ug/L			0p/02/T6 16:65	1
Co88er	ND		T.0	0.6T	ug/L			0p/02/T6 16:65	1
Lead	ND		1.0	0.1T	ug/L			0p/02/T6 16:65	1
Selenium	ND		T.0	0.5T	ug/L			0p/02/T6 16:65	1
Zinc	ND		T0	T.2	ug/L			0p/02/T6 16:65	1

Lab Sample ID: LCS 570-33560N2-4
MatriA: x ater
4 nalTsis Batch: 3356N1

Client Sample ID: Lab Control Sample
Wrep PTpe: Dissolved

4 nalTte	Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	20.0	2T.7		ug/L		106	25 - 115
Cadmium	20.0	21.9		ug/L		10T	25 - 115
Co88er	20.0	79.0		ug/L		99	25 - 115
Lead	20.0	20.7		ug/L		101	25 - 115
Selenium	20.0	2T.5		ug/L		106	25 - 115
Zinc	20.0	79.2		ug/L		100	25 - 115

Lab Sample ID: LCSD 570-33560N3-4
MatriA: x ater
4 nalTsis Batch: 3356N1

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Dissolved

4 nalTte	Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Aluminum	20.0	20.p		ug/L		101	25 - 115	6	T0

Method: 200.9 - Metals (ICWMS) (Continued)

Lab Sample ID: LCSD 570-33560/3-4
Matrix: Water
Analysis Batch: 33569

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	20.0	21.4		ug/L		106	25 - 115	1	10
Cobalt	20.0	72.5		ug/L		92	25 - 115	1	10
Lead	20.0	20.5		ug/L		101	25 - 115	0	10
Selenium	20.0	21.4		ug/L		107	25 - 115	1	10
Zinc	20.0	20.0		ug/L		100	25 - 115	0	10

Lab Sample ID: 570-140737-3 MS
Matrix: Water
Analysis Batch: 33569

Client Sample ID: Outfall019_20230607_Comp_F
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	5.0	BU	20.0	24.4	BU	ug/L		25	20 - 120
Cadmium	0.16	J,DX BU	20.0	70.9	BU	ug/L		22	20 - 120
Cobalt	ND	BU	20.0	27.6	BU	ug/L		24	20 - 120
Lead	0.17	J,DX BU	20.0	27.7	BU	ug/L		24	20 - 120
Selenium	0.99	J,DX BU	20.0	21.7	BU	ug/L		100	20 - 120
Zinc	ND	BU	20.0	29.2	BU	ug/L		24	20 - 120

Lab Sample ID: 570-140737-3 MSD
Matrix: Water
Analysis Batch: 33569

Client Sample ID: Outfall019_20230607_Comp_F
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aluminum	5.0	BU	20.0	27.1	BU	ug/L		27	20 - 120	1	10
Cadmium	0.16	J,DX BU	20.0	70.4	BU	ug/L		22	20 - 120	0	10
Cobalt	ND	BU	20.0	27.5	BU	ug/L		24	20 - 120	0	10
Lead	0.17	J,DX BU	20.0	27.0	BU	ug/L		25	20 - 120	0	10
Selenium	0.99	J,DX BU	20.0	21.6	BU	ug/L		100	20 - 120	0	10
Zinc	ND	BU	20.0	27.6	BU	ug/L		24	20 - 120	1	10

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-335426/1-A
Matrix: Water
Analysis Batch: 335627

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 335426

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.10	0.17	ug/L		06/07/23 11:15	06/12/23 15:52	1

Lab Sample ID: LCS 570-335426/2-A
Matrix: Water
Analysis Batch: 335627

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 335426

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	2.00	2.00		ug/L		100	25 - 115

Method: 2N5.1 - MercurT (CV44) (Continued)

Lab Sample ID: LCSD 570-335N26/3-4
MatriA: x ater
4 nalTsis Batch: 335627

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Potal/y 4
Wrep Batch: 335N26

4 nalTte			Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Mercury			2.00	7.TT		ug/L		90	25 - 115	10	10

Lab Sample ID: 570-1N0737-1 MS
MatriA: x ater
4 nalTsis Batch: 335627

Client Sample ID: Outfall019_20230607_Comp
Wrep PTpe: Potal/y 4
Wrep Batch: 335N26

4 nalTte	Sample Result	Sample Qualifier	Spike 4 dded	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		2.00	7.20		ug/L		97	25 - 115

Lab Sample ID: 570-1N0737-1 MSD
MatriA: x ater
4 nalTsis Batch: 335627

Client Sample ID: Outfall019_20230607_Comp
Wrep PTpe: Potal/y 4
Wrep Batch: 335N26

4 nalTte	Sample Result	Sample Qualifier	Spike 4 dded	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Mercury	ND		2.00	7.79		ug/L		97	25 - 115	0	10

Lab Sample ID: MB 570-335N27/1-B
MatriA: x ater
4 nalTsis Batch: 335627

Client Sample ID: Method Blank
Wrep PTpe: Dissolved
Wrep Batch: 335N29

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
Mercury	0.12T	J,DX	0.T0	0.1T	ug/L		0p/07/T6 T1:T5	0p/02/T6 15:01	1

Lab Sample ID: LCS 570-335N27/2-B
MatriA: x ater
4 nalTsis Batch: 335627

Client Sample ID: Lab Control Sample
Wrep PTpe: Dissolved
Wrep Batch: 335N29

4 nalTte			Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury			2.00	2.1p		ug/L		10T	25 - 115

Lab Sample ID: LCSD 570-335N27/3-B
MatriA: x ater
4 nalTsis Batch: 335627

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Dissolved
Wrep Batch: 335N29

4 nalTte			Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Mercury			2.00	2.10		ug/L		101	25 - 115	1	10

Method: 350.1 - y itrogen, 4 mmonia

Lab Sample ID: MB 570-336955/5-4
MatriA: x ater
4 nalTsis Batch: 336819

Client Sample ID: Method Blank
Wrep PTpe: Potal/y 4
Wrep Batch: 336955

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
Ammonia	ND		0.075	0.0T9	mg/L		0p/16/T6 11:0T	0p/16/T6 1T:64	1

Method: 350.1 - y itrogen, 4 mmonia (Continued)

Lab Sample ID: LCS 570-336955/6-4
Client Sample ID: Lab Control Sample
MatriA: x ater
Wrep PTpe: Potal/y 4
4 nalTsis Batch: 336819
Wrep Batch: 336955

4 nalTte			Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Ammonia			0.500	0.492		mg/L		100	90 - 110		

Lab Sample ID: LCSD 570-336955/7-4
Client Sample ID: Lab Control Sample Dup
MatriA: x ater
Wrep PTpe: Potal/y 4
4 nalTsis Batch: 336819
Wrep Batch: 336955

4 nalTte			Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Ammonia			0.500	0.504		mg/L		101	90 - 110	1	T0

Lab Sample ID: 570-1N0737-1 MS
Client Sample ID: Outfall019_20230607_Comp
MatriA: x ater
Wrep PTpe: Potal/y 4
4 nalTsis Batch: 336819
Wrep Batch: 336955

4 nalTte	Sample Result	Sample Qualifier	Spike 4 dded	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Ammonia	0.070	J,DX	0.500	0.57T		mg/L		100	90 - 110		

Lab Sample ID: 570-1N0737-1 MSD
Client Sample ID: Outfall019_20230607_Comp
MatriA: x ater
Wrep PTpe: Potal/y 4
4 nalTsis Batch: 336819
Wrep Batch: 336955

4 nalTte	Sample Result	Sample Qualifier	Spike 4 dded	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Ammonia	0.070	J,DX	0.500	0.5p7		mg/L		100	90 - 110	1	T5

Method: Kelada 01 - CTanide, Potal, 4 cid Dissociable and PhiocTanate

Lab Sample ID: MB 570-336809/11
Client Sample ID: Method Blank
MatriA: x ater
Wrep PTpe: Potal/y 4
4 nalTsis Batch: 336809

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
Cyanide, 3otal	ND		5.0	T.5	ug/L			0p/1T/T6 14:02	1

Lab Sample ID: LCS 570-336809/12
Client Sample ID: Lab Control Sample
MatriA: x ater
Wrep PTpe: Potal/y 4
4 nalTsis Batch: 336809

4 nalTte			Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Cyanide, 3otal			T50	Tp0		ug/L		104	90 - 110		

Lab Sample ID: LCSD 570-336809/1N
Client Sample ID: Lab Control Sample Dup
MatriA: x ater
Wrep PTpe: Potal/y 4
4 nalTsis Batch: 336809

4 nalTte			Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
Cyanide, 3otal			T50	TTp		ug/L		90	90 - 110	14	T0

Method: Kelada 01 - CTanide, Potal, 4 cid Dissociable and PhiocTanate (Continued)

Lab Sample ID: MRL 570-336809/10
MatriA: x ater
4 nalTsis Batch: 336809

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, 3otal	5.00	4.40	J,DX	ug/L		22	50 - 150

Method: SM 2130B - PurbiditT

Lab Sample ID: LCSSRM 570-335660/1
MatriA: x ater
4 nalTsis Batch: 335660

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
3urbidity	1000	1000		N3U		99.0	99.0 - 101.0

Lab Sample ID: LCSSRM 570-335660/2
MatriA: x ater
4 nalTsis Batch: 335660

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
3urbidity	10.0	9.9		N3U		99.T	99.0 - 101.0

Lab Sample ID: LCSSRM 570-335660/3
MatriA: x ater
4 nalTsis Batch: 335660

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
3urbidity	0.0T00	ND		N3U		100.0	0.0 - T00.0

Method: SM 25N0C - Solids, Potal Dissolved (PDS)

Lab Sample ID: MB 570-337091/1
MatriA: x ater
4 nalTsis Batch: 337091

Client Sample ID: Method Blank
Wrep PTpe: Potal/y 4

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
3otal Dissolved Solids	ND		10	2.7	mg/L			0p/16/T6 T0:T1	1

Lab Sample ID: LCS 570-337091/2
MatriA: x ater
4 nalTsis Batch: 337091

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
3otal Dissolved Solids	1000	972		mg/L		92	24 - 102

Lab Sample ID: LCSD 570-337091/3
MatriA: x ater
4 nalTsis Batch: 337091

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
3otal Dissolved Solids	1000	1010		mg/L		101	24 - 102	6	10

Method: SM 25N0D - Solids, Potal Suspended (PSS)

Lab Sample ID: MB 570-335602/1
MatriA: x ater
4 nalTsis Batch: 335602

Client Sample ID: Method Blank
Wrep PTpe: Potal/y 4

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
3otal Sus8ended Solids	ND		1.0	0.26	mg/L			0p/02/T6 1T:6T	1

Lab Sample ID: LCS 570-335602/2
MatriA: x ater
4 nalTsis Batch: 335602

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
3otal Sus8ended Solids	100	92.0		mg/L		92	77 - 11p

Lab Sample ID: LCSD 570-335602/3
MatriA: x ater
4 nalTsis Batch: 335602

Client Sample ID: Lab Control Sample Dup
Wrep PTpe: Potal/y 4

4 nalTte	Spike 4 dded	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RWD	RWD Limit
3otal Sus8ended Solids	100	96.0		mg/L		96	77 - 11p	5	10

Method: SM 5210B - BOD, 5-DaT

Lab Sample ID: LCS 570-335599/2-4
MatriA: x ater
4 nalTsis Batch: 336975

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4
Wrep Batch: 335599

4 nalTte	Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	199	T04		mg/L		106	24.p - 115.4

Lab Sample ID: USB 570-336975/2
MatriA: x ater
4 nalTsis Batch: 336975

Client Sample ID: Method Blank
Wrep PTpe: Potal/y 4

4 nalTte	USB Result	USB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
Biochemical Oxygen Demand	ND		T.0	1.0	mg/L			0p/02/T6 1T:62	1

Method: SM 55N0C - MethTlene Blue 4 ctive Substances (MB4 S)

Lab Sample ID: MB 570-33529N/5-4
MatriA: x ater
4 nalTsis Batch: 335389

Client Sample ID: Method Blank
Wrep PTpe: Potal/y 4
Wrep Batch: 33529N

4 nalTte	MB Result	MB Qualifier	RL	MDL	Unit	D	Wrepared	4 nalTzed	Dil Fac
MBAS	ND		0.T0	0.050	mg/L		0p/07/T6 15:TT	0p/07/T6 19:T4	1

Lab Sample ID: LCS 570-33529N/6-4
MatriA: x ater
4 nalTsis Batch: 335389

Client Sample ID: Lab Control Sample
Wrep PTpe: Potal/y 4
Wrep Batch: 33529N

4 nalTte	Spike 4 dded	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
MBAS	0.500	0.451		mg/L		90	26 - 1TT

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Outfall 012 - Grab

Job ID: 570-140767-1

Method: SM 5540C - Methylene Blue Active Substances (MBAS) (Continued)

Lab Sample ID: LCSD 570-335297/7-A
Matrix: Water
Analysis Batch: 335389

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 335297

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS			0.500	0.490		mg/L		98	75 - 125	2	10

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Outfall 012 - Grab

Job ID: 570-140767-1

GC/MS Semi VOA

Prep Batch: 331194

2aL Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140767-1	Outfall012 80360_07 Cop T	Total/NA	Water	_35	
8 B 570-66__20/1-A	8 ethod Blank	Total/NA	Water	_35	
LCS 570-66__20/3-A	Lab Control Sap Tle	Total/NA	Water	_35	
LCSD 570-66__20/6-A	Lab Control Sap Tle Du T	Total/NA	Water	_35	

Analysis Batch: 33d516

2aL Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140767-1	Outfall012 80360_07 Cop T	Total/NA	Water	_35.1 SI8	66__20
8 B 570-66__20/1-A	8 ethod Blank	Total/NA	Water	_35.1 SI8	66__20
LCS 570-66__20/3-A	Lab Control Sap Tle	Total/NA	Water	_35.1 SI8	66__20
LCSD 570-66__20/6-A	Lab Control Sap Tle Du T	Total/NA	Water	_35.1 SI8	66__20

GC Semi VOA

Prep Batch: 331348

2aL Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140767-1	Outfall012 80360_07 Cop T	Total/NA	Water	_02	
8 B 570-66_609/1-A	8 ethod Blank	Total/NA	Water	_02	
LCS 570-66_609/3-A	Lab Control Sap Tle	Total/NA	Water	_02	
LCSD 570-66_609/6-A	Lab Control Sap Tle Du T	Total/NA	Water	_02	

Analysis Batch: 331674

2aL Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140767-1	Outfall012 80360_07 Cop T	Total/NA	Water	_02.6	66_609
8 B 570-66_609/1-A	8 ethod Blank	Total/NA	Water	_02.6	66_609
LCS 570-66_609/3-A	Lab Control Sap Tle	Total/NA	Water	_02.6	66_609
LCSD 570-66_609/6-A	Lab Control Sap Tle Du T	Total/NA	Water	_02.6	66_609

0 P2C/IC

Analysis Batch: 3374d6

2aL Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140767-1	Outfall012 80360_07 Cop T	Total/NA	Water	600.0	
8 B 570-665074/5	8 ethod Blank	Total/NA	Water	600.0	
LCS 570-665074/_	Lab Control Sap Tle	Total/NA	Water	600.0	
LCSD 570-665074/7	Lab Control Sap Tle Du T	Total/NA	Water	600.0	

Analysis Batch: 3374d7

2aL Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140767-1	Outfall012 80360_07 Cop T	Total/NA	Water	600.0	
570-140767-1 - DL	Outfall012 80360_07 Cop T	Total/NA	Water	600.0	
8 B 570-665075/5	8 ethod Blank	Total/NA	Water	600.0	
LCS 570-665075/_	Lab Control Sap Tle	Total/NA	Water	600.0	
LCSD 570-665075/7	Lab Control Sap Tle Du T	Total/NA	Water	600.0	

Analysis Batch: 337753

2aL Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140767-1	Outfall012 80360_07 Cop T	Total/NA	Water	614.0	
8 B 570-665536/7	8 ethod Blank	Total/NA	Water	614.0	
LCS 570-665536/2	Lab Control Sap Tle	Total/NA	Water	614.0	
LCSD 570-665536/9	Lab Control Sap Tle Du T	Total/NA	Water	614.0	

0 P2C/IC

Analysis Batch: 337884

2aL Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140767-1	Outfall012_20360_07_Grab	Total/NA	Water	NO3NO6 Calc	

Metals

Prep Batch: 337651

2aL Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140767-1	Outfall012_20360_07_Grab	Total/NA	Water	345.1	
8 B 570-66543_/1-A	8 ethod Blank	Total/NA	Water	345.1	
LCS 570-66543_/3-A	Lab Control Sample	Total/NA	Water	345.1	
LCSD 570-66543_/6-A	Lab Control Sample Dup	Total/NA	Water	345.1	
570-140767-1 8 S	Outfall012_20360_07_Grab	Total/NA	Water	345.1	
570-140767-1 8 SD	Outfall012_20360_07_Grab	Total/NA	Water	345.1	

Filtration Batch: 33765d

2aL Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140767-6	Outfall012_20360_07_Grab_F	Dissolved	Water	Filtration	
8 B 570-665437/1-B	8 ethod Blank	Dissolved	Water	Filtration	
LCS 570-665437/3-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-665437/6-B	Lab Control Sample Dup	Dissolved	Water	Filtration	

Prep Batch: 337659

2aL Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140767-6	Outfall012_20360_07_Grab_F	Dissolved	Water	345.1	665437
8 B 570-665437/1-B	8 ethod Blank	Dissolved	Water	345.1	665437
LCS 570-665437/3-B	Lab Control Sample	Dissolved	Water	345.1	665437
LCSD 570-665437/6-B	Lab Control Sample Dup	Dissolved	Water	345.1	665437

Prep Batch: 337674

2aL Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140767-1	Outfall012_20360_07_Grab	Total Recoverable	Water	300.2	
8 B 570-665450/1-A	8 ethod Blank	Total Recoverable	Water	300.2	
LCS 570-665450/3-A	Lab Control Sample	Total Recoverable	Water	300.2	
LCSD 570-665450/6-A	Lab Control Sample Dup	Total Recoverable	Water	300.2	
570-140767-1 8 S	Outfall012_20360_07_Grab	Total Recoverable	Water	300.2	
570-140767-1 8 SD	Outfall012_20360_07_Grab	Total Recoverable	Water	300.2	

Analysis Batch: 337769

2aL Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140767-1	Outfall012_20360_07_Grab	Total Recoverable	Water	300.2	665450
570-140767-1 8 S	Outfall012_20360_07_Grab	Total Recoverable	Water	300.2	665450
570-140767-1 8 SD	Outfall012_20360_07_Grab	Total Recoverable	Water	300.2	665450

Analysis Batch: 337798

2aL Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
8 B 570-665450/1-A	8 ethod Blank	Total Recoverable	Water	300.2	665450
LCS 570-665450/3-A	Lab Control Sample	Total Recoverable	Water	300.2	665450
LCSD 570-665450/6-A	Lab Control Sample Dup	Total Recoverable	Water	300.2	665450

Filtration Batch: 337146

2aL Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140767-6	Outfall012_20360_07_Grab_F	Dissolved	Water	Filtration	

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Outfall 012 - Grab

Job ID: 570-140767-1

Metals (Continuex)

Filtration Batch: 337146 (Continuex)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-665_04/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-665_04/3-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-665_04/6-A	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-140767-6 MS	Outfall012_080360_07_Comp_TMF	Dissolved	Water	Filtration	
570-140767-6 MSD	Outfall012_080360_07_Comp_TMF	Dissolved	Water	Filtration	

Analysis Batch: 33715d

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140767-1	Outfall012_080360_07_Comp	Total/NA	Water	345.1	66543_
570-140767-6	Outfall012_080360_07_Comp_TMF	Dissolved	Water	345.1	665432
MB 570-66543_/1-A	Method Blank	Total/NA	Water	345.1	66543_
MB 570-665437/1-B	Method Blank	Dissolved	Water	345.1	665432
LCS 570-66543_/3-A	Lab Control Sample	Total/NA	Water	345.1	66543_
LCS 570-665437/3-B	Lab Control Sample	Dissolved	Water	345.1	665432
LCSD 570-66543_/6-A	Lab Control Sample Dup	Total/NA	Water	345.1	66543_
LCSD 570-665437/6-B	Lab Control Sample Dup	Dissolved	Water	345.1	665432
570-140767-1 MS	Outfall012_080360_07_Comp	Total/NA	Water	345.1	66543_
570-140767-1 MSD	Outfall012_080360_07_Comp	Total/NA	Water	345.1	66543_

Analysis Batch: 33716F

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140767-6	Outfall012_080360_07_Comp_TMF	Dissolved	Water	300.2	665_04
MB 570-665_04/1-A	Method Blank	Dissolved	Water	300.2	665_04
LCS 570-665_04/3-A	Lab Control Sample	Dissolved	Water	300.2	665_04
LCSD 570-665_04/6-A	Lab Control Sample Dup	Dissolved	Water	300.2	665_04
570-140767-6 MS	Outfall012_080360_07_Comp_TMF	Dissolved	Water	300.2	665_04
570-140767-6 MSD	Outfall012_080360_07_Comp_TMF	Dissolved	Water	300.2	665_04

General Chemistry

Prep Batch: 337596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140767-1	Outfall012_080360_07_Comp	Total/NA	Water	SM 5540C	
MB 570-665324/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-665324/_-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-665324/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	

Analysis Batch: 337389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140767-1	Outfall012_080360_07_Comp	Total/NA	Water	SM 5540C	665324
MB 570-665324/5-A	Method Blank	Total/NA	Water	SM 5540C	665324
LCS 570-665324/_-A	Lab Control Sample	Total/NA	Water	SM 5540C	665324
LCSD 570-665324/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	665324

Prep Batch: 337799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140767-1	Outfall012_080360_07_Comp	Total/NA	Water	BOD PreT	
LCS 570-665522/3-A	Lab Control Sample	Total/NA	Water	BOD PreT	

GenerabChemistry

Analysis Batch: 337145

2aL Sample ID	Client Sample ID	Prep Dype	MatriT	Methox	Prep Batch
570-140767-1	Outfall012m80360_07mCop T	Mbtal/NA	Water	S8 3540D	
8 B 570-665_03/1	8 ethod Blank	Mbtal/NA	Water	S8 3540D	
LCS 570-665_03/3	Lab Control Sap Tle	Mbtal/NA	Water	S8 3540D	
LCSD 570-665_03/6	Lab Control Sap Tle DuT	Mbtal/NA	Water	S8 3540D	

Analysis Batch: 337114

2aL Sample ID	Client Sample ID	Prep Dype	MatriT	Methox	Prep Batch
570-140767-1	Outfall012m80360_07mCop T	Mbtal/NA	Water	S8 3160B	
LCSSR8 570-665__0/1	Lab Control Sap Tle	Mbtal/NA	Water	S8 3160B	
LCSSR8 570-665__0/3	Lab Control Sap Tle	Mbtal/NA	Water	S8 3160B	
LCSSR8 570-665__0/6	Lab Control Sap Tle	Mbtal/NA	Water	S8 3160B	

Prep Batch: 331977

2aL Sample ID	Client Sample ID	Prep Dype	MatriT	Methox	Prep Batch
570-140767-1	Outfall012m80360_07mCop T	Mbtal/NA	Water	Distill/Ap p onia	
8 B 570-66_255/5-A	8 ethod Blank	Mbtal/NA	Water	Distill/Ap p onia	
LCS 570-66_255/_-A	Lab Control Sap Tle	Mbtal/NA	Water	Distill/Ap p onia	
LCSD 570-66_255/7-A	Lab Control Sap Tle DuT	Mbtal/NA	Water	Distill/Ap p onia	
570-140767-1 8 S	Outfall012m80360_07mCop T	Mbtal/NA	Water	Distill/Ap p onia	
570-140767-1 8 SD	Outfall012m80360_07mCop T	Mbtal/NA	Water	Distill/Ap p onia	

Analysis Batch: 3319d7

2aL Sample ID	Client Sample ID	Prep Dype	MatriT	Methox	Prep Batch
570-140767-1	Outfall012m80360_07mCop T	Mbtal/NA	Water	S8 5310B	665522
USB 570-66_275/3	8 ethod Blank	Mbtal/NA	Water	S8 5310B	
LCS 570-665522/3-A	Lab Control Sap Tle	Mbtal/NA	Water	S8 5310B	665522

Analysis Batch: 331849

2aL Sample ID	Client Sample ID	Prep Dype	MatriT	Methox	Prep Batch
570-140767-1	Outfall012m80360_07mCop T	Mbtal/NA	Water	Kelada 01	
8 B 570-66_902/11	8 ethod Blank	Mbtal/NA	Water	Kelada 01	
LCS 570-66_902/13	Lab Control Sap Tle	Mbtal/NA	Water	Kelada 01	
LCSD 570-66_902/14	Lab Control Sap Tle DuT	Mbtal/NA	Water	Kelada 01	
8 RL 570-66_902/10	Lab Control Sap Tle	Mbtal/NA	Water	Kelada 01	

Analysis Batch: 3318F9

2aL Sample ID	Client Sample ID	Prep Dype	MatriT	Methox	Prep Batch
570-140767-1	Outfall012m80360_07mCop T	Mbtal/NA	Water	650.1	66_255
8 B 570-66_255/5-A	8 ethod Blank	Mbtal/NA	Water	650.1	66_255
LCS 570-66_255/_-A	Lab Control Sap Tle	Mbtal/NA	Water	650.1	66_255
LCSD 570-66_255/7-A	Lab Control Sap Tle DuT	Mbtal/NA	Water	650.1	66_255
570-140767-1 8 S	Outfall012m80360_07mCop T	Mbtal/NA	Water	650.1	66_255
570-140767-1 8 SD	Outfall012m80360_07mCop T	Mbtal/NA	Water	650.1	66_255

Analysis Batch: 33d49F

2aL Sample ID	Client Sample ID	Prep Dype	MatriT	Methox	Prep Batch
570-140767-1	Outfall012m80360_07mCop T	Mbtal/NA	Water	S8 3540C	
8 B 570-667021/1	8 ethod Blank	Mbtal/NA	Water	S8 3540C	
LCS 570-667021/3	Lab Control Sap Tle	Mbtal/NA	Water	S8 3540C	
LCSD 570-667021/6	Lab Control Sap Tle DuT	Mbtal/NA	Water	S8 3540C	

Client Sample ID: Outfall02_36067050- 3Comp

Lab Sample ID: 1- 042M0- 7- 42

Date Collecte/ : 058 0- 867 0_:00

x atriW d ater

Date Receive/ : 058 0- 867 2_:0-

Prep Type	Batch Type	Batch x etho/	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepare/ or Analyze/	Analyst	Lab
8otalSEA	j re6	245			1050.5 T R	4 T R	PP22m0	02SIPS4P 02:1m	H1BH	FF8 CAR3
8otalSEA	Analy9i9	245.1 BIs		1	1 T R	1 T R	PP7423	02S13S4P 1m05	MRRI	FF8 CAR3
	In9trOT ent ID:	p Cs BJJJ								
8otalSEA	j re6	20m			1500 T R	1 T R	PP2P0U	02S14S4P 0mP7	u AJP	FF8 CAR3
8otalSEA	Analy9i9	20mP		1	1 T R	1 T R	PP2350	02SIPS4P 1P:55	E5GP	FF8 CAR3
	In9trOT ent ID:	p C54A								
8otalSEA	Analy9i9	P00.0		1	3 T R	3 T R	PP5073	02SDm84P 03:13	j B	FF8 CAR3
	In9trOT ent ID:	ICU								
8otalSEA	Analy9i9	P00.0		1	3 T R	3 T R	PP5075	02SDm84P 03:13	j B	FF8 CAR3
	In9trOT ent ID:	ICU								
8otalSEA	Analy9i9	P00.0	DR	10	3 T R	3 T R	PP5075	02SDm84P 03:P1	j B	FF8 CAR3
	In9trOT ent ID:	ICU								
8otalSEA	Analy9i9	P13.0		1	3 T R	3 T R	PP554P	02SDm84P 13:5m	s 5YP	FF8 CAR3
	In9trOT ent ID:	ICm								
8otalSEA	Analy9i9	Eu 4Eu P Calc		1			PP5UU0	02SDU84P 13:P1	WH2J	FF8 CAR3
	In9trOT ent ID:	Eu FQMIj								
8otal v ecoZerable	j re6	400.m			50 T R	50 T R	PP5350	02SDm84P 02:31	Jj mE	FF8 CAR3
8otal v ecoZerable	Analy9i9	400.m		1			PP553m	02SDm84P 10:P4	G4WB	FF8 CAR3
	In9trOT ent ID:	ICj s B0U								
8otalSEA	j re6	435.1			45 T R	50 T R	PP5342	02SD7S4P 41:15	CB5Y	FF8 CAR3
8otalSEA	Analy9i9	435.1		1			PP5247	02SDm84P 12:0P	C0GH	FF8 CAR3
	In9trOT ent ID:	Hp m								
8otalSEA	j re6	Di9tillSAT T onia			5 T R	5 T R	PP2m55	02SIPS4P 11:04	MXCH	FF8 CAR3
8otalSEA	Analy9i9	P50.1		1	5 T R	5 T R	PP2U1m	02SIPS4P 14:30	MXCH	FF8 CAR3
	In9trOT ent ID:	ACA4								
8otalSEA	Analy9i9	Kelada 01		1	mT R	mT R	PP2U0m	02S14S4P 17:04	p p 0g	FF8 CAR3
	In9trOT ent ID:	RACHA801								
8otalSEA	Analy9i9	Bs 41P0g		1			PP5220	02SDm84P 15:Pm	YVg7	FF8 CAR3
	In9trOT ent ID:	8Mv 3								
8otalSEA	Analy9i9	Bs 4530C		1	100 T R	1000 T R	PP70m1	02SIPS4P 40:41	YR7R	FF8 CAR3
	In9trOT ent ID:	gAR100								
8otalSEA	Analy9i9	Bs 4530D		1	1000 T R	1000 T R	PP5204	02SDm84P 14:P4	8XPF	FF8 CAR3
	In9trOT ent ID:	gAR71								
8otalSEA	j re6	gu D j re6					PP55mm	02SDm84P 11:5P	M7Mv	FF8 CAR3
8otalSEA	Analy9i9	Bs 5410g		1	P00 T R	P00 T R	PP2m75	02SDm84P 1P:P2	M7Mv	FF8 CAR3
	In9trOT ent ID:	gu DP								
8otalSEA	j re6	Bs 5530C			100 T R	100 T R	PP54m8	02SD7S4P 40:P0	8XAm	FF8 CAR3
8otalSEA	Analy9i9	Bs 5530C		1	100 T R	100 T R	PP5PUm	02SD7S4P 41:P7	8XAm	FF8 CAR3
	In9trOT ent ID:	MVm								

Lab Chronicle

Client: Haley & Aldrich, Inc.
j ro/ectSBite: goeinNEj DFB BBLR- u Ctfall 01m- p rab

Job ID: 570-1307P7-1

Client Sample ID: Outfall02_36067050- 3Comp3F

Date Collecte/ : 058O- 867 0_:00
Date Receive/ : 058O- 867 2_:0-

Lab Sample ID: 1- 042MO- 7- 47

x atriW d ater

Prep Type	Batch Type	Batch x etho/	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepare/ or Analyze/	Analyst	Lab
Di99olZed	Liltration	Liltration			50 T R	50 T R	PP5203	02SDm84P 14:52	Jj mE	FF8 CAR3
Di99olZed	Analy9i9	400.m		1			PP5231	02SDm84P 1P:34	G4WB	FF8 CAR3
	In9trOT ent ID: ICj s B0U									
Di99olZed	Liltration	Liltration			45 T R	45 T R	PP5347	02SD79i4P 41:0m	CB5Y	FF8 CAR3
Di99olZed	j re6	435.1			45 T R	50 T R	PP534m	02SD79i4P 41:45	CB5Y	FF8 CAR3
Di99olZed	Analy9i9	435.1		1			PP5247	02SDm84P 15:10	C0GH	FF8 CAR3
	In9trOT ent ID: Hp m									

Laboratory References:

FF8 CAR3 = FOrofin9 Cal9cience 8O9tin, 4m81 Dow AZenOe, 8O9tin, CA U47m0, 8FR(713)mU5-53U3

FOrofin9 Cal9cience

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-140767-1

2roRectj/ ite: SoeinB g 2DN/ / / EF - L Ctuall 01f - Grab

Laboratory: Eurofins Calscience

All accreditationsjcertiucations held by this laboratory are listed. g ot all accreditationsjcertiucations are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	/ tate	AZ0f 60	11-18-36
Caliuornia	Fos AnBeles CoOnty / anitation Districts	10109	07-61-36
Caliuornia	/ CAQMD FA2	17FA0919	11-60-36
Caliuornia	/ tate	60f 3	07-61-34
Kansas	g NFA2	N-10430	07-61-36
g evada	/ tate	CA00111	07-61-34
L reBon	g NFA2	4175	03-03-34
U/ DA	U/ Eederal 2roBrams	2660-33-00059	05-34-36 *
WashinBton	/ tate	C918-1f	10-11-36

* AccreditationjCertiucation renewal pendinB - accreditationjcertiucation considered valid.

NOrouins Calscience

Method Summary

I ient H:a yin& A dir oeh, . It hP	Job ID: 570-1307C7-1
j oo/nhHSBeH: gonet NEj DFB BBLR- u OHyii 01m- p oyb

Method	Method Description	Protocol	Laboratory
625P/I BIM	Bnv esoiyHen u dNyt eh I ov GoOt r (p I SMB)BIMT	Fj d	FF4 I dR3
60mPC	u dNyt oh, iooet n j n(Heher n(et 8 yHc	Fj d	FF4 I dR3
O00P0	dt eot (. Iot I , oov yHoNoyG, &	Fj d	FF4 I dR3
C13P0	j ndh, iooyHi)II T	Fj d	FF4 I dR3
Eu 2Eu CI yih	EeHoNnt . EeHoyHi-EeHeH	Fj d	FF4 I dR3
200Pm	MnHyi( )II j SMBT	Fj d	FF4 I dR3
235P/I	MndhOo&)I WdT	Fj d	FF4 I dR3
C50P/I	EeHoNnt . dv v ot ey	Fj d	FF4 I dR3
Vniyr y 01	I &yt er n. 4oHyi. dher De((oheybin yt r 4, eoh&yt yH	Fj d	FF4 I dR3
BM 21O0g	4Odber eH&	BM	FF4 I dR3
BM 2530I	Boier (. 4oHyi De((oisnr)4DBT	BM	FF4 I dR3
BM 2530D	Boier (. 4oHyi BO(Gnt r nr)4BBT	BM	FF4 I dR3
BM 5210g	gu D. 5-Dy&	BM	FF4 I dR3
BM 5530I	MnH, I &int n giOn dhHsn BOb(Hyt hn( )MgdBT	BM	FF4 I dR3
200Pm	j onGyoyHot . 4oHyi Knhosnoybin MnHyi(	Fj d	FF4 I dR3
235P/I	j onGyoyHot . MndhOo&	Fj d	FF4 I dR3
60m	ReqOr -ReqOr FxHoyhHot)BnGyoyHoc& LOt t niT	Fj d	FF4 I dR3
625	ReqOr -ReqOr FxHoyhHot	Fj d	FF4 I dR3
gu D j onG	j onGyoyHot . gu D	BM	FF4 I dR3
De(HeiSdv v ot ey	De(HeiyHot . dv v ot ey	Eot n	FF4 I dR3
LeHoyHot	Byv Gn LeHoyHot	Eot n	FF4 I dR3
BM 5530I	j onGyoyHot . MnH, I &int n giOn dhHsn BOb(Hyt hn( )MgdBT	BM	FF4 I dR3

Protocol References:

Fj d = UB Ft seot v nt Hyi j oHhHot dNnt h&

Eot n = Eot n

BM = "BHyt ryor MnH,or (Loc4, n Fxyv et yHot u f 8 yHcdt r 8 y(HwyHc"

Laboratory References:

FF4 I dR3 = FOoofet (I yi(hent hn 4O(Het . 2m31 Dow dsnt On. 4O(Het . I d 927m0. 4FR)713Tm95-5393

FOoofet (I yi(hent hn

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Outfall 012 - Grab

Job ID: 570-140767-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-140767-1	Outfall012_30360m07_Cop W	8 ater	0m/07/36 02:00	0m/07/36 12:07
570-140767-6	Outfall012_30360m07_Cop W_F	8 ater	0m/07/36 02:00	0m/07/36 12:07

140737

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 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	**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: Adrien Mobeka	

									R	R	R	R	R	R	R/EP	R	R	R	R	C				
									ANALYSIS REQUIRED															
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.8): Zn, Al (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, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N	Turbidity, TDS (SM2540C/E180.1)	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)	Perchlorate (331.0)			Comments
Outfall 018	Outfall018_20230607_Comp	6/7/2023 0800	WM	500 mL Poly	1	HNO_3	90	Yes	X										X				
			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	130	No												X			
			WM	500 mL Poly	1	None	150	No						X									48 hours 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_20230607_Comp_Extra	6/7/2023 0800	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, EP=Expert Panel, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
[signature]	6-7-2023/1100	M:A	[signature]	6/7/23 1106	EC
Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
[signature]	6/7/23 1807	EC	[signature]	6/7/23 1807	
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__

1.9/2.1 1.5/1.7 1.6/1.8 SC6

570-140737 Chain of Custody

2019-2020 Rainy Season
Version 5

140737

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

									R	R	R	R	R	QRSW	QRSW	QRSW	C/EP							
Client Name/Address: Haley & Aldrich, 5333 Mission Center Rd Suite 300, San Diego, CA 92108				Project: Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 018 Comp					ANALYSIS REQUIRED															
Eurofins Calscience Irvine Contact: Virendra Patel, 2841 Dow Avenue, Suite 100, Tustin, CA 92780, Tel: 949-260-3218 **ECI Project # 57013187**				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: Adrien Mobeka																								
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.8): Zn, Al (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)		Total Dissolved Metals: Mercury (E245.1)								
Outfall 018	Outfall018_20230607_Comp_F	6/7/2023 1050	WM	1L Poly	1	None	200	Yes	X															
			WM	borosilicate vials	2	None	320	No					X											
	Outfall018_20230607_Comp	6/7/2023 0900	WM	500 mL Poly	1	NaOH	220	No		X														
			WM	2.5 Gal Cube	1	None	225	No			X													
			WM	1 L Glass Amber	1	None	230	No																

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
[signature]	6.7.2023	1100 H.A	[signature]	6/7/23	1100 EC
[signature]	6/7/23	1807 EC	[signature]	6/7/23	1807
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__

2019-2020 Rainy Season
Version 5

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-130767-1

Login Number: 140737
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 <4mm (1/3").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 6/26/2023 10:50:25 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Outfall 018 - Grab

JOB NUMBER

570-140737-2

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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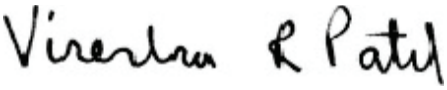

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Authorized for release by
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Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-140737-2
Project/Site: Boeing NPDES SSFL - Outfall 018 - Grab

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: 570-140737-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-140737-2

Comments
No additional comments.

Receipt
The samples were received on 6/7/2023 6:07 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 1.7º C, 1.8º C and 2.1º 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 12D5 exceeded this criteria: Outfall018_20230607_Comp (570-140737-1), (CCV 320-684550/1), (LCS 320-682402/2-A), (LCSD 320-682402/3-A) and (MB 320-682402/1-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.
Project/Site: Boeing NPDES SSFL - Outfall 01G- 3 rab

Job ID: 570-140767-2

Client Sample ID: Outfall018_20230607_Comp

Lab Sample ID: 570-140737-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,6,4,7,G-H8CDD	0.000001G	J,DT X MB	0.000047	0.00000046	ug/L	1		1p16B	xotal/NA
1,2,6,4,p,7,G-H9CDD	0.0000012	J,DT MB	0.000047	0.00000040	ug/L	1		1p16B	xotal/NA
OCDD	0.000007p	J,DT MB	0.0000q4	0.00000076	ug/L	1		1p16B	xotal/NA
xotal xCDD	0.0000067	J,DT MB	0.00000q4	0.00000070	ug/L	1		1p16B	xotal/NA
xotal H8CDD	0.000001G	J,DT X MB	0.000047	0.00000041	ug/L	1		1p16B	xotal/NA
xotal H9CDD	0.000002G	J,DT MB	0.000047	0.00000040	ug/L	1		1p16B	xotal/NA

xhis Detection Summary does not include radiochemical test results.

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall012_W0W30607_Comp
Lab Sample ID: 570-140737-1
Date Colle8ted: 06/07/W3 02:00
Matrix: c ater
Date Re8eived: 06/07/W3 12:07

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fa8
2,6,7,G-TCDD	ND		0.0000034	0.0000007 0	ug/L		08/12/26 14:03	08/20/26 1G4G	1
2,6,7,G-TCDF	ND		0.0000034	0.0000002 6	ug/L		08/12/26 14:03	08/20/26 1G4G	1
1,2,6,7,G-PeCDD	ND		0.000047	0.0000008 8	ug/L		08/12/26 14:03	08/20/26 1G4G	1
1,2,6,7,G-PeCDF	ND		0.000047	0.0000002 7	ug/L		08/12/26 14:03	08/20/26 1G4G	1
2,6,4,7,G-PeCDF	ND		0.000047	0.0000002 G	ug/L		08/12/26 14:03	08/20/26 1G4G	1
1,W3,4,7,2-HxCDD	**0.0000012**	**J,DX q MB**	0.000047	0.0000004 6	ug/L		08/12/26 14:03	08/20/26 1G4G	1
1,2,6,8,7,G-HxCDD	ND		0.000047	0.0000004 6	ug/L		08/12/26 14:03	08/20/26 1G4G	1
1,2,6,7,G3-HxCDD	ND		0.000047	0.0000004 1	ug/L		08/12/26 14:03	08/20/26 1G4G	1
1,2,6,4,7,G-HxCDF	ND		0.000047	0.0000002 5	ug/L		08/12/26 14:03	08/20/26 1G4G	1
1,2,6,8,7,G-HxCDF	ND		0.000047	0.0000002 4	ug/L		08/12/26 14:03	08/20/26 1G4G	1
1,2,6,7,G3-HxCDF	ND		0.000047	0.0000006 0	ug/L		08/12/26 14:03	08/20/26 1G4G	1
2,6,4,8,7,G-HxCDF	ND		0.000047	0.0000002 6	ug/L		08/12/26 14:03	08/20/26 1G4G	1
1,W3,4,6,7,2-HpCDD	**0.000001W**	**J,DX MB**	0.000047	0.0000004 0	ug/L		08/12/26 14:03	08/20/26 1G4G	1
1,2,6,4,8,7,G-HpCDF	ND		0.000047	0.0000021	ug/L		08/12/26 14:03	08/20/26 1G4G	1
1,2,6,4,7,G3-HpCDF	ND		0.000047	0.0000025	ug/L		08/12/26 14:03	08/20/26 1G4G	1
OCDD	**0.0000076**	**J,DX MB**	0.000034	0.0000007 6	ug/L		08/12/26 14:03	08/20/26 1G4G	1
OCDF	ND		0.000034	0.0000005 2	ug/L		08/12/26 14:03	08/20/26 1G4G	1
Total TCDD	**0.0000037**	**J,DX MB**	0.0000034	0.0000007 0	ug/L		08/12/26 14:03	08/20/26 1G4G	1
Total TCDF	ND		0.0000034	0.0000002 6	ug/L		08/12/26 14:03	08/20/26 1G4G	1
Total PeCDD	ND		0.000047	0.0000008 8	ug/L		08/12/26 14:03	08/20/26 1G4G	1
Total PeCDF	ND		0.000047	0.0000002 7	ug/L		08/12/26 14:03	08/20/26 1G4G	1
Total HxCDD	**0.0000012**	**J,DX q MB**	0.000047	0.0000004 1	ug/L		08/12/26 14:03	08/20/26 1G4G	1
Total HxCDF	ND		0.000047	0.0000002 6	ug/L		08/12/26 14:03	08/20/26 1G4G	1
Total HpCDD	**0.00000W2**	**J,DX MB**	0.000047	0.0000004 0	ug/L		08/12/26 14:03	08/20/26 1G4G	1
Total HpCDF	ND		0.000047	0.0000021	ug/L		08/12/26 14:03	08/20/26 1G4G	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*75*		*26 - 154*	*05/12/23 14:0F*	*05/20/23 18:48*	*1*
13C-2,3,7,8-TCD9	*87*		*24 - 15F*	*05/12/23 14:0F*	*05/20/23 18:48*	*1*
13C-1,2,3,7,8-PeCDD	*72*		*26 - 181*	*05/12/23 14:0F*	*05/20/23 18:48*	*1*
13C-1,2,3,7,8-PeCD9	*84*		*24 - 186*	*05/12/23 14:0F*	*05/20/23 18:48*	*1*
13C-2,3,4,7,8-PeCD9	*88*		*21 - 178*	*05/12/23 14:0F*	*05/20/23 18:48*	*1*
13C-1,2,3,4,7,8-HxCDD	*78*		*32 - 141*	*05/12/23 14:0F*	*05/20/23 18:48*	*1*
13C-1,2,3,5,7,8-HxCDD	*83*		*28 - 130*	*05/12/23 14:0F*	*05/20/23 18:48*	*1*

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall012_W0W30607_Comp
Lab Sample ID: 570-140737-1
Date Colle8ted: 06/07/W3 02:00
Matrix: c ater
Date Re8eived: 06/07/W3 12:07

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8-HxCD9	F1		25 - 162	05/12/23 14:0F	05/20/23 18:48	1
13C-1,2,3,5,7,8-HxCD9	F5		25 - 123	05/12/23 14:0F	05/20/23 18:48	1
13C-1,2,3,7,8,F-HxCD9	83		2F - 147	05/12/23 14:0F	05/20/23 18:48	1
13C-2,3,4,5,7,8-HxCD9	F1		28 - 135	05/12/23 14:0F	05/20/23 18:48	1
13C-1,2,3,4,5,7,8-HpCDD	58		23 - 140	05/12/23 14:0F	05/20/23 18:48	1
13C-1,2,3,4,5,7,8-HpCD9	76		28 - 143	05/12/23 14:0F	05/20/23 18:48	1
13C-1,2,3,4,7,8,F-HpCD9	78		25 - 138	05/12/23 14:0F	05/20/23 18:48	1
13C-OCDD	52		17 - 167	05/12/23 14:0F	05/20/23 18:48	1
13C-OCD9	5F		17 - 167	05/12/23 14:0F	05/20/23 18:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	FF		36 - 1F7	05/12/23 14:0F	05/20/23 18:48	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Outfall 01G- 9 rab

Job ID: 570-140767-2

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)**
570-140767-1	Outfall01G320260m073Cop M	__
8 B 620-mG2402/1-A	8 ethod Blank	_4

Surrogate Legend

67TCDD = 67Cl4-2,6,7,G-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 620-mG2402/2-A	Lab Control Sap Me	_5
LCSD 620-mG2402/6-A	Lab Control Sap Me DuM	_4

Surrogate Legend

67TCDD = 67Cl4-2,6,7,G-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Outfall 01G- 8 rab

Job ID: 570-140767-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(25-164)	(24-169)	(25-181)	(24-185)	(21-178)	(32-141)	(28-130)	(26-152)
570-140767-1	Outfall01Gm20260307mCop 9	73	G7	72	G4	GG	7G	G6	_1
MB 620-3G2402/1-A	Method Blank	36	72	5_	3_	72	35	70	74

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD	OCDF
Lab Sample ID	Client Sample ID	(26-123)	(29-147)	(28-136)	(23-140)	(28-143)	(26-138)	(17-157)	(17-157)
570-140767-1	Outfall01Gm20260307mCop 9	_3	G6	_1	3G	75	7G	32	3_
MB 620-3G2402/1-A	Method Blank	G0	37	75	54	31	36	51	55

Surrogate Legend

TCDD = 16C-2,6,7,G-TCDD
TCDF = 16C-2,6,7,G-TCDF
PeCDD = 16C-1,2,6,7,G-PeCDD
PeCDF = 16C-1,2,6,7,G-PeCDF
PeCF = 16C-2,6,4,7,G-PeCDF
HxCDD = 16C-1,2,6,4,7,G-HxCDD
HxDD = 16C-1,2,6,3,7,G-HxCDD
HxCDF = 16C-1,2,6,4,7,G-HxCDF
HxDF = 16C-1,2,6,3,7,G-HxCDF
HxCF = 16C-1,2,6,7,G_-HxCDF
16CHxCF = 16C-2,6,4,3,7,G-HxCDF
H9CDD = 16C-1,2,6,4,3,7,G-H9CDD
H9CDF = 16C-1,2,6,4,3,7,G-H9CDF
H9CDF2 = 16C-1,2,6,4,7,G_-H9CDF
OCDD = 16C-OCDD
OCDF = 16C-OCDF

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(20-175)	(22-152)	(21-227)	(21-192)	(13-328)	(21-193)	(25-163)	(19-202)
LCS 620-3G2402/2-A	Lab Control Sap 9le	37	7_	36	75	7G	3G	74	7G
LCSD 620-3G2402/6-A	Lab Control Sap 9le Du9	5G	37	53	34	3_	32	3_	74

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD	OCDF
Lab Sample ID	Client Sample ID	(21-159)	(17-205)	(22-176)	(26-166)	(21-158)	(20-186)	(13-199)	(13-199)
LCS 620-3G2402/2-A	Lab Control Sap 9le	G4	74	7_	30	33	71	30	33
LCSD 620-3G2402/6-A	Lab Control Sap 9le Du9	7_	3G	76	56	5_	31	4_	54

Surrogate Legend

TCDD = 16C-2,6,7,G-TCDD
TCDF = 16C-2,6,7,G-TCDF
PeCDD = 16C-1,2,6,7,G-PeCDD
PeCDF = 16C-1,2,6,7,G-PeCDF
PeCF = 16C-2,6,4,7,G-PeCDF
HxCDD = 16C-1,2,6,4,7,G-HxCDD
HxDD = 16C-1,2,6,3,7,G-HxCDD
HxCDF = 16C-1,2,6,4,7,G-HxCDF
HxDF = 16C-1,2,6,3,7,G-HxCDF

Isotope Dilution Summary

Client: Haley & Aldrich, Inc. Job ID: 570-140767-2

Project/Site: Boeing NPDES SSFL - Outfall 01G- 8 rab

HxCF = 16C-1,2,6,7,G_-HxCDF

16CHxCF = 16C-2,6,4,3,7,G-HxCDF

H9CDD = 16C-1,2,6,4,3,7,G-H9CDD

H9CDF = 16C-1,2,6,4,3,7,G-H9CDF

H9CDF2 = 16C-1,2,6,4,7,G_-H9CDF

OCDD = 16C-OCDD

OCDF = 16C-OCDF

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-682402/1-A
Matrix: Water
Analysis Batch: 684550

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 682402

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,6,7,G-8CDD	ND		0.000010	0.0000010	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
2,6,7,G-8CDF	ND		0.000010	0.0000006G	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
1,2,6,7,G-PeCDD	ND		0.000050	0.000000T7	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
1,2,6,7,G-PeCDF	ND		0.000050	0.0000004 0	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
2,6,4,7,G-PeCDF	ND		0.000050	0.0000004 6	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
1,2,6,4,7,G-HxCDD	0.0000027G	J,DX q	0.000050	0.000000TT	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
1,2,6,T,7,G-HxCDD	ND		0.000050	0.000000T6	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
1,2,6,7,G,9-HxCDD	0.00000249	J,DX	0.000050	0.000000T1	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
1,2,6,4,7,G-HxCDF	ND		0.000050	0.0000004 0	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
1,2,6,T,7,G-HxCDF	ND		0.000050	0.0000006 7	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
1,2,6,7,G,9-HxCDF	0.00000191	J,DX q	0.000050	0.0000004 9	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
2,6,4,T,7,G-HxCDF	ND		0.000050	0.0000006 7	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
1,2,6,4,T,7,G-HpCDD	0.00000651	J,DX	0.000050	0.000000G1	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
1,2,6,4,T,7,G-HpCDF	0.00000299	J,DX	0.000050	0.0000009 6	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
1,2,6,4,7,G,9-HpCDF	0.00000609	J,DX	0.000050	0.0000011	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
OCDD	0.00000G49	J,DX q	0.00010	0.0000007 7	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
OCDF	ND		0.00010	0.000000G2	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
8otal 8CDD	0.000004GG	J,DX q	0.000010	0.0000010	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
8otal 8CDF	ND		0.000010	0.0000006G	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
8otal PeCDD	ND		0.000050	0.000000T7	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
8otal PeCDF	ND		0.000050	0.0000004 0	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
8otal HxCDD	0.0000052T	J,DX q	0.000050	0.000000T1	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
8otal HxCDF	0.00000294	J,DX q	0.000050	0.0000006 7	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
8otal HpCDD	0.0000076G	J,DX	0.000050	0.000000G1	ug/L		0T/12/26 14:09	0T/20/26 14:50	1
8otal HpCDF	0.00000T0G	J,DX	0.000050	0.0000009 6	ug/L		0T/12/26 14:09	0T/20/26 14:50	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*53*		*26 - 154*	*05/12/23 14:0F*	*05/20/23 14:60*	*1*
13C-2,3,7,8-TCD9	*72*		*24 - 15F*	*05/12/23 14:0F*	*05/20/23 14:60*	*1*
13C-1,2,3,7,8-PeCDD	*6F*		*26 - 181*	*05/12/23 14:0F*	*05/20/23 14:60*	*1*
13C-1,2,3,7,8-PeCD9	*5F*		*24 - 186*	*05/12/23 14:0F*	*05/20/23 14:60*	*1*
13C-2,3,4,7,8-PeCD9	*72*		*21 - 178*	*05/12/23 14:0F*	*05/20/23 14:60*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-682402/1-A
Matrix: Water
Analysis Batch: 684550

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 682402

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8-HxCDD	56		32 - 141	05/12/23 14:0F	05/20/23 14:60	1
13C-1,2,3,5,7,8-HxCDD	70		28 - 130	05/12/23 14:0F	05/20/23 14:60	1
13C-1,2,3,4,7,8-HxCD9	74		25 - 162	05/12/23 14:0F	05/20/23 14:60	1
13C-1,2,3,5,7,8-HxCD9	80		25 - 123	05/12/23 14:0F	05/20/23 14:60	1
13C-1,2,3,7,8,F-HxCD9	57		2F - 147	05/12/23 14:0F	05/20/23 14:60	1
13C-2,3,4,5,7,8-HxCD9	76		28 - 135	05/12/23 14:0F	05/20/23 14:60	1
13C-1,2,3,4,5,7,8-HpCDD	64		23 - 140	05/12/23 14:0F	05/20/23 14:60	1
13C-1,2,3,4,5,7,8-HpCD9	51		28 - 143	05/12/23 14:0F	05/20/23 14:60	1
13C-1,2,3,4,7,8,F-HpCD9	53		25 - 138	05/12/23 14:0F	05/20/23 14:60	1
13C-OCDD	61		17 - 167	05/12/23 14:0F	05/20/23 14:60	1
13C-OCD9	66		17 - 167	05/12/23 14:0F	05/20/23 14:60	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	F4		36 - 1F7	05/12/23 14:0F	05/20/23 14:60	1

Lab Sample ID: LCS 320-682402/2-A
Matrix: Water
Analysis Batch: 684550

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 682402

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,6,7,G-8CDD	0.000200	0.000269		ug/L		119	T7 - 15G
2,6,7,G-8CDF	0.000200	0.000266		ug/L		11T	75 - 15G
1,2,6,7,G-PeCDD	0.00100	0.00110		ug/L		110	70 - 142
1,2,6,7,G-PeCDF	0.00100	0.00104		ug/L		104	G0 - 164
2,6,4,7,G-PeCDF	0.00100	0.00106		ug/L		106	TG - 1T0
1,2,6,4,7,G-HxCDD	0.00100	0.0009T9		ug/L		97	70 - 1T4
1,2,6,T,7,G-HxCDD	0.00100	0.00102		ug/L		102	7T - 164
1,2,6,7,G-9-HxCDD	0.00100	0.00102		ug/L		102	T4 - 1T2
1,2,6,4,7,G-HxCDF	0.00100	0.000909		ug/L		91	72 - 164
1,2,6,T,7,G-HxCDF	0.00100	0.000920		ug/L		92	G4 - 160
1,2,6,7,G-9-HxCDF	0.00100	0.000946		ug/L		94	7G - 160
2,6,4,T,7,G-HxCDF	0.00100	0.000944		ug/L		94	70 - 15T
1,2,6,4,T,7,G-HpCDD	0.00100	0.00106		ug/L		106	70 - 140
1,2,6,4,T,7,G-HpCDF	0.00100	0.00101		ug/L		101	G2 - 122
1,2,6,4,7,G-9-HpCDF	0.00100	0.00092G		ug/L		96	7G - 16G
OCDD	0.00200	0.00200		ug/L		100	7G - 144
OCDF	0.00200	0.00195		ug/L		9G	T6 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	57		20 - 176
13C-2,3,7,8-TCD9	7F		22 - 162
13C-1,2,3,7,8-PeCDD	53		21 - 227
13C-1,2,3,7,8-PeCD9	76		21 - 1F2
13C-2,3,4,7,8-PeCD9	78		13 - 328
13C-1,2,3,4,7,8-HxCDD	58		21 - 1F3
13C-1,2,3,5,7,8-HxCDD	74		26 - 153
13C-1,2,3,4,7,8-HxCD9	78		1F - 202
13C-1,2,3,5,7,8-HxCD9	84		21 - 16F

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-682402/2-A
Matrix: Water
Analysis Batch: 684550

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 682402

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,7,8,F-HxCD9	74		17 - 206
13C-2,3,4,5,7,8-HxCD9	7F		22 - 175
13C-1,2,3,4,5,7,8-HpCDD	50		25 - 155
13C-1,2,3,4,5,7,8-HpCD9	55		21 - 168
13C-1,2,3,4,7,8,F-HpCD9	71		20 - 185
13C-OCDD	50		13 - 1FF
13C-OCD9	55		13 - 1FF

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	F6		31 - 1F1

Lab Sample ID: LCSD 320-682402/3-A
Matrix: Water
Analysis Batch: 684550

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 682402

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,6,7,G-8CDD			0.000200	0.00024T		ug/L		126	T7 - 15G	6	50
2,6,7,G-8CDF			0.000200	0.000229		ug/L		114	75 - 15G	2	50
1,2,6,7,G-PeCDD			0.00100	0.00115		ug/L		115	70 - 142	4	50
1,2,6,7,G-PeCDF			0.00100	0.00112		ug/L		112	G0 - 164	7	50
2,6,4,7,G-PeCDF			0.00100	0.00107		ug/L		107	TG- 1T0	4	50
1,2,6,4,7,G-HxCDD			0.00100	0.00104		ug/L		104	70 - 1T4	7	50
1,2,6,T,7,G-HxCDD			0.00100	0.00110		ug/L		110	7T - 164	7	50
1,2,6,7,G,9-HxCDD			0.00100	0.00107		ug/L		107	T4 - 1T2	5	50
1,2,6,4,7,G-HxCDF			0.00100	0.000970		ug/L		97	72 - 164	7	50
1,2,6,T,7,G-HxCDF			0.00100	0.0009T5		ug/L		9T	G4 - 160	5	50
1,2,6,7,G,9-HxCDF			0.00100	0.0009G6		ug/L		9G	7G- 160	4	50
2,6,4,T,7,G-HxCDF			0.00100	0.00100		ug/L		100	70 - 15T	T	50
1,2,6,4,T,7,G-HpCDD			0.00100	0.0010G		ug/L		10G	70 - 140	5	50
1,2,6,4,T,7,G-HpCDF			0.00100	0.0010G		ug/L		10G	G2 - 122	T	50
1,2,6,4,7,G,9-HpCDF			0.00100	0.00100		ug/L		100	7G- 16G	G	50
OCDD			0.00200	0.00211		ug/L		105	7G- 144	5	50
OCDF			0.00200	0.0020G		ug/L		104	T6 - 170	T	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	68		20 - 176
13C-2,3,7,8-TCD9	57		22 - 162
13C-1,2,3,7,8-PeCDD	65		21 - 227
13C-1,2,3,7,8-PeCD9	54		21 - 1F2
13C-2,3,4,7,8-PeCD9	5F		13 - 328
13C-1,2,3,4,7,8-HxCDD	52		21 - 1F3
13C-1,2,3,5,7,8-HxCDD	5F		26 - 153
13C-1,2,3,4,7,8-HxCD9	74		1F - 202
13C-1,2,3,5,7,8-HxCD9	7F		21 - 16F
13C-1,2,3,7,8,F-HxCD9	58		17 - 206
13C-2,3,4,5,7,8-HxCD9	73		22 - 175
13C-1,2,3,4,5,7,8-HpCDD	63		25 - 155
13C-1,2,3,4,5,7,8-HpCD9	6F		21 - 168

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-682402/3-A
Matrix: Water
Analysis Batch: 684550

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 682402

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-1,2,3,4,7,8,F-HpCD9	51		20 - 185
13C-OCDD	4F		13 - 1FF
13C-OCD9	64		13 - 1FF

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	F4		31 - 1F1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-140767-2
Project/Site: Boeing NPDES SSFL - Outfall 01G- Wrab

Specialty Organics

Prep Batch: 682402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140767-1	Outfall01Gn20260_07nCop T	Mbtal/NA	3 ater	1_16B	
8 B 620-_G2402/1-A	8 ethod Blank	Mbtal/NA	3 ater	1_16B	
LCS 620-_G2402/2-A	Lab Control Sap Tle	Mbtal/NA	3 ater	1_16B	
LCSD 620-_G2402/6-A	Lab Control Sap Tle DuT	Mbtal/NA	3 ater	1_16B	

Analysis Batch: 684550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140767-1	Outfall01Gn20260_07nCop T	Mbtal/NA	3 ater	1_16B	_G2402
8 B 620-_G2402/1-A	8 ethod Blank	Mbtal/NA	3 ater	1_16B	_G2402
LCS 620-_G2402/2-A	Lab Control Sap Tle	Mbtal/NA	3 ater	1_16B	_G2402
LCSD 620-_G2402/6-A	Lab Control Sap Tle DuT	Mbtal/NA	3 ater	1_16B	_G2402

Lab Chronicle

Client: Haley & Aldrich, Inc.
j ro/ectSite: goeinNEj DFB BBLR- u Ctfall 01m- p rab

Job ID: 570-130727-P

Client Sample ID: Outfall02_36067050-3Comp

Date Collecte/ : 058 0-867 0_:00
Date Receive/ : 058 0-867 2_:0-

Lab Sample ID: 1-042M0-7-42

x atriW d ater

Prep Type	Batch Type	Batch x etho/	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepare/ or Analyze/	Analyst	Lab
sotalSEA	j re6	1412g			1045.2 8 R	P0.0 CR	4mP30P	04S1PSP2 13:0T	Cp g	FFs BAC
sotalSEA	Analy9i9	1412g		1	1 Ba8 6le	1 Ba8 6le	4m8550	04SP0SP2 1m3m	p Gg	FFs BAC

In9trC8 ent ID: 1PD5

Laboratory References:

FFs BAC = FOrofin9 Bacra8 ento, mm0 Giver9ide j arkway, We9t Bacra8 ento, CA T5405, sFR(T14)272-5400

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-130747-6

2roRectj/ ite: SoeinB g 2DN/ / / EF - L Qtuall 01O- f rab

Laboratory: Eurofins Sacramento

All accreditationmjcertiucationmheld by thimlaboratory are limted. g ot all accreditationmjcertiucationmare applicable to thimreport.

Authority	Program	Identification Number	Expiration Date
Alamsa k(/ UT	/ tate	17-060	06-60-63
Ag AS	Dept. ouDeuenme NFA2	F63) O	01-60-63
Ag AS	Dept. ouNnerBy	F63) O.01	01-60-63
Ag AS	I/ L jINC 17065	F63) O	01-60-63
Ari8ona	/ tate	Az 070O	0O-11-64
ArsanmamDNZ	/ tate	OO-0) 91	05-1O-63
Caliuornia	/ tate	6O97	01-66-63
Colorado	/ tate	CA0003	0O-41-64
Elorida	g NFA2	NO7570	0) -40-64
f eorBia	/ tate	3030	01-69-63
HaGaii	/ tate	wcert g o.<	01-69-63
Illinoim	g NFA2	6000) 0	04-17-63
>anmam	g NFA2	N-10475	10-41-64
FoQmiana	g NFA2	01933	0) -40-64
FoQmiana kAllT	g NFA2	01933	0) -40-64
K aine	/ tate	CA00003	03-13-63
K ichiBan	/ tate	9937	0) -01-64 M
g evada	/ tate	CA00033	07-41-64
g eG HaY pmhire	g NFA2	6997	03-1O-63
g eG Jermey	g NFA2	CA005	0) -40-64
g eG xors	g NFA2	11)))	03-01-63
L hio	/ tate	31656	01-69-63
L reBon	g NFA2	3030	01-69-63
UeWam	g NFA2	U103703499-19-14	05-41-63
(/ Eimh & V ildliue	(/ Eederal 2roBraY m	5O83O	03-40-63
(/ DA	(/ Eederal 2roBraY m	2440-1O-00649	06-6O-6)
(tah	g NFA2	CA000336061-16	06-6O-63
* irBinia	g NFA2	3) 067O	04-13-63
V amhinBton	/ tate	C5O1	05-05-64 M
V emt * irBinia kDV T	/ tate	9940C	16-41-64
V imconmin	/ tate	99O603) O0	0O-41-64
V yoY inB	/ tate 2roBraY	OUK / -F	01-6O-19 M

MAccreditationjCertiucation reneGal pendinB - accreditationjcertiucation conmidered valid.

NQrouinmCalmcience

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Outfall 01G- 3 rab

Job ID: 570-140767-2

Method	Method Description	Protocol	Laboratory
1x16B	Diosin(and Furan(R-HM3 C/HM) ST	EPA	EEp SAC
1x16B	Sewaratory Funnel R/LTEstraction = ith Soshlet Estraction of Diosin and Furan(	EPA	EEp SAC

Protocol References:

EPA U v S Enmiron8 ental Protection Agency

Laboratory References:

EEp SAC U Eurofin(Sacra8 ento, G30 Miner(ide Park= ay, We(t Sacra8 ento, CA 95x05, pEL R91x T676-5x00

Sample Summary

Client: Haley & Aldrich, Inc.
j ro/ectSite: goeinNEj DFB BBLO- u f t2all 01G- _ rab

Job ID: 570-140767-P

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-140767-1	u f t2all01G3P0P60m073Cop W	8 ater	0mS07SP6 0G00	0mS07SP6 1G07

140737

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
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: 949-260-3218
ECI Project # 57013187

Project:
Boeing-SSFL NPDES
Permit 2023
Quarterly Outfall [001, 002, 011, 018]
Outfall 018
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.

Sampler: Adrien Mobeka

Project Manager: Katherine Miller
520.289.8606, 520.904.6944 (cell)

Field Manager: Mark Dominick
978.234.5033, 818.599.0702 (cell)

									ANALYSIS REQUIRED																
									R	R	R	R	R	R	R/EP	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: (E200.8): Zn, Al (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, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N	Turbidity, TDS (SM2540C/E180.1)	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)	Perchlorate (331.0)			Comments
Outfall 018	Outfall018_20230607_Comp	6/7/2023 0800	WM	500 mL Poly	1	HNO_3	90	Yes	X										X					
			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	130	No												X				
			WM	500 mL Poly	1	None	150	No						X										48 hours 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_20230607_Comp_Extra	6/7/2023 0800	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, EP=Expert Panel, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	6-7-2023/1100	M:A		6/7/23 1106 EC
	6/7/23 1807	EC		6/7/23 1807

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__

1.9/2.1 1.5/1.7 1.6/1.8 SC6

570-140737 Chain of Custody

2019-2020 Rainy Season
Version 5

140737

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

									R	R	R	R	R	QRSW	QRSW	QRSW	C/EP							
Client Name/Address: Haley & Aldrich, 5333 Mission Center Rd Suite 300, San Diego, CA 92108				Project: Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 018 Comp					ANALYSIS REQUIRED															
Eurofins Calscience Irvine Contact: Virendra Patel, 2841 Dow Avenue, Suite 100, Tustin, CA 92780, Tel: 949-260-3218				Project Manager: Katherine Miller					Total Dissolved Metals: (E200.8): Zn, Al (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)		Total Dissolved Metals: Mercury (E245.1)								
ECI Project # 57013187				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																				
Sampler: Adrien Mobeka				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 018	Outfall018_20230607_Comp_F	6/7/2023 1050	WM	1L Poly	1	None	200	Yes	X															
			WM	borosilicate vials	2	None	320	No				X												
	Outfall018_20230607_Comp	6/7/2023 0900	WM	500 mL Poly	1	NaOH	220	No		X														
			WM	2.5 Gal Cube	1	None	225	No			X													
			WM	1 L Glass Amber	1	None	230	No																

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
[signature]	6.7.2023	1100 H.A	[signature]	6/7/23	1100 EC
[signature]	6/7/23	1807 EC	[signature]	6/7/23	1807
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__

2019-2020 Rainy Season
Version 5

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-232761.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State - California; State Program - California		Job #: 570-140737-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 6/27/2023			
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 018 - Grab	Project #: 57013187			
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, Y - Trizma, 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 (MOD) Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
				Preservation Code:					
Outfall018_20230607_Comp (570-140737-1)	6/7/23	08:00 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 Calscience places the ownership of method, analyte & accreditation compliance upon our 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

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For ________ Months*

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 06/08/23 10:11	Company: [signature]	Received by: [signature]	Date/Time: 6-9-23 9:10	Company: [signature]
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: [signature]

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-130727-/

Login Number: 140767
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
v adioactiwity s a' nlk chec<ed or i' =Rg bac<Tround a' mea' ured by a ' urwey meter.	NRA	
f he coolerlk cu' tody ' eal, ipSre' ent, i' intact.	f rue	
OamSle cu' tody ' eal' , ipSre' ent, are intact.	f rue	
f he cooler or ' amSle' do not aSSear to hawe been comSromi' ed or tamSered s ith.	f rue	
OamSle' s ere receiwed on ice.	f rue	
Cooler f emSerature i' acceStable.	f rue	
Cooler f emSerature i' recorded.	f rue	
CF C i' Sre' ent.	f rue	
CF C i' pilled out in in< and leTible.	f rue	
CF C i' pilled out s ith all Sertinent inpormation.	f rue	
I' the ?ield OamSlerlk name Sre' ent on CF C(	f rue	
f here are no di' creSancie' bets een the container' receiwed and the CF C.	f rue	
OamSle' are receiwed s ithin HoldinT f ime xe) cludinT te' t' s ith immediate Hf ' P	f rue	
OamSle container' hawe leTible label' .	f rue	
Container' are not bro<en or lea<inT.	f rue	
OamSle collection dateRime' are Srowided.	f rue	
ASSroSriate ' amSle container' are u' ed.	f rue	
OamSle bottle' are comSletely pilled.	f rue	
OamSle Vre' erwation qeripied.	f rue	
f here i' ' upicient wol. por all reMue' ted analy' e' , incl. any reMue' ted DORDOz '	f rue	
Container' reMuirinT 6ero head' Sace hawe no head' Sace or bubble i' =4mm x1R3"P.	f rue	
DultiSha' ic ' amSle' are not Sre' ent.	f rue	
OamSle' do not reMuire ' SlittinT or comSo' itinT.	f rue	
v e' idual Chlorine Chec<ed.	NRA	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-130727-/

Login Number: 140767
List Number: 3
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 0/ 9029 86 01:06 PM

Question	Answer	Comment
v adioactiwity s a' nlt chec<ed or i' =Rg bac<Tround a' mea' ured by a ' urwey meter.	f rue	
f he coolerl cu' tody ' eal, ipSre' ent, i' intact.	NRA	
OamSle cu' tody ' eal' , ipSre' ent, are intact.	NRA	
f he cooler or ' amSle' do not aSSear to hawe been comSromi' ed or tamSered s ith.	f rue	
OamSle' s ere receiwed on ice.	f rue	
Cooler f emSerature i' acceStable.	f rue	
Cooler f emSerature i' recorded.	f rue	/ .7c
CF C i' Sre' ent.	f rue	
CF C i' pilled out in in< and leTible.	f rue	
CF C i' pilled out s ith all Sertinent inpormation.	f rue	
I' the ?ield OamSlerl name Sre' ent on CF C(	NRA	v eceiwed Sroject a' a ' ubcontract.
f here are no di' creSancie' bets een the container' receiwed and the CF C.	f rue	
OamSle' are receiwed s ithin HoldinT f ime xe) cludinT te' t' s ith immediate Hf ' P	f rue	
OamSle container' hawe leTible label' .	f rue	
Container' are not bro<en or lea<inT.	f rue	
OamSle collection dateRime' are Srowided.	f rue	
ASSroSriate ' amSle container' are u' ed.	f rue	
OamSle bottle' are comSletely pilled.	f rue	
OamSle Vre' erwation qeripied.	NRA	
f here i' ' upicient wol. por all reMue' ted analy' e' , incl. any reMue' ted DORDOz '	f rue	
Container' reMuirinT 6ero head' Sace hawe no head' Sace or bubble i' =4mm x1R3"P.	f rue	
DultiSha' ic ' amSle' are not Sre' ent.	f rue	
OamSle' do not reMuire ' SlittinT or comSo' itinT.	f rue	
v e' idual Chlorine Chec<ed.	NRA	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Katherine Miller
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Generated 7/11/2023 10:08:52 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Outfall 018 - Grab

JOB NUMBER

570-140737-3

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

myEOL

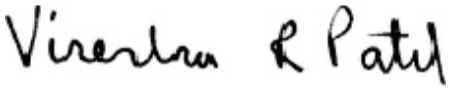
Eurofins Calscience

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization



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Authorized for release by
Virendra Patel, Project Manager I
Virendra.Patel@et.eurofinsus.com
(714)895-5494

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-140737-3
Project/Site: Boeing NPDES SSFL - Outfall 018 - Grab

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: 570-140737-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-140737-3

Comments
No additional comments.

Receipt
The samples were received on 6/7/2023 6:07 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 1.7º C, 1.8º C and 2.1º C.

Receipt Exceptions

The reference method requires samples to have a pH of <2. The following sample was received with a pH of 7: <Affected Samples>. The sample was adjusted to the appropriate pH in the laboratory.

RAD
Method 900.0: Gross Alpha Beta prep batch 160-617808:

The detection goal was not met for the following samples due to a reduction of the sample size attributed to high residual mass: Outfall018_20230607_Comp (570-140737-1) and (570-140737-S-1-J DU). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross Alpha Beta prep batch 160-617808:

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_20230607_Comp (570-140737-1), (LCS 160-617808/2-A), (LCSB 160-617808/3-A), (MB 160-617808/1-A), (570-140737-S-1-J DU), (570-140737-S-1-H MS) and (570-140737-S-1-I MSBT)

Method 901.1: Gamma prep batch 160-616082
The detection goal of 20 pCi/L was not met for Cs-137 for the following sample. An elevated MDC can occur when higher background counts are applied to a peak ROI. This is due to the relatively small size of the peak or subsequent “force-fit” of the non-existent peak which resulted in higher than normal background counts due to statistical fluctuations in the Compton baseline. The laboratory does not believe this adversely affects the data, the Cs-137 is well below the RL and MDC.

(570-140746-S-1-F)

Method 901.1: Gamma Prep Batch 160-616082
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

Job ID: 570-140737-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

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_20230607_Comp (570-140737-1), (570-140746-S-1-F) and (570-140746-S-1-G DU)

Methods 903.0, 9315: Radium-226 prep batch 160-615738:

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_20230607_Comp (570-140737-1), (LCS 160-615738/2-A), (LCSD 160-615738/3-A) and (MB 160-615738/1-A)

Methods 904.0, 9320: Radium-228 batch 615742
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_20230607_Comp (570-140737-1), (LCS 160-615742/2-A), (LCSD 160-615742/3-A) and (MB 160-615742/1-A)

Methods 905, SR-03-RC: Strontium-90 batch 615746
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_20230607_Comp (570-140737-1), (LCS 160-615746/2-A), (MB 160-615746/1-A), (380-50059-A-1-B) and (380-50059-B-1-B DU)

Method 906.0: Tritium 618528
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 decay corrected to sample date and time as the Activity Reference Date. Outfall018_20230607_Comp (570-140737-1), (LCS 160-618528/2-A), (MB 160-618528/1-A), (160-50325-G-1-A), (160-50325-G-1-B DU), (160-50325-G-3-A) and (160-50325-G-3-B MS)

Methods A-01-R, U-02-RC: Isotopic Uranium batch 615939
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_20230607_Comp (570-140737-1), (LCS 160-615939/2-A), (LCSD 160-615939/3-A) and (MB 160-615939/1-A)

Method ExtChrom:

Method ExtChrom: Uranium Prep Batch 160-615939:
Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: Outfall018_20230607_Comp (570-140737-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate

Job ID: 570-140737-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

batch precision.

Method PrecSep_0: Radium-228 Prep Batch 160-615742

The following sample was prepared at a reduced aliquot due to Matrix: Outfall018_20230607_Comp (570-140737-1). 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 160-615738

The following sample was prepared at a reduced aliquot due to Matrix: Outfall018_20230607_Comp (570-140737-1). 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:

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: 570-140737-3
Project/Site: Boeing NPDES SSFL - Outfall 018 - Grab

Client Sample ID: Outfall018_20230607_Comp
Lab Sample ID: 570-140737-1

No Detections.

This Detection Summary does not include radiochemical test results.

Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: f ut_all0124x0xO0W074Comp
Date Collected: 0W07(xO02:00
Date Received: 0W07(xO12:07

Lab Sample ID: 570-1307O7-1
Matri/ : 8 ater

Analyte	Result	T uali_ier	Count Qncert. αx+) (-F	&otal Qncert. αx+) (-F	RL	MDC	Qnit	Prepared	AnalyUed	Dil zac
p coGGdi2, y	-UPnC	4 p	UP31	UP3C	CP00	5P90	2I eSR	09SU7SUC 10:03	07S0CSUC 17:5C	1
p coGGgnHy	1PIC	4	0Ps15	0PsUU	3P00	1P33	2I eSR	09SU7SUC 10:03	07S0CSUC 17:5C	1

FOcofe GI yiGhent hn

Client Sample Results

I ient H:a yin& A dir ceh, . lt hP — Job ID: 570-1307C7-C

j co/nhHSBeH: gone NEj DFB BBLR- u CHfyii 01m- p cyb

Method: EPA 901.1 - Cesium 1C7 6 f ther Gamma Emitters cGSF

Client Sample ID: f ut_all0124x0xC0W074Comp — **Lab Sample ID: 570-1307C7-1**

Date Collected: 0W07(xO02:00 — **Matri/ : 8 ater**

Date Received: 0W07(xO12:07

Analyte	Result	T uali_ier	Count Qncert. cx+) (-F	&otal Qncert. cx+) (-F	RL	MDC	Qnit	Prepared	AnalyUed	Dil zac
I nGeC6 -1C7	1P03	4	10F7	10F7	U0P0	1CF7	2I eSR	09S13SUC 15:0U	09SU1SUC 13:C3	1
j oHyGeC6 -30	-1UF7	4	1U3	1U3		179	2I eSR	09S13SUC 15:0U	09SU1SUC 13:C3	1

Client Sample Results

I ient H:a yin& A dir ceh, . It hP — Job ID: 570-1307C7-C
j co/nhHSBeH: gone NEj DFB BBLR- u Chyii 01m- p cyb

Method: EPA 90Q0 - Radium-xxWcGz PCF

Client Sample ID: f ut_all0124x0xC0W074Comp — **Lab Sample ID: 570-1307C7-1**
Date Collected: 0W07(xO 02:00 — **Matri/ : 8 ater**
Date Received: 0W07(xO 12:07

Analyte	Result	T uali_ier	Count Qncert. (x+) (-F	&otal Qncert. (x+) (-F	RL	MDC	Qnit	Prepared	AnalyUed	Dil zac
8 yr eC6 -UU9	0P0919	4	0P107	0P10m	1P00	0P1m7	2I eSR	09S1CSUC 11:01	07S07SUC 1U:Cs	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*6. 9*		*30 - 110*	*04/13/83 11201*	*0: /0: /83 18235*	*1*

FCcofe GI yiGhent hn

Client Sample Results

I ient H:a yin& A dir oeh, . It hP — Job ID: 570-1307C7-C
j co/nhHSBeH: gonet NEj DFB BBLR- u Chyii 01m- p cyb

Method: EPA 903.0 - Radium-xx2 cGz PCF

Client Sample ID: f ut_all0124x0xO0W074Comp — **Lab Sample ID: 570-1307O7-1**
Date Collected: 0W07(xO02:00 — **Matri/ : 8 ater**
Date Received: 0W07(xO12:07

Analyte	Result	T uali_ier	Count Qncert. cx+) (-F	&otal Qncert. cx+) (-F	RL	MDC	Qnit	Prepared	AnalyUed	Dil zac
8 yr eC6 -UUm	0Pm11	4	0P9Us	0P9C3	1P00	0P3m1	2I eSR	09S1CSUC 11:1U	09SUsSUC 13:U3	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*6. 9*		*30 - 110*	*04/13/83 1121 8*	*04/85/83 1. 2B.*	*1*
Y Carrier	*689B*		*30 - 110*	*04/13/83 1121 8*	*04/85/83 1. 2B.*	*1*

FCcofet GI yiGhent hn

Client Sample Results

Method: EPA 905 - Strontium-90 oGz PCF

Client Sample ID: f ut_all0124x0xO0W074Comp
Lab Sample ID: 570-1307O7-1
Date Collected: 0W07(xO02:00
Matri/ : 8 ater
Date Received: 0W07(xO12:07

Analyte	Result	T uali_ier	Count Qncert. ox+) (-F	&otal Qncert. ox+) (-F	RL	MDC	Qnit	Prepared	AnalyUed	Dil zac
BHot HO6 -s0	0P00301	4	0PC51	0PC51	OP00	0P9C7	2I eSR	09SICSUC 11:1s	09SU1SUC 17:Om	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*6096*		*30 - 110*	*04/13/83 11215*	*04/81/83 1: 236*	*1*
Y Carrier	*6590*		*30 - 110*	*04/13/83 11215*	*04/81/83 1: 236*	*1*

Client Sample Results

Method: EPA 90W0 - &ritium, &otal dLSCF

Client Sample ID: f ut_all0124x0xC0W074Comp
Date Collected: 0W07(xO02:00
Date Received: 0W07(xO12:07

Lab Sample ID: 570-1307C7-1
Matri/ : 8 ater

Analyte	Result	T uali_ier	Count Qncert. cx+) (-F	&otal Qncert. cx+) (-F	RL	MDC	Qnit	Prepared	AnalyUed	Dil zac
TeHeC6	9CP1	4	19C	19C	500	Um5	2I eSR	07S0CSUC 0s:00	07S0CSUC 1mCC	1

FCcofet GI yiGhent hn

Client Sample Results

Method: Df E A-01-R - Isotopic Qranium oAlpha SpectrometryF

Client Sample ID: f ut_all0124x0xC0W074Comp
Lab Sample ID: 570-1307C7-1
Date Collected: 0W07(xO02:00
Matri/ : 8 ater
Date Received: 0W07(xO12:07

Analyte	Result	T uali_ier	Count Qncert. ox+) (-F	&otal Qncert. ox+) (-F	RL	MDC	Qnit	Prepared	AnalyUed	Dil zac
&otal Qranium	1.92		0F317	0F3C3	1F00	0F130	2I eSR	09S13SUC 11:U9	09SU0SUC 15:01	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
7 raUnu -838	*6: 9*		*30 - 110*	*04/1. /83 112834*	*04/80/83 1m201*	*1*

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)
570-140767-1	L OnHC01f G90960_07G3 omp	f 4,7
8 S 1_0-_1576f j1-&	8 i ncoA SCHeM	f 5,0

Tracer/Carrier Legend

SH k SH 3 Hddi d

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
570-140767-1	L OnHC01f G90960_07G3 omp	f 4,7	f 9,9
F3 / 1_0-_15749j9-&	FHb 3 oerdbC' HmpC	f _,f	71,f
F3 / D 1_0-_15749j6-&	FHb 3 oerdbC' HmpC DCp	79,f	75,=
8 S 1_0-_15749j1-&	8 i ncoA SCHeM	f 5,0	74,4

Tracer/Carrier Legend

SH k SH 3 Hddi d

Y k Y 3 Hddi d

Method: 905 - Strontium-90 (GFPC)

Matrix: Water **Prep Type: Total/NA**

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Sr (30-110)	Y (30-110)
570-140767-1	L OnHC01f G90960_07G3 omp	f 0,f	f =,0
F3 / 1_0-_1574_j9-&	FHb 3 oerdbC' HmpC	f 4,5	f =,0
8 S 1_0-_1574_j1-&	8 i ncoA SCHeM	f f ,7	=6,5

Tracer/Carrier Legend

/ dk / d3 Hddi d

Y k Y 3 Hddi d

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water **Prep Type: Total/NA**

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	U-232 (30-110)
570-140767-1	L OnHC01f G90960_07G3 omp	f 7,7
F3 / 1_0-_15=6=j9-&	FHb 3 oerdbC' HmpC	f 4,_
F3 / D 1_0-_15=6=j6-&	FHb 3 oerdbC' HmpC DCp	f 9,5
8 S 1_0-_15=6=j1-&	8 i ncoA SCHeM	=0,_

Tracer/Carrier Legend

U-969 k UdHelOm-969

QC Sample Results

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-614/ 0/ x1-A
MatriW P ater
Analysis Batch: 61/ 41/

Client Sample ID: Method Blank
Trep Nype: Notalx7 A
Trep Batch: 614/ 0/

Analyte	MB Result	MB QualiUer	Count z ncert. 8(2 σx+	Notal z ncert. 8(2 σx+	RL	MDC	z nit	Trepared	AnalyFed	Dil) ac
p coUUdi4, y	-0FC313	9	0F5C2	0F5CC	CP00	1F11	4I eR	0GS27S2C 10:03	07S0CS2C 17:52	1
p coUUgnHy	-0FC57C	9	0F0mm	0FCs0	3F00	0F7m2	4I eR	0GS27S2C 10:03	07S0CS2C 17:52	1

Lab Sample ID: LCS 160-614/ 0/ x(-A
MatriW P ater
Analysis Batch: 61/ 41/

Client Sample ID: Lab Control Sample
Trep Nype: Notalx7 A
Trep Batch: 614/ 0/

Analyte	Spike Added	LCS Result	LCS Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	f Rec	f Rec Limits
p coUUdi4, y	3sFG	3CFC0		GF77	CP00	2F33	4I eR	mm	75 - 125

Lab Sample ID: LCSB 160-614/ 0/ x%A
MatriW P ater
Analysis Batch: 61/ 41/

Client Sample ID: Lab Control Sample
Trep Nype: Notalx7 A
Trep Batch: 614/ 0/

Analyte	Spike Added	LCSB Result	LCSB Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	f Rec	f Rec Limits
p coUUgnHy	7CF0	GsF33		7F51	3F00	1F02	4I eR	s5	75 - 125

Lab Sample ID: C40-1E04%4-1 MS
MatriW P ater
Analysis Batch: 61/ 910

Client Sample ID: 3 utUall01/ &(0(%0604&Comp
Trep Nype: Notalx7 A
Trep Batch: 614/ 0/

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	f Rec	f Rec Limits
p coUUdi4, y	-2FmC	9 p	s0FG	77F5G		1CF0	CP00	5F1C	4I eR	mG	G0 - 130

Lab Sample ID: C40-1E04%4-1 MSBN
MatriW P ater
Analysis Batch: 61/ 4(4

Client Sample ID: 3 utUall01/ &(0(%0604&Comp
Trep Nype: Notalx7 A
Trep Batch: 614/ 0/

Analyte	Sample Result	Sample Qual	Spike Added	MSBN Result	MSBN Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	f Rec	f Rec Limits
p coUUgnHy	1F1C	9	1CC	1C0FC		13F1	3F00	1FsG	4I eR	s7	G0 - 130

Lab Sample ID: C40-1E04%4-1 Dz
MatriW P ater
Analysis Batch: 61/ 4(4

Client Sample ID: 3 utUall01/ &(0(%0604&Comp
Trep Nype: Notalx7 A
Trep Batch: 614/ 0/

Analyte	Sample Result	Sample Qual	Dz Result	Dz Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	R_R	R_R Limit
p coUUdi4, y	-2FmC	9 p	-0F0sG05	9 p	2FGC	CP00	5F0m	4I eR	0F53	1
p coUUgnHy	1F1C	9	2F31m		1F2m	3F00	1Fmm	4I eR	0F5s	1

Method: 901.1 - Cesium 1%4 5 3 ther Gamma _mitters 8GS+

Lab Sample ID: MB 160-6160/ (x1-A — **Client Sample ID: Method Blank**
MatriW P ater — **Trep Nype: Notalx7 A**
Analysis Batch: 6141(9 — **Trep Batch: 6160/ (**

Analyte	MB Result	MB QualiUer	Count z ncert. 8(2 ox+	Notal z ncert. 8(2 ox+	RL	MDC	z nit	Trepared	AnalyFed	Dil) ac
I nUe06 -1C7	-2P3Cm	9	1CP5	1CP5	20P0	13PC	4I eSR	0GS13S2C 15:02	0GS21S2C 13:CC	1
j ohyUUe06 -30	-CGP52	9	1CG	1C7		17C	4I eSR	0GS13S2C 15:02	0GS21S2C 13:CC	1

Lab Sample ID: LCS 160-6160/ (x(-A — **Client Sample ID: Lab Control Sample**
MatriW P ater — **Trep Nype: Notalx7 A**
Analysis Batch: 6141((— **Trep Batch: 6160/ (**

Analyte	Spike Added	LCS Result	LCS Qual	Notal z ncert. 8(2 ox+	RL	MDC	z nit	f Rec	f Rec Limits
d6 nche06 -231	1C5000	150G00		17s00		330	4I eSR	112	75 - 125
I nUe06 -1C7	30G00	Cs750		3750	20P0	13s	4I eSR	sm	75 - 125
I obyiHG0	17C00	17110		2050		m1P3	4I eSR	ss	75 - 125

Method: 90%0 - Radium-((6 8G) TC+

Lab Sample ID: MB 160-61C4% x1-A — **Client Sample ID: Method Blank**
MatriW P ater — **Trep Nype: Notalx7 A**
Analysis Batch: 619%0(— **Trep Batch: 61C4%**

Analyte	MB Result	MB QualiUer	Count z ncert. 8(2 ox+	Notal z ncert. 8(2 ox+	RL	MDC	z nit	Trepared	AnalyFed	Dil) ac
8 yr e06 -22G	0P0000	9	0P0350	0P0350	1P00	0P0sm8	4I eSR	0GS1CS2C 11:01	07S07S2C 12:CC	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*5670*		*30 - 110*	*04/13/83 11201*	*0: /0: /83 18233*	*1*

Method: 90E0 - Radium-((/ 8G) TC+

Lab Sample ID: MB 160-61C4E(x1-A — **Client Sample ID: Method Blank**
MatriW P ater — **Trep Nype: Notalx7 A**
Analysis Batch: 61/ %8E — **Trep Batch: 61C4E(**

Analyte	MB Result	MB QualiUer	Count z ncert. 8(2 ox+	Notal z ncert. 8(2 ox+	RL	MDC	z nit	Trepared	AnalyFed	Dil) ac
8 yr e06 -22m	0P2505	9	0P312	0P31C	1P00	0P70C	4I eSR	0GS1CS2C 11:12	0GS2sS2C 13:1G	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*5670*		*30 - 110*	*04/13/83 11218*	*04/8. /83 19214*	*1*
Y Carrier	*: 979*		*30 - 110*	*04/13/83 11218*	*04/8. /83 19214*	*1*

Lab Sample ID: LCS 160-61C4E(x(-A — **Client Sample ID: Lab Control Sample**
MatriW P ater — **Trep Nype: Notalx7 A**
Analysis Batch: 61/ %8E — **Trep Batch: 61C4E(**

Analyte	Spike Added	LCS Result	LCS Qual	Notal z ncert. 8(2 ox+	RL	MDC	z nit	f Rec	f Rec Limits
8 yr e06 -22m	mP0m	mP7s2		1PC1	1P00	0P5ss	4I eSR	10s	75 - 125

QC Sample Results

Method: 90E0 - Radium-((/ 8G) TC+8Continued+

Lab Sample ID: LCS 160-61O4E(x(-A — **Client Sample ID: Lab Control Sample**
MatriW P ater — **Trep Nype: Notalx7 A**
Analysis Batch: 61/ %8E — **Trep Batch: 61O4E(**

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	*547.5*		*30 - 110*
Y Carrier	*: 17.5*		*30 - 110*

Lab Sample ID: LCSD 160-61O4E(x%A — **Client Sample ID: Lab Control Sample Dup**
MatriW P ater — **Trep Nype: Notalx7 A**
Analysis Batch: 61/ %8E — **Trep Batch: 61O4E(**

Analyte	Spike Added	LCSD Result	LCSD Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	f Rec	f Rec Limits	R_R	R_R Limit
8 yr eC6 -22m	mP0m	sP5ms		1P3G	1P00	0PG m8	4I eSR	11s	75 - 125	0P2s	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	*: 87.5*		*30 - 110*
Y Carrier	*: 67.*		*30 - 110*

Method: 90O - Strontium-90 8G) TC+

Lab Sample ID: MB 160-61O4E6x1 -A — **Client Sample ID: Method Blank**
MatriW P ater — **Trep Nype: Notalx7 A**
Analysis Batch: 614160 — **Trep Batch: 61O4E6**

Analyte	MB Result	MB QualiUer	Count z ncert. 8(2 σx+	Notal z ncert. 8(2 σx+	RL	MDC	z nit	Trepared	AnalyFed	Dil) ac
BHot HC6 -s0	-0P1012	9	0P13s	0P13s	CP00	0P2mm	4I eSR	0GS1CS2C 11:1s	0GS21S2C 17:CC	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Sr Carrier	*557.*		*30 - 110*	*04/13/83 112l.*	*04/81/83 1: 233*	*1*
Y Carrier	*. 37.6*		*30 - 110*	*04/13/83 112l.*	*04/81/83 1: 233*	*1*

Lab Sample ID: LCS 160-61O4E6x(-A — **Client Sample ID: Lab Control Sample**
MatriW P ater — **Trep Nype: Notalx7 A**
Analysis Batch: 614160 — **Trep Batch: 61O4E6**

Analyte	Spike Added	LCS Result	LCS Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	f Rec	f Rec Limits
BHot HC6 -s0	7PC1	GPC13		0P72G	CP00	0P2m5	4I eSR	mG	77 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Sr Carrier	*597.6*		*30 - 110*
Y Carrier	*5. 70*		*30 - 110*

Method: 906.0 - Nritium, Notal 8LSC+

Lab Sample ID: MB 160-61/ Q(/ x1-A | **Client Sample ID: Method Blank**
MatriW P ater | **Trep Nype: Notalx7 A**
Analysis Batch: 61/ OO% | **Trep Batch: 61/ Q(/**

Analyte	MB Result	MB QualiUer	Count z ncert. 8(2 σx+	Notal z ncert. 8(2 σx+	RL	MDC	z nit	Trepared	AnalyFed	Dil) ac
TeHO6	1ssP5	9	177	17m	500	2m2	4I 6R	07S0CS2C 0s:00	07S0CS2C 17:3m	1

Lab Sample ID: LCS 160-61/ Q(/ x(-A | **Client Sample ID: Lab Control Sample**
MatriW P ater | **Trep Nype: Notalx7 A**
Analysis Batch: 61/ OO% | **Trep Batch: 61/ Q(/**

Analyte	Spike Added	LCS Result	LCS Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	f Rec	f Rec Limits
TeHO6	20G0	1s25		C5m	500	2mG	4I 6R	sC	75 - 125

Method: A-01-R - Isotopic z ranium 8Alpha Spectrometry+

Lab Sample ID: MB 160-61O9%9x1-A | **Client Sample ID: Method Blank**
MatriW P ater | **Trep Nype: Notalx7 A**
Analysis Batch: 616/ 10 | **Trep Batch: 61O9%9**

Analyte	MB Result	MB QualiUer	Count z ncert. 8(2 σx+	Notal z ncert. 8(2 σx+	RL	MDC	z nit	Trepared	AnalyFed	Dil) ac
ToHyi 9 cyt eO6	0P03s55	9	0P0sm5G	0P0smGC	1P00	0P1G5	4I 6R	0GS13S2C 11:2G	0GS20S2C 05:2C	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-838	*. 074*		*30 - 110*	*04/19/83 11284*	*04/80/83 06283*	*1*

Lab Sample ID: LCS 160-61O9%9x(-A | **Client Sample ID: Lab Control Sample**
MatriW P ater | **Trep Nype: Notalx7 A**
Analysis Batch: 616/ 11 | **Trep Batch: 61O9%9**

Analyte	Spike Added	LCS Result	LCS Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	f Rec	f Rec Limits
9 cyt eO6 -2C3	12P7	1CP11		1P51	1P00	0P12G	4I 6R	10C	75 - 125
9 cyt eO6 -2Om	1CP0	11P37		1P31	1P00	0P0sC5	4I 6R	s2	75 - 125

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-838	*5974*		*30 - 110*

Lab Sample ID: LCSD 160-61O9%9x%A | **Client Sample ID: Lab Control Sample Dup**
MatriW P ater | **Trep Nype: Notalx7 A**
Analysis Batch: 616/ 1(| **Trep Batch: 61O9%9**

Analyte	Spike Added	LCSD Result	LCSD Qual	Notal z ncert. 8(2 σx+	RL	MDC	z nit	f Rec	f Rec Limits	R_R	R_R Limit
9 cyt eO6 -2C3	12P7	12P57		1P51	1P00	0P157	4I 6R	ss	75 - 125	0P1m	1
9 cyt eO6 -2Om	1CP0	1CP17		1P5G	1P00	0P1C1	4I 6R	101	75 - 125	0P31	1

Tracer	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Uranium-838	*5876*		*30 - 110*

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Prep Batch: 615738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140737-1	Outfall018_20230607_Comp	Total/NA	Water	PrecSep-21	
MB 160-615738/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Prep Batch: 615742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140737-1	Outfall018_20230607_Comp	Total/NA	Water	PrecSep_0	
MB 160-615742/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-615742/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-615742/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 615746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140737-1	Outfall018_20230607_Comp	Total/NA	Water	PrecSep-7	
MB 160-615746/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-615746/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	

Prep Batch: 615939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140737-1	Outfall018_20230607_Comp	Total/NA	Water	ExtChrom	
MB 160-615939/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-615939/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
LCSD 160-615939/3-A	Lab Control Sample Dup	Total/NA	Water	ExtChrom	

Prep Batch: 616082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140737-1	Outfall018_20230607_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-616082/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-616082/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	

Prep Batch: 617808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140737-1	Outfall018_20230607_Comp	Total/NA	Water	Evaporation	
MB 160-617808/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-617808/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-617808/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-140737-1 MS	Outfall018_20230607_Comp	Total/NA	Water	Evaporation	
570-140737-1 MSBT	Outfall018_20230607_Comp	Total/NA	Water	Evaporation	
570-140737-1 DU	Outfall018_20230607_Comp	Total/NA	Water	Evaporation	

Prep Batch: 618528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140737-1	Outfall018_20230607_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-618528/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-618528/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	

Lab Chronicle

Client: Haley & Aldrich, Inc.
j ro/ectSite: goeinNEj DFB BBLR- u Ctfall 01m- p rab

Job ID: 570-1307P7-P

Client Sample ID: Outfall02_36067050- 3Comp

Date Collecte/ : 058 0- 867 0_:00
Date Receive/ : 058 0- 867 2_:0-

Lab Sample ID: 1- 042M0- 7- 42

x atriW d ater

Prep Type	Batch Type	Batch x etho/	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepare/ or Analyze/	Analyst	Lab
2otalSEA	j rev	FMavoration			10s.3s 9 R	1.0 N	617m0m	06S87SSP 10:03	T B2	FF2 BR
2otalSEA	AnalyGGG	s00.0		1			61m71m	07S0PSSP 17:5P	LRC	FF2 BR
	InGrC9 ent ID:	p Lj Cj U_j RF								
2otalSEA	j rev	Lill4p eo-0			1000 9 R	1.0 N	6160m8	06S13SSP 15:08	AJj	FF2 BR
2otalSEA	AnalyGGG	s01.1		1			61718m	06S81SSP 13:P3	CAH	FF2 BR
	InGrC9 ent ID:	p AT T AVIBlu E								
2otalSEA	j rev	j recBev-81			756.3P 9 R	1.0 N	6157Pm	06S1PSSP 11:01	KAC	FF2 BR
2otalSEA	AnalyGGG	s0P.0		1	1.0 9 R	1.0 9 R	61s866	07S07SSP 18:Ps	BCg	FF2 BR
	InGrC9 ent ID:	p Lj Cj U_j RF								
2otalSEA	j rev	j recBev40			756.3P 9 R	1.0 N	615738	06S1PSSP 11:18	KAC	FF2 BR
2otalSEA	AnalyGGG	s03.0		1			61mPP6	06S8sSSP 13:83	LRC	FF2 BR
	InGrC9 ent ID:	p Lj CgRUF								
2otalSEA	j rev	j recBev-7			3s8.P7 9 R	1.0 N	615736	06S1PSSP 11:1s	KAC	FF2 BR
2otalSEA	AnalyGGG	s05		1			617000	06S81SSP 17:Pm	LRC	FF2 BR
	InGrC9 ent ID:	p Lj C_FD								
2otalSEA	j rev	RBC4DiG4BOGv			100.10 9 R	1.0 N	61m58m	07S0PSSP 0s:00	DJj	FF2 BR
2otalSEA	AnalyGGG	s06.0		1			61m55P	07S0PSSP 1mPP	_FV	FF2 BR
	InGrC9 ent ID:	RBC2FAR								
2otalSEA	j rev	FxtChro9			500.P 9 R	1.0 9 R	615sPs	06S13SSP 11:86	BFH	FF2 BR
2otalSEA	AnalyGGG	A-01-_		1			616mmP	06S80SSP 15:01	LRC	FF2 BR
	InGrC9 ent ID:	ARj HAVIBlu E								

Laboratory References:

FF2 BR= FCrofinGBt. RoCIG; 1P715 _ider 2rail Eorth, Farth City, T u 6P035, 2FR(P13)8sm-m566

FCrofinGCalGcience

7/11/2023

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-140767-6

3roRectj/ ite: SoeinB g 3DN/ / / EF - L Ctuall 01f - 2 rab

Laboratory: Eurofins Stl Louis

All accreditationGjcertiucationGheld by thiGlaboratory are liGted. g ot all accreditationGjcertiucationGare asslicable to thiGresort.

Authority	Program	Identification Number	Expiration Date
AlaGpa k(/ UT	/ tate	) 0-001	05-0z-) 5
Ag AS	Dest. ouDeuenGe NFA3	F) 605	04-0z-) 5
Ag AS	Dest. ouNnerBy	F) 605.01	04-0z-) 5
Ag AS	I/ L jINC 170) 5	F) 605	04-0z-) 5
AriZona	/ tate	A80f 16	1) -0f -) 6
Caliuornia	FoGAnBeleGCoOnty / anitation DiGtrictG	10) 59	0z-60-)) *
Caliuornia	/ tate	) f f z	0z-60-) 6 *
ConnecticOt	/ tate	3H-0) 41	06-61-) 5
Elorida	g NFA3	Nf 7zf 9	0z-60-) 4
HI - RadChem RecoBnition	/ tate	nja	0z-60-) 6 *
IllinoiG	g NFA3	) 000) 6	11-60-) 6
Iowa	/ tate	676	1) -01-) 4
KanGaG	g NFA3	N-10) 6z	10-61-) 6
KentOcpy kDWT	/ tate	KY901) 5	1) -61-) 6
KentOcpy kWWT	/ tate	KY901) 5 k3ermit KY0004049T	1) -61-) 6
FoOGana	g NFA3	040f 0	0z-60-)) *
FoOGana kAllT	g NFA3	040f 0	0z-60-) 4
FoOGana kDWT	/ tate	FA011	1) -61-) 6
Maryland	/ tate	610	09-60-) 6
MI - RadChem RecoBnition	/ tate	9005	0z-60-) 6 *
MiGGoOri	/ tate	7f 0	0z-60-) 5
g evada	/ tate	ML 00054) 0) 0-1	07-61-) 6
g ew JerGey	g NFA3	ML 00)	0z-60-) 4
g ew Yorp	g NFA3	11z1z	06-61-) 4
g orth Carolina kDWT	/ tate	) 9700	07-61-) 6
g orth Dapota	/ tate	R-) 07	0z-60-) 6 *
L plahoma	g NFA3	9997	0f -61-) 6
L reBon	g NFA3	4157	09-01-) 6
3ennGylvania	g NFA3	zf -00540	0) -) f -) 4
/ oOth Carolina	/ tate	f 500) 001	0z-60-) 6 *
UexaG	g NFA3	U104704196	07-61-) 6
(/ EiGh & Wildliue	(/ Eederal 3roBramG	05f 44f	07-61-) 6
(/ DA	(/ Eederal 3roBramG	3660-17-000) f	05-1f -) z
(tah	g NFA3	ML 00054) 0) 1-14	07-61-) 6
VirBinia	g NFA3	10610	0z-15-) 5
WaGhinBton	/ tate	C59)	0f -60-) 6
WeGt VirBinia DN3	/ tate	6f 1	10-61-) 6

* AccreditationjCertiucation renewal sendinB - accreditationjcertiucation conGdered valid.

NOrouinGCalGcience

Method Summary

I ient H:a yin& A dir oeh, . It hP　　　　Job ID: 570-1307C7-C
j oo/nhHSBeH: gonet NEj DFB BBLR- u CHyii 01m- p oyb

Method	Method Description	Protocol	Laboratory
900P0	p ooGGdis, y yt r p ooGGgnHy v yr eoyhHeTeH&	Fj d	FF(BR
901P1	I nGeO) 1C7 A u H,ncp y)) y F) eHHoG2p B6	Fj d	FF(BR
90CP0	v yr eO) -448 2p Lj I 6	Fj d	FF(BR
903P0	v yr eO) -44m2p Lj I 6	Fj d	FF(BR
905	BHot HeO) -90 2p Lj I 6	Fj d	FF(BR
908P0	(oeHeO) . (oHyi 2RBI 6	Fj d	FF(BR
d-01-v	IGoHosen UoytеO) 2dis, y BsnhHo) nHe&6	Du F	FF(BR
FTysooyHeot	j onsyoyHeot . FTysooyHeot	Eot n	FF(BR
FxHI , oo)	j onsyoyHeot . FxHoyhHeot I , oo) yHoNoys, & v nGet dhHet en BnsyoyHeot	Eot n	FF(BR
Leii_p no-0	Leii p no) nHe&. Eo It -p oowH,	Eot n	FF(BR
RBI _DeGH_BOGs	DeGHeiyHeot yt r BOGsnt Geot 2RBI 6	Eot n	FF(BR
j onhBns_0	j onsyoyHeot . j onhesetyHn BnsyoyHeot	Eot n	FF(BR
j onhBns-41	j onsyoyHeot . j onhesetyHn BnsyoyHeot 241-Dy& It -p oowH,6	Eot n	FF(BR
j onhBns-7	j onsyoyHeot . j onhesetyHn BnsyoyHeot 27-Dy& It -p oowH,6	Eot n	FF(BR

Protocol References:

Du F = UPBPDnsydH nt Hof Ft ndN&

Fj d = UB Ft Teot) nt Hyi j oHhHeot dNnt h&

Eot n = Eot n

Laboratory References:

FF(BR= FOoofet GBHPRoOsG 1C715 v er nc(oyei EodH. FydH, I eH&. Mu 8C035. (FR2C136 49m-m588

FOoofet GI yiGhent hn

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-140767-6
Project/Site: Boeing NPDES SSFL - Outfall 012 - Grab

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-140767-1	Outfall012_30360m07_Cop W	8 ater	0m/07/36 02:00	0m/07/36 12:07

140737

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 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 **ECI Project # 57013187**	**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: Adrien Mobeka	

									ANALYSIS REQUIRED															
									R	R	R	R	R	R	R/EP	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: (E200.8): Zn, Al (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, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N	Turbidity, TDS (SM2540C/E180.1)	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)	Perchlorate (331.0)			Comments
Outfall 018	Outfall018_20230607_Comp	6/7/2023 0800	WM	500 mL Poly	1	HNO_3	90	Yes	X										X					
			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	130	No												X				
			WM	500 mL Poly	1	None	150	No						X										48 hours 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_20230607_Comp_Extra	6/7/2023 0800	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, EP=Expert Panel, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
[signature]	6-7-2023/1100	M:A	[signature]	6/7/23 1106	EC
Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
[signature]	6/7/23 1807	EC	[signature]	6/7/23 1807	
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__

1.9/2.1 1.5/1.7 1.6/1.8 SC6

570-140737 Chain of Custody

2019-2020 Rainy Season
Version 5

7/11/2023

140737

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

									R	R	R	R	R	QRSW	QRSW	QRSW	C/EP							
Client Name/Address: Haley & Aldrich, 5333 Mission Center Rd Suite 300, San Diego, CA 92108				Project: Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 018 Comp					ANALYSIS REQUIRED															
Eurofins Calscience Irvine Contact: Virendra Patel, 2841 Dow Avenue, Suite 100, Tustin, CA 92780, Tel: 949-260-3218				Project Manager: Katherine Miller					Total Dissolved Metals: (E200.8): Zn, Al (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)		Total Dissolved Metals: Mercury (E245.1)								
ECI Project # 57013187				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																				
Sampler: Adrien Mobeka				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 018	Outfall018_20230607_Comp_F	6/7/2023 /0800	WM	1L Poly	1	None	200	Yes	X															
			WM	borosilicate vials	2	None	320	No				X												
	Outfall018_20230607_Comp	6/7/2023 /0800	WM	500 mL Poly	1	NaOH	220	No		X														
			WM	2.5 Gal Cube	1	None	225	No			X													
			WM	1 L Glass Amber	1	None	230	No																

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
[signature]	6.7.2023	1100 H.A	[signature]	6/7/23	1100 EC
[signature]	6/7/23	1807 EC	[signature]	6/7/23	1807
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__

2019-2020 Rainy Season
Version 5

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-232764.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - California; State Program - California		Job #: 570-140737-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 7/11/2023			
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 018 - Grab	Project #: 57013187			
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, Y - Trizma, 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_20230607_Comp (570-140737-1)	6/7/23	08:00 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 Calscience places the ownership of method, analyte & accreditation compliance upon our 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
	06/08/23 10:12	EC	Fedex		
Relinquished by: Fedex	Date/Time:	Company	Received by: Briana Sharbey - Hanover	Date/Time: 6/9/23 0910	Company EASTC
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

7/11/2023

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-130767-6

Login Number: 140767
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 <4mm (1/3").	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: 570-130767-6

Login Number: 140767
List Number: 6
Creator: Sharkey-Gonzalez, Briana L

List Source: Eurofins St. Louis
List Creation: 0/ 9/2023 6 0/ :56 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 <4mm (1/3").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Haley & Aldrich, Inc.
600 South Meyer Ave
Suite 100
Tucson, AZ 85701
520.289.8621

Data Usability Summary Report

Project Name: The Boeing Company, Santa Susana Field Laboratory

Project Description: Second Quarter 2023, Water Samples

Sample Date(s): 5 April 2023

Analytical Laboratory: Eurofins Calscience Environmental Laboratories, Inc. – Tustin, CA

Validation Performed by: Kristina Ilina

Validation Reviewed by: Vanessa Godard

Validation Date: 22 June 2023

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. This DUSR is organized into the following sections:

1. **Sample Delivery Group 570-133757-1 (Level IV)**
2. **Explanations**
3. **Glossary**
4. **Abbreviations**
5. **Qualifiers**

References

This data validation and usability assessment was performed per the guidance and requirements established by the United States Environmental Protection Agency (USEPA) using the following reference materials:

- National Functional Guidelines (NFG) for Organic 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 method detection limit (MDL). Results found between the MDL and 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 (DQO) for the project and therefore usable; any exceptions are noted in the following pages.

1. Sample Delivery Group 570-133757-1 (Level IV)

1.1 SAMPLE MANAGEMENT

This DUSR summarizes the review of SDG number 570-133757-1, dated 30 May 2023.

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.

Analyses were performed on the following samples:

Sample ID	Sample Type	Lab ID	Sample Date	Matrix	Methods
Outfall001_20230405_Comp	N	570-133757-1	04/05/2023	WM	A

Method Holding Times			
A.	E608.3	Organochlorine Pesticides and Polychlorinated Biphenyls (PCBs) by Gas Chromatograph/H (GC/HSD)	14 days extraction / 40 days analysis for liquid, unpreserved

1.2 CASE NARRATIVE

The laboratory report case narrative lists various quality control exceedances (e.g., continuing calibration blank) not evaluated by this review thus, no qualifiers were applied to the reported results. However, the laboratory did note the following:

- Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD). The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. No qualification required.

1.3 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.

1.4 REPORTING LIMITS AND SAMPLE DILUTIONS

The RLs for the samples within this SDG met or were below the minimum RL requirements specified by the project specific QAPP.

1.5 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 quality control (QC) limits.

1.6 LABORATORY CONTROL SAMPLES

Refer to section E 1.3. Compounds associated with the laboratory control samples/laboratory control sample duplicates (LCS/LCSD) analyses associated with client samples exhibited recoveries and relative percent differences (RPDs) within the specified limits.

1.7 MATRIX SPIKE SAMPLES

Refer to section E 1.4. The laboratory did not analyze any matrix spike/matrix spike duplicate (MS/MSD) analysis in this SDG.

1.8 BLANK SAMPLE ANALYSIS

Refer to section E 1.5. Method blank samples had no detections, indicating that no contamination from laboratory activities occurred. The analysis of the blank samples for field quality control was free of target compounds.

1.9 DUPLICATE SAMPLE ANALYSIS

Refer to section E 1.6. The laboratory did not analyze any laboratory duplicates as per the method or laboratory SOP.

1.10 PRECISION AND ACCURACY

Refer to section E 1.7. Where required by the method, some measurement of analytical accuracy and precision was reported for each method with the site samples.

1.11 CONFIRMATION COLUMN REVIEW

Refer to section E 1.8. All relative percent differences (RPD) were within control limits.

1.12 INITIAL AND CONTINUING CALIBRATION VERIFICATION

Refer to section E 1.21. RRFs and the Percent Difference (%D) were reported and were within the specified limits with the following exceptions:

- If a compound in the continuing calibration validation (CCV) did not meet the specified limits, but no client samples were analyzed for that compound in the associated time bracket, data was not qualified.

1.13 INTERNAL STANDARDS

Refer to section E 1.22. Percent relative intensity were reviewed and found to be within the specified limits.

1.14 SAMPLE RESULT VERIFICATION

A portion of the sample result(s) were tracked through the relevant sample preparation steps, raw data outputs, transcriptions, conversions and/or calculations and have been confirmed to be accurate and representative of the sample conditions.

1.15 SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

The results presented in this report were found to comply with the DQOs for the project and the guidelines specified by the analytical method. Based on the review of this report, the data are useable and acceptable as no data was rejected. A summary of qualifiers applied to this data set is shown below.

Sample ID	Method	Analyte	Result	Validation Qualifier	Validation Note
Outfall001_20230405_Comp	E608.3	4,4'-DDT	0.0021	J	DNQ

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.
- 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.
- 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.
  - Field blanks are prepared to identify contamination that may have been introduced during field activity. Equipment blanks are prepared to identify contamination that may have been introduced while decontaminating sampling equipment. Trip blanks are prepared when volatile analysis is requested to identify contamination that may have been introduced during transport.
- 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.
  - The field duplicate sample analysis is used to assess the precision of the field sampling procedures and analytical method. The relative percent difference (RPD) or absolute difference was evaluated for each duplicate sample pair to monitor the reproducibility of the data.

- E 1.7 Precision and Accuracy
  - Precision measures the reproducibility of repetitive measurements. In a laboratory environment, this will be measured by determining the relative percent difference (RPD) found between a primary and a duplicate sample. This can be an LCS/LCSD pair, a MS/MSD pair, a laboratory duplicate performed on a site sample, or a field duplicate collected and analyzed concurrently with a site sample.
  - Accuracy is a statistical measurement of the correctness of a measured value and includes components of random error (variability caused by imprecision) and systematic error. In a laboratory environment, this will be measured by determining the percent recovery (%R) of certain spiked compounds. This can be assessed using LCS, blank spike (BS), MS, and/or surrogate recoveries.
- E 1.8 Confirmation Column Review
  - When analyzing for pesticides and polychlorinated biphenyls (PCB), compound identification based on single-column analysis should be confirmed on a second column or supported by at least one other qualitative technique. When confirmed on a second column, the relative percent difference (RPD) should not exceed 40 percent.
- E 1.21 Initial and Continuing Calibration Verification
  - Organic methods require an additional ICV and CCV to ensure that the instrument continues to meet the sensitivity and linearity criteria to produce acceptable qualitative and quantitative data throughout each analytical sequence. CCVs must be run at the beginning and end of every 12-hour period of operation.
  - Inorganic methods require an ICV and CCV to ensure that the instrument continues to meet the sensitivity and linearity criteria to produce acceptable qualitative and quantitative data throughout each analytical sequence. Initial calibrations must be run each time the instrument is set up and after each CCV failure. ICVs are analyzed immediately after initial calibration to verify ICAL accuracy, and CCVs are analyzed every two hours during an analytical sequence. %R is reported and must be within the specified limits (90 to 110 percent).
- E 1.22 Internal Standards
  - Internal standards are compounds added to each sample by the laboratory prior to metals sample analysis to ensure that instrument sensitivity and response are stable during each analysis.
  - Internal standards are compounds added to each sample by the laboratory prior to metals sample analysis to ensure that instrument sensitivity and response are stable during each analysis. The lab uses a single internal standard to make sure they are getting good intake of the sample into the instrument. Corrections are not made to any of the elements' responses based on this standard.

3. Glossary

Not all of the following symbols, acronyms, or qualifiers occur in this document.

- Sample Types:
  - EB Equipment Blank Sample
  - FB Field Blank Sample
  - FD Field Duplicate Sample
  - N Primary Sample
  - TB Trip Blank Sample
- Units:
  - % SURVIVAL percent survival
  - µg/L microgram per liter
  - mg/kg milligrams per kilogram
  - mg/L milligram per liter
  - mL/L milliliters per liter
  - mpn/100mL most probable number per 100 milliliters
  - NTU nephelometric turbidity unit
  - pCi/L picocuries per liter
  - umhos/cm micromhos per centimeter
- Matrices:
  - WM Stormwater
  - WMQ Water Quality control matrix
- Table Footnotes:
  - NA Not applicable
  - ND Non-detect
  - NR Not reported
- Common Symbols:
  - % percent
  - < less than
  - ≤ less than or equal to
  - > greater than
  - ≥ greater than or equal to
  - = equal
  - °C degrees Celsius
  - ± plus or minus
  - ~ approximately
  - x times (multiplier)
- Fractions:
  - D Dissolved (filtered)
  - N Normal (method cannot be filtered)
  - T Total (unfiltered)

4. Abbreviations

%D	Percent Difference
%R	Percent Recovery
%RSD	Percent Relative Standard Deviation
2s	2 sigma
4,4-DDT	4 4-dichlorodiphenyltrichloroethane
Abs Diff	Absolute Difference
amu	atomic mass unit
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
DQO	data quality objective
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
MDC	Minimum Detectable Concentration
MDL	Laboratory Method Detection Limit
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NFG	National Functional Guidelines
NH_3	Ammonia
PCB	Polychlorinated Biphenyl
PDS	Post Digestion Spike
PEM	Performance Evaluation Mixture
QAPP	Quality Assurance Project Plan
QC	Quality Control
QSM	Quality Systems Manual
R^2	R-squared value
Ra-226	Radium-226
Ra-228	Radium-228
RESC	Resolution Check Measure
RER	Relative Error Ratio
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
amu	atomic mass unit
USEPA	U.S. Environmental Protection Agency
VOC	Volatile Organic Compounds

5. Qualifiers

The qualifiers below are from the USEPA National Functional Guidelines and the data in the DUSR may contain these qualifiers:

- Laboratory Qualifiers:

BA	Relative percent difference out of control.
BU	Analyzed out of holding time.
BV	Sample received after holding time expired.
EY	Result exceeds normal dynamic range; reported as a minimum estimate.
F1	MS and/or MSD recovery exceeds control limits.
G	The Sample MDC is greater than the requested RL.
J,DX	Results found between the EDL or MDL and laboratory RL.
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS).
LN	MS and/or MSD below acceptance limits. See Blank Spike (LCS).
LQ	LCS/LCSD recovery above method control limits.
MB	Analyte present in the method blank.
PI	Primary and confirm results varied by > than 40% RPD.
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.
U	Result is less than the sample detection limit.

- Validation Notes:

--	Based on validation of the data, a qualifier was not required.
*1	Improper preservation of sample.
*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).
E	Duplicates show poor agreement.
H	Holding times were exceeded.
L1	Laboratory control standard (LCS)/laboratory control standard duplicate (LCSD), relative percent difference (RPD) was outside the control limit.
Q	Matrix spike (MS) recovery outside of control limits.
RPD	Pesticides and PCB Confirmation Column RPD Exceeded.

- Validation Qualifiers:

=	No Qualifier.
J	The compound was positively identified; however, the associated numerical value is an estimated concentration only.
J-	The result is an estimated quantity, but the result may be biased low.
J+	The result is an estimated quantity, but the result may be biased high.
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.

References

1. United States Environmental Protection Agency (USEPA), 2020a. National Functional Guidelines for Inorganic Superfund Methods Data Review. EPA-542-R-20-006. November 2020.
2. USEPA, 2020b. National Functional Guidelines for Organic Superfund Methods Data Review. EPA-540-R-20-005. November 2020.
3. Haley & Aldrich, Inc, 2015. Quality Assurance Project Field Plan for Santa Susana Field Laboratory Stormwater Sampling Program. December.

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Data Usability Summary Report

Project Name: The Boeing Company, Santa Susana Field Laboratory, NPDES

Project Description: Dioxin/Furan Stormwater Samples

Sample Date(s): 5 April through 7 June 2023

Analytical Laboratory: Eurofins Calscience, Tustin, CA

Validation Performed by: Sean Fischer

Validation Reviewed by: Vanessa Godard

Validation Date: 5 July 2023

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. This DUSR is organized into the following sections:

1. **570-133752-2, 570-133757-2, 570-137456-2, 570-140737-2, 570-140746-2**
2. **Explanations**
3. **Glossary**
4. **Abbreviations**
5. **Qualifiers**

References

This data validation and usability assessment was performed per the guidance and requirements established by the United States Environmental Protection Agency (USEPA) using the following reference materials:

- 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 (DQO) for the project and therefore usable; any exceptions are noted in the following pages.

1. 570-133752-2, 570-133757-2, 570-137456-2, 570-140737-2, 570-140746-2

1.1 SAMPLE MANAGEMENT

This DUSR summarizes the review of SDG numbers:

- 570-133752-2, dated 19 April 2023
- 570-133757-2, dated 19 April 2023
- 570-137456-2, dated 25 May 2023
- 570-140737-2, dated 26 June 2023
- 570-140746-2, dated 26 June 2023

Samples were collected, preserved, and shipped following standard chain of custody (COC) protocol.

- Method E1613B subcontracted to Eurofins Sacramento in West Sacramento, California.

Samples were also received appropriately, identified correctly, and analyzed according to the COC. Issues noted with sample management are listed below:

Analyses were performed on the following samples:

Sample ID	Sample Type	Lab ID	Sample Date	Matrix	Methods
Outfall011_20230405_Comp	N	570-133752-1	04/05/2023	WM	A
Outfall001_20230405_Comp	N	570-133757-1	04/05/2023	WM	A
Outfall002_20230505_Comp	N	570-137456-1	05/05/2023	WM	A
Outfall018_20230607_Comp	N	570-140737-1	06/07/2023	WM	A
Outfall002_20230607_Comp	N	570-140746-1	06/07/2023	WM	A

Method Holding Times			
A.	EPA 1613B	Dioxins/Furans*	1 year, unpreserved

Method E1613B subcontracted to Eurofins Sacramento in West Sacramento, California

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
EPA 1613B	Water	1 year, unpreserved	Cool to ≤ 4 °C	The reference method requires samples to have a pH of <2. The following sample was received with a pH of 7: Outfall002_20230607_Comp. The sample was adjusted to the appropriate pH in the laboratory. No qualification required.

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 quality control (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 associated with client samples exhibited recoveries and relative percent differences (RPDs) within the specified limits.

1.5 MATRIX SPIKE SAMPLES

Refer to section E 1.4. The laboratory did not analyze any matrix spike/matrix spike duplicate (MS/MSD) analyses in these SDGs.

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 exceptions listed in Table 1.

1.7 DUPLICATE SAMPLE ANALYSIS

Refer to section E 1.6. The laboratory did not analyze any laboratory duplicates as per the method or laboratory SOP. No field duplicates were collected in this data set.

1.8 PRECISION AND ACCURACY

Refer to section E 1.7. Where required by the method, some measurement of analytical accuracy and precision was reported for each method with the site samples.

1.9 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. No EMPC flags separate from method blank contamination were reported by the laboratory.

1.10 COMPOUND IDENTIFICATION

The second-column confirmation analysis for isomer 2,3,7,8-TCDF did not confirm the initial result for samples listed below. 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.

SDG #	Sample ID	Analysis Date/Time	Analyte	Qualification
5701337522	Outfall011_ 20230405_Comp	4/17/2023 7:38 PM	2,3,7,8-TCDF	The laboratory reanalyzed the sample due to Calibration Curve Exceedance. The original results are marked non-reportable and the reanalysis results are accepted.
5701337572	Outfall001_ 20230405_Comp	4/17/2023 8:25 PM		

1.11 SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

The results presented in this report were found to comply with the DQOs for the project and the guidelines specified by the analytical method. Based on the review of this report, the data are useable and acceptable except for rejected data noted below. A summary of qualifiers applied to this data set is shown in Table 2.

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.
- 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.
- 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.
  - Field blanks are prepared to identify contamination that may have been introduced during field activity. Equipment blanks are prepared to identify contamination that may have been introduced while decontaminating sampling equipment. Trip blanks are prepared when volatile analysis is requested to identify contamination that may have been introduced during transport.
- 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.
  - The sample analysis is used to assess the precision of the field sampling procedures and analytical method. The relative percent difference (RPD) or absolute difference was evaluated for each duplicate sample pair to monitor the reproducibility of the data.

- E 1.7 Precision and Accuracy
  - Precision measures the reproducibility of repetitive measurements. In a laboratory environment, this will be measured by determining the relative percent difference (RPD) found between a primary and a duplicate sample. This can be an LCS/LCSD pair, a MS/MSD pair, a laboratory duplicate performed on a site sample, or a field duplicate collected and analyzed concurrently with a site sample.
  - Accuracy is a statistical measurement of the correctness of a measured value and includes components of random error (variability caused by imprecision) and systematic error. In a laboratory environment, this will be measured by determining the percent recovery (%R) of certain spiked compounds. This can be assessed using LCS, blank spike (BS), MS, and/or surrogate recoveries.
- 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:
  - EB Equipment Blank Sample
  - FB Field Blank Sample
  - FD Field Duplicate Sample
  - N Primary Sample
  - TB Trip Blank Sample
- Units:
  - µg/kg microgram per kilogram
  - µg/L microgram per liter
  - µg/m^3 microgram per cubic meter
  - mg/kg milligram per kilogram
  - mg/L milligram per liter
  - ppb v/v parts per billion volume/volume
  - pCi/L picocuries per liter
  - pg/g picograms per gram
- Matrices:
  - AA Ambient Air
  - GS Soil Gas
  - GW/WG Groundwater
  - QW Water Quality
  - IA Indoor Air
  - SE Sediment
  - SO Soil
  - SSV Sub-slab Vapor
  - WQ Water Quality control matrix
  - WS Surface Water
- Table Footnotes:
  - NA Not applicable
  - ND Non-detect
  - NR Not reported
- Common Symbols:
  - % percent
  - < less than
  - ≤ less than or equal to
  - > greater than
  - ≥ greater than or equal to
  - = equal
  - °C degrees Celsius
  - ± plus or minus
  - ~ approximately
  - x times (multiplier)

4. Abbreviations

%D	Percent Difference
%R	Percent Recovery
%RSD	Percent Relative Standard Deviation
%v/v	Percent volume by volume
2s	2 sigma
4,4-DDT	4 4-dichlorodiphenyltrichloroethane
Abs Diff	Absolute Difference
amu	atomic mass unit
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
DQO	data quality objective
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
H_2	Hydrogen gas
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
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	polycyclic aromatic hydrocarbon
PCB	Polychlorinated Biphenyl
PDS	Post Digestion Spike
PEM	Performance Evaluation Mixture
PFAS	Per- and Polyfluoroalkyl Substances
PFBA	Perfluorbutanoic Acid
PFD	Perfluorodecalin
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane sulfonate
PFPeA	Perfluoropentanoic Acid
QAPP	Quality Assurance Project Plan
QC	Quality Control
QSM	Quality Systems Manual
R^2	R-squared value
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
TCLP	Toxicity Characteristic Leaching Procedure
TIC	Tentatively Identified Compound
TKN	Total Kjeldahl Nitrogen
TPH	Total Petroleum Hydrocarbon
TPU	Total Propagated Uncertainty
amu	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:

- Laboratory Qualifiers:

BA	Relative percent difference out of control.
BU	Analyzed out of holding time.
BV	Sample received after holding time expired.
EY	Result exceeds normal dynamic range; reported as a minimum estimate.
F1	MS and/or MSD recovery exceeds control limits.
G	The Sample MDC is greater than the requested RL.
J,DX	Results found between the EDL or MDL and laboratory RL.
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS).
LN	MS and/or MSD below acceptance limits. See Blank Spike (LCS).
LQ	LCS/LCSD recovery above method control limits.
MB	Analyte present in the method blank.
PI	Primary and confirm results varied by > than 40% RPD.
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.
U	Result is less than the sample detection limit.

- Validation Notes:

--	Based on validation of the data, a qualifier was not required.
*1	Improper preservation of sample.
*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).
E	Duplicates show poor agreement.
H	Holding times were exceeded.
L1	Laboratory control standard (LCS)/laboratory control standard duplicate (LCSD), relative percent difference (RPD) was outside the control limit.
Q	Matrix spike (MS) recovery outside of control limits.

RPD Pesticides and PCB Confirmation Column RPD Exceeded.

- Validation Qualifiers:

  = No Qualifier.

  J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

  J- The result is an estimated quantity, but the result may be biased low.

  J+ The result is an estimated quantity, but the result may be biased high.

  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.

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. Haley & Aldrich, Inc, 2015. Quality Assurance Project Field Plan for Santa Susana Field Laboratory Stormwater Sampling Program. December.

TABLE 1
METHOD BLANKS
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY

Blank Type	Batch ID	Analyte Detected in Blank	Concentration (ug/L)	Qualifier	Affected Samples
Method Blank	668066	1,2,3,4,6,7,8-HpCDD	0.00000186 J,DX q	Result U	Outfall011_20230405_Comp Outfall001_20230405_Comp
Method Blank	668066	1,2,3,4,6,7,8-HpCDF	0.00000178 J,DX q	Result U	Outfall011_20230405_Comp Outfall001_20230405_Comp
Method Blank	668066	1,2,3,4,7,8-HxCDD	0.00000266 J,DX	Result U	Outfall011_20230405_Comp Outfall001_20230405_Comp
Method Blank	668066	1,2,3,4,7,8-HxCDF	0.000000777 J,DX q	Result U	Outfall011_20230405_Comp Outfall001_20230405_Comp
Method Blank	668066	1,2,3,6,7,8-HxCDD	0.00000105 J,DX	Result U	Outfall011_20230405_Comp Outfall001_20230405_Comp
Method Blank	668066	1,2,3,6,7,8-HxCDF	0.000000651 J,DX	Result U	Outfall011_20230405_Comp Outfall001_20230405_Comp
Method Blank	668066	1,2,3,7,8,9-HxCDD	0.00000103 J,DX	NA	None, samples are ND
Method Blank	668066	1,2,3,7,8,9-HxCDF	0.00000120 J,DX	Result U	Outfall011_20230405_Comp Outfall001_20230405_Comp
Method Blank	668066	1,2,3,7,8-PeCDD	0.000000701 J,DX	Result U	Outfall001_20230405_Comp
Method Blank	668066	1,2,3,7,8-PeCDF	0.000000994 J,DX	Result U	Outfall011_20230405_Comp Outfall001_20230405_Comp
Method Blank	668066	2,3,4,6,7,8-HxCDF	0.000000592 J,DX	Result U	Outfall011_20230405_Comp Outfall001_20230405_Comp
Method Blank	668066	2,3,4,7,8-PeCDF	0.000000605 J,DX q	Result U	Outfall011_20230405_Comp Outfall001_20230405_Comp
Method Blank	668066	OCDD	0.0000219 J,DX	Result U	Outfall011_20230405_Comp Outfall001_20230405_Comp
Method Blank	668066	OCDF	0.00000582 J,DX	Result U	Outfall011_20230405_Comp Outfall001_20230405_Comp
Method Blank	676633	1,2,3,4,6,7,8-HpCDD	0.00000308 J,DX	Result U	Outfall002_20230505_Comp
Method Blank	676633	1,2,3,4,6,7,8-HpCDF	0.00000350 J,DX q	Result U	Outfall002_20230505_Comp
Method Blank	676633	1,2,3,4,7,8,9-HpCDF	0.00000100 J,DX q	NA	None, samples are ND
Method Blank	676633	1,2,3,4,7,8-HxCDD	0.00000220 J,DX q	Result U	Outfall002_20230505_Comp
Method Blank	676633	1,2,3,4,7,8-HxCDF	0.000000963 J,DX q	NA	None, samples are ND
Method Blank	676633	1,2,3,6,7,8-HxCDD	0.00000128 J,DX	NA	None, samples are ND
Method Blank	676633	1,2,3,6,7,8-HxCDF	0.000000903 J,DX	NA	None, samples are ND
Method Blank	676633	1,2,3,7,8,9-HxCDF	0.00000171 J,DX	Result U	Outfall002_20230505_Comp
Method Blank	676633	2,3,4,6,7,8-HxCDF	0.000000880 J,DX	NA	None, samples are ND
Method Blank	676633	OCDD	0.0000119 J,DX	Result U	Outfall002_20230505_Comp
Method Blank	676633	OCDF	0.00000659 J,DX	Result U	Outfall002_20230505_Comp
Method Blank	684550	1,2,3,4,6,7,8-HpCDD	0.00000351 J,DX	Result U	Outfall018_20230607_Comp Outfall002_20230607_Comp
Method Blank	684550	1,2,3,4,6,7,8-HpCDF	0.00000299 J,DX	NA	None, samples are ND
Method Blank	684550	1,2,3,4,7,8,9-HpCDF	0.00000309 J,DX	NA	None, samples are ND
Method Blank	684550	1,2,3,4,7,8-HxCDD	0.00000278 J,DX q	Result U	Outfall018_20230607_Comp Outfall002_20230607_Comp
Method Blank	684550	1,2,3,7,8,9-HxCDD	0.00000249 J,DX	NA	None, samples are ND
Method Blank	684550	1,2,3,7,8,9-HxCDF	0.00000191 J,DX q	NA	None, samples are ND
Method Blank	684550	OCDD	0.00000849 J,DX q	Result U	Outfall018_20230607_Comp Outfall002_20230607_Comp

TABLE 2
SYSTEM PERFORMANCE SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY

SDG#	Location	Sample ID	Sample Date	Lab ID	Method	Analyte	Result	Laboratory Qualifier	Final Validated Qualifier	Validation Note	Unit	Notes
5701337522	OUTFALL 011	Outfall011_20230405_Comp	4/5/2023	570-133752-1	E1613B	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	1.5E-05	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701337522	OUTFALL 011	Outfall011_20230405_Comp	4/5/2023	570-133752-1	E1613B	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1.4E-06	J,DXMBq	U	B	ug/L	Report ND at sample concentration
5701337522	OUTFALL 011	Outfall011_20230405_Comp	4/5/2023	570-133752-1	E1613B	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	3.3E-06	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701337522	OUTFALL 011	Outfall011_20230405_Comp	4/5/2023	570-133752-1	E1613B	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	2.1E-06	J,DXMBq	U	B	ug/L	Report ND at sample concentration
5701337522	OUTFALL 011	Outfall011_20230405_Comp	4/5/2023	570-133752-1	E1613B	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	3.3E-07	J,DXMBq	R	D	ug/L	
5701337522	OUTFALL 011	Outfall011_20230405_Comp	4/5/2023	570-133752-1	E1613B	*2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)*	3.7E-07	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701337522	OUTFALL 011	Outfall011_20230405_Comp	4/5/2023	570-133752-1	E1613B	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	6.1E-07	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701337522	OUTFALL 011	Outfall011_20230405_Comp	4/5/2023	570-133752-1	E1613B	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	4.1E-07	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701337522	OUTFALL 011	Outfall011_20230405_Comp	4/5/2023	570-133752-1	E1613B	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	3.4E-07	J,DXMBq	U	B	ug/L	Report ND at sample concentration
5701337522	OUTFALL 011	Outfall011_20230405_Comp	4/5/2023	570-133752-1	E1613B	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	3.8E-07	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701337522	OUTFALL 011	Outfall011_20230405_Comp	4/5/2023	570-133752-1	E1613B	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1.6E-06	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701337522	OUTFALL 011	Outfall011_20230405_Comp	4/5/2023	570-133752-1	E1613B	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	3.9E-07	J,DXMBq	U	B	ug/L	Report ND at sample concentration
5701337522	OUTFALL 011	Outfall011_20230405_Comp	4/5/2023	570-133752-1	E1613B	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	6.7E-07	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701337572	OUTFALL 001	Outfall001_20230405_Comp	4/5/2023	570-133757-1	E1613B	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	2.5E-05	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701337572	OUTFALL 001	Outfall001_20230405_Comp	4/5/2023	570-133757-1	E1613B	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	3.2E-06	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701337572	OUTFALL 001	Outfall001_20230405_Comp	4/5/2023	570-133757-1	E1613B	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	5.6E-06	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701337572	OUTFALL 001	Outfall001_20230405_Comp	4/5/2023	570-133757-1	E1613B	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	2.1E-06	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701337572	OUTFALL 001	Outfall001_20230405_Comp	4/5/2023	570-133757-1	E1613B	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	4.9E-07	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701337572	OUTFALL 001	Outfall001_20230405_Comp	4/5/2023	570-133757-1	E1613B	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	6.8E-07	J,DXMB	R	D	ug/L	
5701337572	OUTFALL 001	Outfall001_20230405_Comp	4/5/2023	570-133757-1	E1613B	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	4.5E-07	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701337572	OUTFALL 001	Outfall001_20230405_Comp	4/5/2023	570-133757-1	E1613B	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	7.3E-07	J,DXMBq	U	B	ug/L	Report ND at sample concentration
5701337572	OUTFALL 001	Outfall001_20230405_Comp	4/5/2023	570-133757-1	E1613B	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	5.4E-07	J,DXMBq	U	B	ug/L	Report ND at sample concentration
5701337572	OUTFALL 001	Outfall001_20230405_Comp	4/5/2023	570-133757-1	E1613B	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	6.9E-07	J,DXMBq	U	B	ug/L	Report ND at sample concentration
5701337572	OUTFALL 001	Outfall001_20230405_Comp	4/5/2023	570-133757-1	E1613B	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	3.1E-07	J,DXMBq	U	B	ug/L	Report ND at sample concentration
5701337572	OUTFALL 001	Outfall001_20230405_Comp	4/5/2023	570-133757-1	E1613B	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	3.3E-06	J,DXMBq	U	B	ug/L	Report ND at sample concentration
5701337572	OUTFALL 001	Outfall001_20230405_Comp	4/5/2023	570-133757-1	E1613B	*1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)*	8.6E-07	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701337572	OUTFALL 001	Outfall001_20230405_Comp	4/5/2023	570-133757-1	E1613B	*1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)*	8.2E-07	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701374562	OUTFALL 002	Outfall002_20230505_Comp	5/5/2023	570-137456-1	E1613B	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	1.1E-05	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701374562	OUTFALL 002	Outfall002_20230505_Comp	5/5/2023	570-137456-1	E1613B	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	2.0E-06	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701374562	OUTFALL 002	Outfall002_20230505_Comp	5/5/2023	570-137456-1	E1613B	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	8.5E-07	J,DXMBq	U	B	ug/L	Report ND at sample concentration
5701374562	OUTFALL 002	Outfall002_20230505_Comp	5/5/2023	570-137456-1	E1613B	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1.8E-06	J,DXMBq	U	B	ug/L	Report ND at sample concentration
5701374562	OUTFALL 002	Outfall002_20230505_Comp	5/5/2023	570-137456-1	E1613B	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	6.0E-07	J,DX	J	DNQ	ug/L	
5701374562	OUTFALL 002	Outfall002_20230505_Comp	5/5/2023	570-137456-1	E1613B	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	7.0E-07	J,DXMBq	U	B	ug/L	Report ND at sample concentration
5701374562	OUTFALL 002	Outfall002_20230505_Comp	5/5/2023	570-137456-1	E1613B	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	7.0E-07	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701407372	OUTFALL 018	Outfall018_20230607_Comp	6/7/2023	570-140737-1	E1613B	*1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)*	0.0000076	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701407372	OUTFALL 018	Outfall018_20230607_Comp	6/7/2023	570-140737-1	E1613B	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1.2E-06	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701407372	OUTFALL 018	Outfall018_20230607_Comp	6/7/2023	570-140737-1	E1613B	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1.8E-06	J,DXqMB	U	B	ug/L	Report ND at sample concentration
5701407462	OUTFALL 002	Outfall002_20230607_Comp	6/7/2023	570-140746-1	E1613B	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	8.1E-06	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701407462	OUTFALL 002	Outfall002_20230607_Comp	6/7/2023	570-140746-1	E1613B	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1.1E-06	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701407462	OUTFALL 002	Outfall002_20230607_Comp	6/7/2023	570-140746-1	E1613B	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	1.7E-06	J,DX	J	DNQ	ug/L	
5701407462	OUTFALL 002	Outfall002_20230607_Comp	6/7/2023	570-140746-1	E1613B	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	2.1E-06	J,DXMB	U	B	ug/L	Report ND at sample concentration

APPENDIX F
Second Quarter 2023 Reasonable Potential Analysis Tables

APPENDIX F

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Reasonable Potential Analysis Summary Notes

Table F1 Reasonable Potential Analysis Priority Pollutants
(Outfalls 001, 002, 011 and 018)

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 National Pollutant Discharge Elimination System (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., DNQ or R) are considered estimated or re ected 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)
g/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 ob ective rather than a numeric ob ective, 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) - The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL), (b) U - 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. NA for Qualified Data and Available Data DL.
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 udgment 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)
Pro ected Maximum Effluent Concentration	Utilizes the product of the multiplier and the MEC as an estimate for the pro ected 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).
Pro ected Maximum Receiving Water Concentration	The Regional Board estimates the pro ected maximum receiving water concentration as equal to the pro ected 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 Ob ectives	The water quality ob ective 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 udgment 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). une 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)

SECOND QUARTER 2023
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	015	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	017	Acrolein	µg/L	Available Data <DL	0.6	NONE	NONE	320	780	NONE	780	Yes	No	No	NA	No
1, 2, 11, 18	018	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	019	Benzene	µg/L	Available Data <DL	0.6	NONE	NONE	1.2	71	1	1	Yes	No	No	NA	No
1, 2, 11, 18	020	Bromoform	µg/L	Available Data <DL	0.6	NONE	NONE	4.3	360	NONE	360	Yes	No	No	NA	No
1, 2, 11, 18	021	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	022	Chlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	680	21,000	70	70	Yes	No	No	NA	No
1, 2, 11, 18	023	Dibromochloromethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.401	34	NONE	34	Yes	No	No	NA	No
1, 2, 11, 18	024	Chloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	025	2-Chloroethylvinylether	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	026	Chloroform	µg/L	Available Data <DL	0.6	NONE	NONE	Reserved	Reserved	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	027	Bromodichloromethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.56	46	NONE	46	Yes	No	No	NA	No
1, 2, 11, 18	028	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	031	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	032	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	032a	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	033	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	034	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	035	Chloromethane	µg/L	Available Data <DL	0.6	NONE	NONE	Narrative	Narrative	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	036	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	037	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	038	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	039	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	040	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	041	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	042	1,1,2-trichloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.6	42	5	5	Yes	No	No	NA	No
1, 2, 11, 18	044	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	045	2-chlorophenol	µg/L	ANR	0.6	NONE	NONE	120	400	NONE	400	No	NA	NA	NA	NA
1, 2, 11, 18	046	2,4-Dichlorophenol	µg/L	ANR	0.6	NONE	NONE	93	790	NONE	790	No	NA	NA	NA	NA
1, 2, 11, 18	047	2,4-dimethylphenol	µg/L	ANR	0.6	NONE	NONE	540	2,300	NONE	2,300	No	NA	NA	NA	NA
1, 2, 11, 18	048	2-Methyl-4,6-dinitrophenol	µg/L	ANR	0.6	NONE	NONE	13.4	765	NONE	765	No	NA	NA	NA	NA
1, 2, 11, 18	049	2,4-dinitrophenol	µg/L	ANR	0.6	NONE	NONE	70	14,000	NONE	14,000	No	NA	NA	NA	NA
1, 2, 11, 18	050	2-nitrophenol	µg/L	ANR	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	051	4-nitrophenol	µg/L	ANR	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	052	4-Chloro-3-methylphenol	µg/L	ANR	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	054	Phenol	µg/L	ANR	0.6	NONE	NONE	21,000	4,600,000	NONE	4,600,000	No	NA	NA	NA	NA
1, 2, 11, 18	056	Acenaphthene	µg/L	ANR	0.6	NONE	NONE	1,200	2,700	NONE	2,700	No	NA	NA	NA	NA
1, 2, 11, 18	057	Acenaphthylene	µg/L	ANR	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	058	Anthracene	µg/L	ANR	0.6	NONE	NONE	9,600	110,000	NONE	110,000	No	NA	NA	NA	NA
1, 2, 11, 18	059	Benzidine	µg/L	ANR	0.6	NONE	NONE	0.00012	0.00054	NONE	0.00054	No	NA	NA	NA	NA
1, 2, 11, 18	060	Benzo(a)Anthracene	µg/L	ANR	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
1, 2, 11, 18	061	Benzo(a)Pyrene	µg/L	ANR	0.6	NONE	NONE	0.0044	0.049	0.2	0.049	No	NA	NA	NA	NA
1, 2, 11, 18	062	Benzo(b)Fluoranthene	µg/L	ANR	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
1, 2, 11, 18	063	Benzo(g,h,i)Perylene	µg/L	ANR	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	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)

SECOND QUARTER 2023
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	064	Benzo(k)Fluoranthene	µg/L	ANR	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
1, 2, 11, 18	065	Bis(2-Chloroethoxy) methane	µg/L	ANR	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	066	bis (2-Chloroethyl) ether	µg/L	ANR	0.6	NONE	NONE	0.031	1.4	NONE	1.4	No	NA	NA	NA	NA
1, 2, 11, 18	067	Bis(2-Chloroisopropyl) Ether	µg/L	ANR	0.6	NONE	NONE	1,400	170,000	NONE	170,000	No	NA	NA	NA	NA
1, 2, 11, 18	069	4-Bromophenylphenylether	µg/L	ANR	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	070	Butylbenzylphthalate	µg/L	ANR	0.6	NONE	NONE	3,000	5,200	NONE	5,200	No	NA	NA	NA	NA
1, 2, 11, 18	071	2-Chloronaphthalene	µg/L	ANR	0.6	NONE	NONE	1,700	4,300	NONE	4,300	No	NA	NA	NA	NA
1, 2, 11, 18	072	4-Chlorophenylphenylether	µg/L	ANR	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	073	Chrysene	µg/L	ANR	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
1, 2, 11, 18	074	Dibenzo(a,h)Anthracene	µg/L	ANR	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
1, 2, 11, 18	075	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	076	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	077	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	078	3,3'-Dichlorobenzidine	µg/L	ANR	0.6	NONE	NONE	0.04	0.077	NONE	0.077	No	NA	NA	NA	NA
1, 2, 11, 18	079	Diethylphthalate	µg/L	ANR	0.6	NONE	NONE	23,000	120,000	NONE	120,000	No	NA	NA	NA	NA
1, 2, 11, 18	080	Dimethylphthalate	µg/L	ANR	0.6	NONE	NONE	313,000	2,900,000	NONE	2,900,000	No	NA	NA	NA	NA
1, 2, 11, 18	081	Di-n-butylphthalate	µg/L	ANR	0.6	NONE	NONE	2,700	12,000	NONE	12,000	No	NA	NA	NA	NA
1, 2, 11, 18	083	2,6-Dinitrotoluene	µg/L	ANR	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	084	Di-n-octylphthalate	µg/L	ANR	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	085	1,2-Diphenylhydrazine	µg/L	ANR	0.6	NONE	NONE	0.04	0.54	NONE	0.54	No	NA	NA	NA	NA
1, 2, 11, 18	086	Fluoranthene	µg/L	ANR	0.6	NONE	NONE	300	370	NONE	370	No	NA	NA	NA	NA
1, 2, 11, 18	087	Fluorene	µg/L	ANR	0.6	NONE	NONE	1,300	14,000	NONE	14,000	No	NA	NA	NA	NA
1, 2, 11, 18	088	Hexachlorobenzene	µg/L	ANR	0.6	NONE	NONE	0.00075	0.00077	1	0.00077	No	NA	NA	NA	NA
1, 2, 11, 18	089	Hexachlorobutadiene	µg/L	ANR	0.6	NONE	NONE	0.44	50	NONE	50	No	NA	NA	NA	NA
1, 2, 11, 18	090	Hexachlorocyclopentadiene	µg/L	ANR	0.6	NONE	NONE	240	17,000	50	50	No	NA	NA	NA	NA
1, 2, 11, 18	091	Hexachloroethane	µg/L	ANR	0.6	NONE	NONE	1.9	8.9	NONE	8.9	No	NA	NA	NA	NA
1, 2, 11, 18	092	Indeno(1,2,3-cd)Pyrene	µg/L	ANR	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
1, 2, 11, 18	093	Isophorone	µg/L	ANR	0.6	NONE	NONE	8.4	600	NONE	600	No	NA	NA	NA	NA
1, 2, 11, 18	094	Naphthalene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	095	Nitrobenzene	µg/L	ANR	0.6	NONE	NONE	17	1,900	NONE	1,900	No	NA	NA	NA	NA
1, 2, 11, 18	097	n-Nitroso-di-n-propylamine	µg/L	ANR	0.6	NONE	NONE	0.005	1.4	NONE	1.4	No	NA	NA	NA	NA
1, 2, 11, 18	098	N-Nitrosodiphenylamine	µg/L	ANR	0.6	NONE	NONE	5	16	NONE	16	No	NA	NA	NA	NA
1, 2, 11, 18	099	Phenanthrene	µg/L	ANR	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	100	Pyrene	µg/L	ANR	0.6	NONE	NONE	960	11,000	NONE	11,000	No	NA	NA	NA	NA
1, 2, 11, 18	101	1,2,4-Trichlorobenzene	µg/L	ANR	0.6	NONE	NONE	NONE	NONE	70	70	No	NA	NA	NA	NA
1, 2, 11, 18	102	Aldrin	µg/L	ANR	0.6	3	NONE	0.00013	0.00014	NONE	0.00014	No	NA	NA	NA	NA
1, 2, 11, 18	104	beta-BHC	µg/L	ANR	0.6	NONE	NONE	0.014	0.046	NONE	0.046	No	NA	NA	NA	NA
1, 2, 11, 18	105	Lindane (gamma-BHC)	µg/L	ANR	0.6	0.95	NONE	0.019	0.063	0.2	0.063	No	NA	NA	NA	NA
1, 2, 11, 18	106	delta-BHC	µg/L	ANR	0.6	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	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	0.0079	0.6	NONE	NONE	0.00083	0.00084	NONE	0.00084	Yes	Yes	NA	NA	Yes
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	Endosulfan I	µg/L	ANR	0.6	0.22	0.056	110	240	NONE	0.056	No	NA	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)

SECOND QUARTER 2023
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	113	Endosulfan II	µg/L	ANR	0.6	0.22	0.056	110	240	NONE	0.056	No	NA	NA	NA	NA
1, 2, 11, 18	114	Endosulfan Sulfate	µg/L	ANR	0.6	NONE	NONE	110	240	NONE	240	No	NA	NA	NA	NA
1, 2, 11, 18	115	Endrin	µg/L	ANR	0.6	0.086	0.036	0.76	0.81	2	0.036	No	NA	NA	NA	NA
1, 2, 11, 18	116	Endrin Aldehyde	µg/L	ANR	0.6	NONE	NONE	0.76	0.81	NONE	0.81	No	NA	NA	NA	NA
1, 2, 11, 18	117	Heptachlor	µg/L	ANR	0.6	0.52	0.0038	0.00021	0.00021	0.01	0.00021	No	NA	NA	NA	NA
1, 2, 11, 18	118	Heptachlor Epoxide	µg/L	ANR	0.6	0.52	0.0038	0.0001	0.00011	0.01	0.00011	No	NA	NA	NA	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‡
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	ANR	0.6	NA	NA	NA	NA	235	235	No	NA	NA	NA	NA
1, 2, 11, 18	15	Asbestos > 10 um	Fibers/L	ANR	0.6	NONE	NONE	7,000,000	NONE	7,000,000	7,000,000	No	NA	NA	NA	NA

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

APPENDIX G
Second Quarter 2023
Bioassessment Sampling Report

APPENDIX G

BIOASSESSMENT MONITORING AND SAMPLING
SANTA SUSANA FIELD LABORATORY
2023

The National Pollutant Discharge Elimination System permit specifies that bioassessment monitoring will be performed at two locations (SSFL-001 [Outfall 001] and SSFL-006 [Outfall 006]) in the spring/summer of each year, approximately four to six weeks following the last significant rainfall event. This time period was established by, and is included in, the state-wide bioassessment protocols established by the State of California's Surface Water Ambient Monitoring Program (Rehn, 2016).

The permit specifies that visual assessment of the physical habitat conditions will be conducted and, if flow is present at either location, sampling will be conducted to assess the integrity of the benthic macroinvertebrate community at each site.

Rainfall amounts for the 2022 through 2023 rain year was approximately 28 inches greater than average. Between July 2022 and June 2023, a total of 45.83 inches of rain was recorded at the on-site Area I weather station. Average annual rainfall for the site vicinity is approximately 17 inches (Geosyntec and the Expert Panel, 2021). The latest significant rainfall event for the 2022 through 2023 rain year occurred on March 29-30, 2023 (rain event total of 1.88 inches; Figure 1).

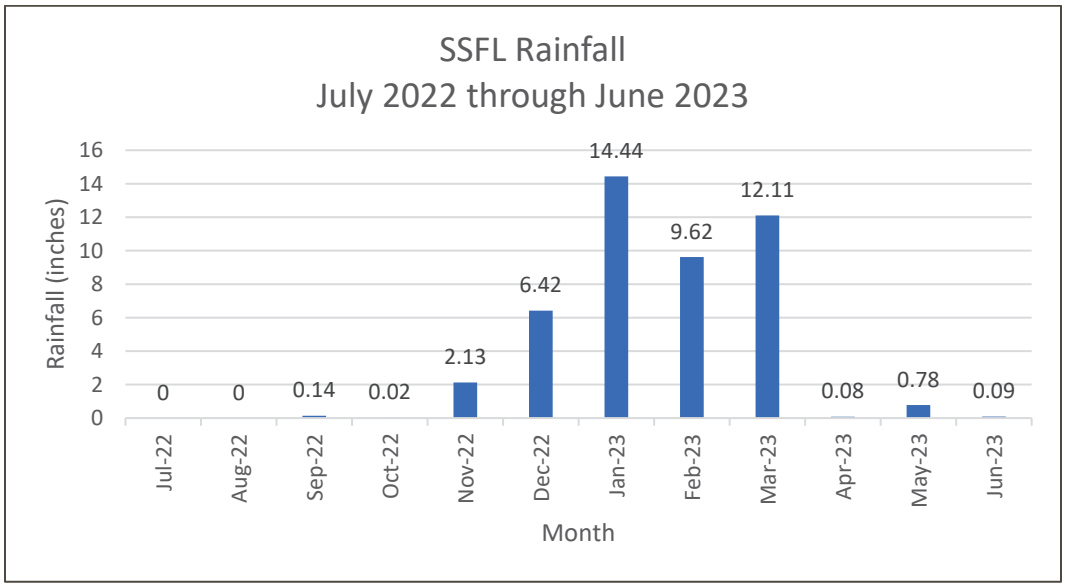
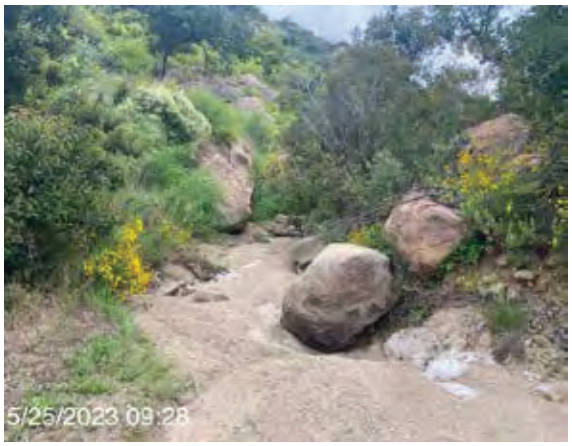


Figure 1. Rainfall measured at the Area I and 436 weather stations between July 2022 and June 2023.

The Boeing Company (Boeing) conducted the annual bioassessment monitoring on May 25, 2023 to assess the physical habitat conditions and to determine if bioassessment samples could be collected. Neither SSFL-001 nor SSFL-006 had flow and both were completely dry across their entire reaches (Figure 2). Therefore, bioassessment sampling was not performed.

APPENDIX G

BIOASSESSMENT MONITORING AND SAMPLING
SANTA SUSANA FIELD LABORATORY
2023



SSFL-001, downstream

SSFL-001, upstream

SSFL-006, downstream

SSFL-006, upstream

Figure 2. Downstream and upstream views of SSFL-001 and SSFL-006.

REFERENCES

Rehn, A.C., 2016. Using Multiple Biological and Habitat Condition Indices for Bioassessment of California Streams. SWAMP Technical Memorandum (SWAMP-TM-SB-2016-0003). July.

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.

APPENDIX H
Second Quarter 2023
Receiving Water Surveys

TABLE H
RECEIVING WATER SURVEYS

SECOND QUARTER 2023
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

April 1 through June 30, 2023

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.

SECOND QUARTER 2023 ARROYO SIMI OBSERVATIONS AT ARROYO SIMI			
ARROYO SIMI OBSERVATIONS	**APRIL**	**MAY**	**JUNE**
Date and time of inspection	4/10/2023, 09:40	N/A	N/A
Weather conditions	Sunny, clear, warm	N/A	N/A
Color of water	Slight brown	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	Uniform translucent	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	No	N/A	N/A
Upstream Surface Water Temperature	65.3	N/A	N/A
Upstream Surface Water pH	6.54	N/A	N/A

Notes:
N/A = not applicable. Since Outfall 009 did not flow during the months of May and une, no monthly inspections were required at Arroyo Simi for those months.
= 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.

SECOND QUARTER 2023 BELL CREEK OBSERVATIONS AT OUTFALL 002			
BELL CREEK OBSERVATIONS	**APRIL**	**MAY**	**JUNE**
Date and time of inspection	4/10/2023, 07:20	5/4/2023, 11:45	6/6/2023, 07:20
Weather conditions	Clear, sunny, cool	Cloudy, rain showers, cool, 56 F	High fog, cool, calm, 56 F
Color of water	Clear	Brownish gray	Clear
Appearance of oil films or grease, or floatable materials	None	None	Algal ropes upstream & downstream of flume
Extent of visible turbidity or color patches	None	Uniform, opaque	Clear, except for algal ropes
Description of odor, if any	None	None	None
Presence or activity of California Least Tern or California Brown Pelican	No	No	No

Notes:
None

SECOND QUARTER 2023 DAYTON CANYON CREEK OBSERVATIONS AT OUTFALL 008			
DAYTON CANYON CREEK OBSERVATIONS	**APRIL**	**MAY**	**JUNE**
Date and time of inspection	4/10/2023, 08:00	N/A	N/A
Weather conditions	Clear, cool, sunny	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	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	No	N/A	N/A

Notes:
N/A = not applicable. Since Outfall 008 did not flow during the months of May and une, no monthly inspections were required at Outfall 008 for those months.
Receiving water survey performed on first available day following repairs to access road to Outfall 008.