The Boeing Company
Santa Susana Field Laboratory
5800 Woolsey Canyon Road
Canoga Park, CA 91304-1148

Via Email to losangeles@waterboards.ca.gov

November 15, 2023
In reply refer to SHEA-116636

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

Subject: Third 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 July 1 through September 30, 2023 (Third 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.

THIRD 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 Third Quarter 2023. Table I summarizes the Third 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 Third Quarter 2023 sample results that exceeded NPDES Permit Limits, Benchmarks, and Receiving Water Limits, and the potential causes thereof.
- **Receiving Water Surveys:** This section summarizes the receiving water surveys required by the NPDES Permit.
- **Stormwater Treatment System at Outfall 011 Activities:** This section summarizes the Third Quarter 2023 activities at the stormwater treatment system (SWTS) at Outfall 011.
- **Stormwater Treatment System at Outfall 018 Activities:** This section summarizes the Third 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 Third 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 Third Quarter 2023 by location. Table IV summarizes activities completed in coordination with the Expert Panel during the Third Quarter 2023.
- **Annual Comprehensive Site Compliance Evaluation Report:** This section discusses the annual site compliance evaluation.
- **Reasonable Potential Analysis:** This section discusses the results of the analysis.
- **Figure 1** shows the stormwater collection and conveyance system, the Bell Creek Receiving Water sampling location (RSW-001, Outfall 002), and Santa Susana Site features; **Figure 2** shows the Arroyo Simi Receiving Water sampling location (RSW 002, Frontier Park) and upstream monitoring location.
- **Appendix A** summarizes the rainfall measured at the Santa Susana Site during the Third Quarter 2023.
- **Appendix B** tabulates waste shipments during the Third Quarter 2023.
- **Appendix C** presents chemical analytical results from the Third 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 observations of the receiving water monitoring program required by the NPDES Permit and includes the Arroyo Simi, Bell Creek, and Dayton Canyon surveys.
- **Appendix H** presents the Annual Comprehensive Sitewide Compliance Evaluation Report.

DISCHARGE AND SAMPLE COLLECTION SUMMARY

The Santa Susana Site had two qualifying rain events during the Third Quarter 2023 that measured greater than 0.1 inch of rainfall within a 24-hour period and were preceded by at least 72 hours of dry weather (Appendix A). Automated flow-weighted composite samplers (autosamplers) were set in preparation for all rain events. One qualifying rain event produced stormwater discharges. Stormwater samples were collected at Outfalls 001, 002, and 009 in the rain event that produced flow and Outfalls 002 and 018 in the dry weather discharge from the stormwater treatment system. There were no changes in the discharge, as described in the NPDES Permit during the reporting period.

The site experienced an unprecedented 5.44 inches of rain in the Third Quarter 2023, which is not characteristic of the seasonal dry weather during this quarter each year. The first qualifying rain event was the result of Hurricane Hilary, a tropical storm turned Category 4 Pacific hurricane that was the first to enter California since 1997 (Climate.gov, 2023).

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) and an on-site receiving water sample was collected at the Bell Creek location (RSW-001, Outfall 002, see Figure 1).

Table I summarizes the Third 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 Third Quarter 2023

Date	Outfall/Location	Sample Frequency	Sample Type
8/9/2023	Arroyo Simi Receiving Water (RSW-002, Frontier Park)	Quarterly Surface Water	Grab
8/21/2023	Arroyo Simi Receiving Water (RSW-002, Frontier Park)	Routine	Grab
8/21 – 8/22/2023	Outfall 001	Quarterly, Routine	Grab, Composite
8/21 – 8/22/2023	Outfall 002 and Bell Creek Receiving Water (RSW-001, Outfall 002)	Quarterly, Routine	Grab, Composite
8/21 – 8/22/2023	Outfall 009	Semiannual, Quarterly, Routine	Grab, Composite
9/14 – 9/15/2023	Outfall 002	Routine	Grab, Composite
9/13 – 9/15/2023	Outfall 018	Quarterly, Routine	Grab, Composite

Notes:
Routine = 1 per discharge event.

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 Third 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.

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

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

- Lead at Outfall 009.

Outfall 009

Metals: Lead

On August 22, 2023, a stormwater sample was collected from Outfall 009. Lead was detected at 12 micrograms per liter (µg/L), above the Daily Maximum Permit Limit of 5.2 µg/L.

Boeing is investigating the potential source/cause of the higher lead concentration at Outfall 009. Source investigations are currently focused on the Former Shooting Range Remediation Project that started in June 2023. The remedial work is located within the Outfall 009 watershed along both banks, as well as upslope, of the Northern Drainage and is an ongoing effort to remove lead in accordance with an Imminent and Substantial Endangerment Determination and Consent Order issued by the Department of Toxic Substances Control (DTSC, 2022). Boeing added BMPs to the Former Shooting Range, both before and after Hurricane Hilary. The Expert Panel is expected to make additional BMP recommendations for the Former Shooting Range area.

Boeing is committed to working with the Expert Panel to implement their recommendations and will continue to monitor and evaluate the effectiveness of BMPs currently within the Outfall 009 watershed.

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 Third Quarter 2023 as follows:

- Flushed the chemical lines with nitrogen as part of the seasonal shutdown procedure.
- Removed spent media from the sand filters and installed new sand and gravel.
- Installed a new Human-Machine Interface (HMI) motherboard for ACTIFLO.
- Performed a full maintenance of the air compressors.

SWTS 011 did not operate in the Third Quarter 2023.

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 Third Quarter 2023 as follows:

- Flushed the chemical lines with nitrogen as part of the seasonal shutdown procedure.
- Removed spent media from the sand filters and installed new sand and gravel.
- Installed a new HMI motherboard and a new electronic flow meter for ACTIFLO.
- Performed a full maintenance of the air compressors.
- Installed a large Variable Frequency Drive (VFD) for the new Plate Settler pump.
- Performed preventative maintenance on the peristaltic pumps, intake pump P-101, and filter feed pumps P-106 and P-107.
- Buried the high-density polyethylene (HDPe) lines behind the break room as a fire-protective measure; and completed modifying and fabricating the new HDPe lines dedicated for transferring solids to and from temporary holding tanks in the gravel lot.

SWTS 018 operated once during the Third Quarter 2023. Operational data are summarized below.

- SWTS 018 operated from September 11 through 15, 2023, and discharged for approximately 20 hours. After an interruption in treatment activities in order to improve operational efficiency, SWTS 018 operated from September 25 through 27, 2023, and discharged for approximately 38 hours.
- The total amount of water treated and discharged from Silvernale Pond was 3,519,200 gallons.

The total amount of solids removed by operation of SWTS 018 was approximately 60 cubic yards.

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 Third 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 the additional activities completed during the Third Quarter 2023 by outfall or BMP location.

TABLE III: Additional Third Quarter 2023 SWPPP/BMP Activities

Outfall, Watershed, BMP, or Other Location	SWPPP/BMP Activities During Third Quarter 2023
001, 002, 003, 004, 006, 008, 009, 010, 011, 018	– Programmed and bench-tested the new flow meters to verify proper sample sip volume, pacing, and data export.
003, 005, 007, 011	– Performed weed abatement in and around the Outfalls, including removal of wind-blown debris from the basins and clearing around the intake structures.
003	– Relocated the HDPe line that goes from Outfall 003 into the tank at the top of Outfall 004 for improved conveyance.
004	– Replaced the suction hose that connects the tanks at the top of Outfall 004 with newly fabricated and installed HDPe lines. – Installed a new conveyance pump at the top of Outfall 004. – Redesigned and modified the HDPe lines going into the tanks at the top of Outfall 004 for improved conveyance. – Installed a dedicated suction and discharge line for the Charles King pump.
006	– Trimmed oak trees around the media bed and local disconnects for the submersible pumps.
010	– Buried the HDPe lines from the submersible pumps at the top of Outfall 010. – Modified the HDPe lines for the Outfall 010 tanks to allow for the use of a Charles King pump in case of an emergency; and modified the HDPe discharge line from the Charles King pump. – Modified and buried the HDPe lines that connect the conveyance pump to the Outfall 010 tanks for improved safety and accessibility of the motor control center (MCC) and conveyance pump. – Installed bollards to protect the flow meters and connections to the Charles King pump. – Installed a fiber roll approximately 10 feet down gradient of the telephone pole at the top of Outfall 010.
011	– Re-routed Autosampler tubing to install within a PVC conduit.
R-2A Pond	– Performed repairs and preventative maintenance on the conveyance pumps and piping.
Former Shooting Range	– Conducted activities in accordance with the SWPPP for Former Shooting Range Remedial Action (Stantec, 2022).

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

NASA-Related Activities

NASA continued to inspect and maintain demolition BMPs and stormwater activities covered by their Construction SWPPP for the Bravo area, in accordance with the Construction General Permit (CGP; NASA, 2021). Throughout the Third Quarter 2023, NASA maintained fiber rolls as perimeter and linear sediment controls in areas where previous construction activities were completed. Also, during the Third Quarter 2023, NASA received a Notice of Termination (NOT) for their Bravo area Construction SWPPP.

DOE-Related Activities

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

Expert Panel-Related Activities

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

TABLE IV: Expert Panel-Related Third Quarter 2023 Activities

Outfall, Watershed, BMP, or Other Location	Activities During Third Quarter 2023
Culvert Modifications (CM)	– 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 Biofilter (Sedimentation Basin and Biofilter)	– Performed BMP Inspections. – Approximately 254,700 gallons of stormwater were pumped from the cistern to the sedimentation basin during the Third Quarter 2023.
Administration Area Inlet Filters	– Performed BMP Inspections.
Northern Drainage BMPs	– Performed BMP Inspections.
NASA and Boeing BMP Monitoring-Related Activities	– Off-site background monitoring samples were collected during the Third 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 Alfa and Bravo test stands and former Advanced Propulsion Test Facility (APTF).

ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION REPORT

The annual comprehensive site compliance evaluation was conducted in July 2023 and a summary is included in Appendix H.

The SWPPP, BMP Plan, and Spill Contingency Plan (heretofore referred to as the Spill Prevention and Response Plan [SPRP]) are implemented and the effectiveness is evaluated by Boeing annually. The SWPPP, BMP Plan, and SPRP were reviewed following completion of the annual comprehensive site compliance evaluation.

REASONABLE POTENTIAL ANALYSIS

Stormwater discharges from the Santa Susana Site occurred at Outfalls 001, 002, 009, and 018 during the Third Quarter 2023. Analytical results from this quarter were added to the Reasonable Potential Analysis (RPA) dataset (Appendix F). The analytical results for the Third Quarter 2023 did not trigger a reasonable potential for any other constituent not already regulated under the current NPDES Permit.

CONCLUSIONS

Boeing is committed to fulfilling the requirements of the NPDES Permit and continues to implement, maintain, and monitor wide-ranging control practices intended to improve water quality at stormwater discharge locations at the Santa Susana Site through methods designed to preserve the natural conditions in the watershed to the maximum extent feasible by implementing distributed, sustainable erosion control/restoration measures.

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 November 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:

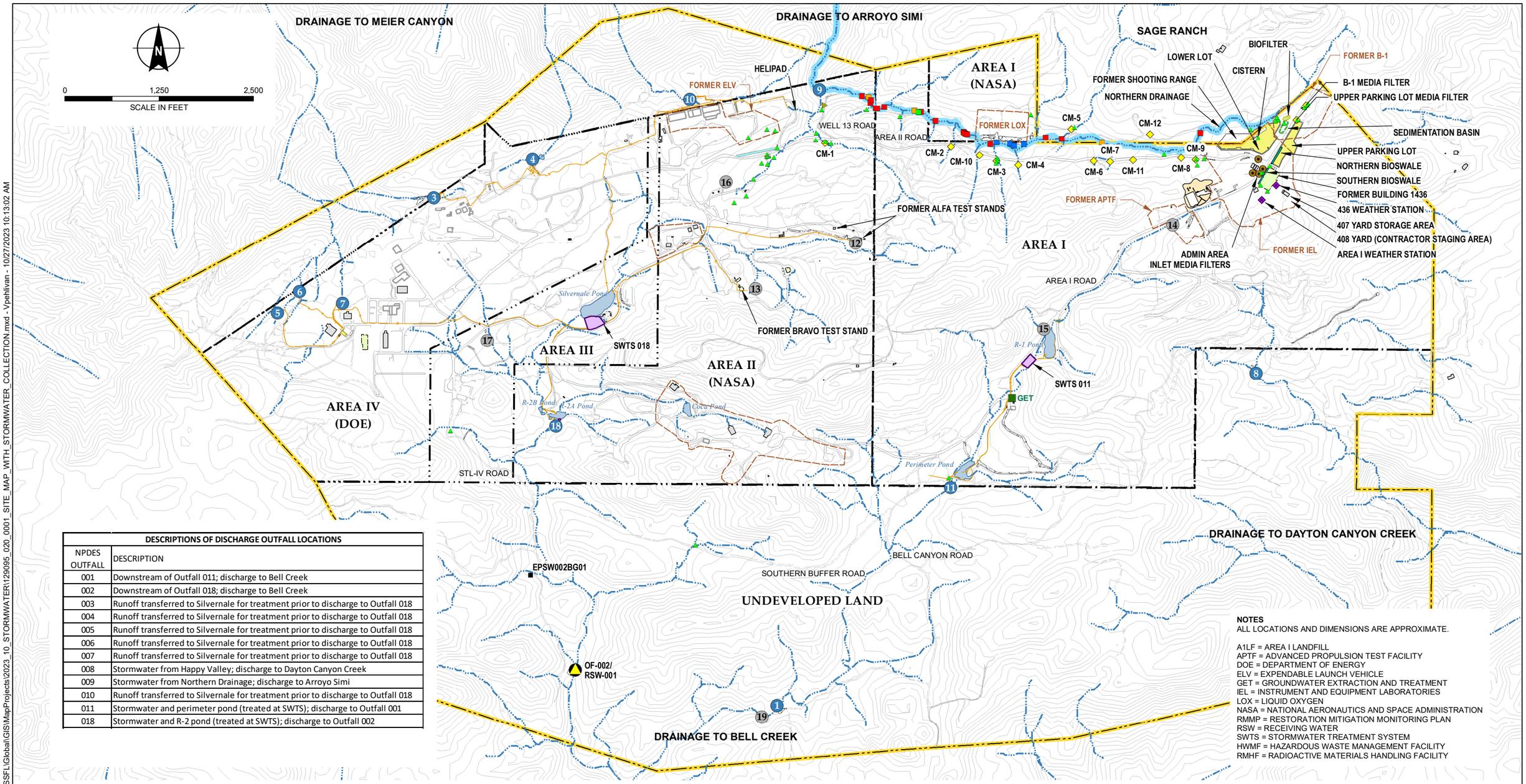
References
Figure 1 - Site Map with Stormwater Collection and Conveyance System and Site Features
Figure 2 - Arroyo Simi Receiving Water (RSW-002, Frontier Park) Sampling Location and Upstream Monitoring Point
Appendix A - Third Quarter 2023 Rainfall Data Summary
Appendix B - Third Quarter 2023 Waste Shipment Summary Tables
Appendix C - Third Quarter 2023 Discharge Monitoring Data Summary Tables
Appendix D - Third Quarter 2023 NPDES Permit Limit Exceedances and/or Non-Compliance
Appendix E - Third Quarter 2023 Analytical Laboratory Reports, Chain of Custody Forms, and Validation Reports
Appendix F - Third Quarter 2023 Reasonable Potential Analysis Tables
Appendix G - Third Quarter 2023 Receiving Water Surveys
Appendix H - Annual Comprehensive Site Compliance Evaluation Report

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. Department of Toxic Substances Control (DTSC), 2022. Former Rocketdyne-Atomics International Rifle and Pistol Club Shooting Range and Overshot Area Imminent and Substantial Endangerment Determination and Consent Order, Simi Valley, Ventura Country, CA (Docket No. HAS-FY21/22-131). 25 March.
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.
6. Former Hurricane Hilary brought Southern California its first-ever tropical storm watch | NOAA Climate.gov

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
- 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

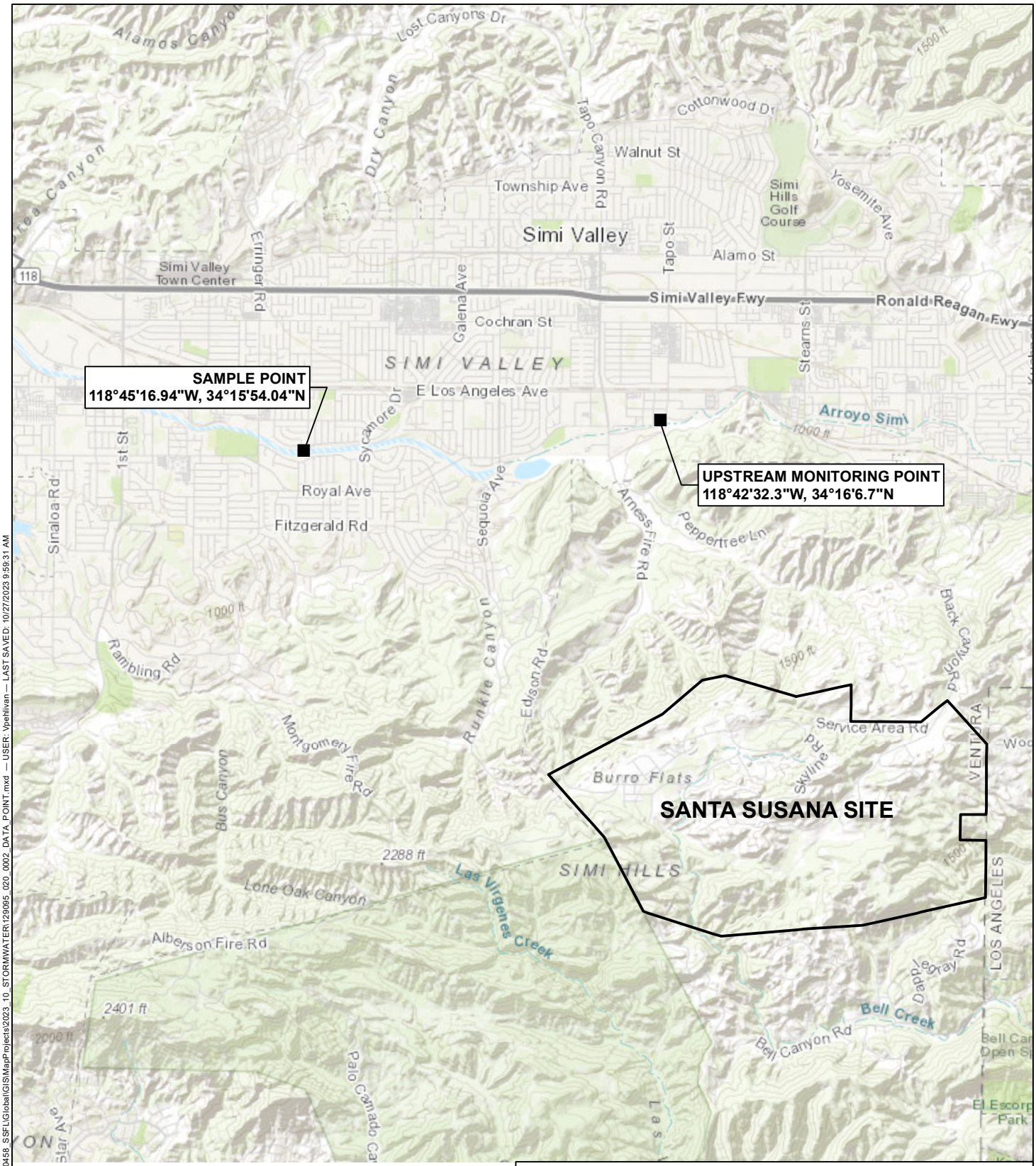
NPDES PERMIT COMPLIANCE THIRD QUARTER 2023
DISCHARGE MONITORING REPORT
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

SITE MAP WITH STORMWATER COLLECTION AND CONVEYANCE SYSTEM AND SITE FEATURES

NOVEMBER 2023

FIGURE 1

GIS: \\haleyaldrich\shared\sdg_common\40458_SSFL\Global\GIS\MapProjects\2023_10_STORMWATER\129095_020_0001_SITE_MAP_WITH_STORMWATER_COLLECTION.mxd - Vpehlivan - 10/27/2023 10:13:02 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 THIRD 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

NOVEMBER 2023

FIGURE 2

APPENDIX A

Third Quarter 2023 Rainfall Data Summary

TABLE A
DAILY RAINFALL SUMMARY

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

Station: AREA 1
Parameter: Inches of Rain
Month/Year: July 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	d	d	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
	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Y	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F	13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
T	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H	16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
E	17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
M	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
N	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
T	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	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		0.00

Flags: d = Off-line part of hour. Invalid hour due to semiannual audit (July 5). For the off-line event, the rain gauge at Sage Ranch did not record rainfall on July 5 during hours 0500 through 0800.

TABLE A
DAILY RAINFALL SUMMARY

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

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

HOUR OF THE DAY, PACIFIC STANDARD TIME

	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	0.00
O	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.33	0.46	0.26	0.07	0.44	0.49	0.43	0.53	0.52	0.27	0.14	0.04	0.02	0.06	4.16
N	21	0.30	0.28	0.20	0.15	0.02	0.05	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	1.01
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	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	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	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	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	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	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	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	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	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	0.00
																								Monthly Total		5.17

TABLE A
DAILY RAINFALL SUMMARY

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

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

HOUR OF THE DAY, PACIFIC STANDARD TIME

	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	0.00
	2	0.00	0.01	0.04	0.03	0.01	0.01	0.02	0.02	0.01	0.01	0.02	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	0.19
	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	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	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	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	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	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	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	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	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	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	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	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	0.00
T	15	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00	0.01
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	0.00
E	17	0.01	0.00	0.01	0.00	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	0.00	0.04
	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	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	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	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	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	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	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	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	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	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	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	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	0.00
	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
																									Monthly Total	0.27

APPENDIX B

Third Quarter 2023 Waste Shipment Summary Tables

TABLE B
WASTE SHIPMENT SUMMARY TABLE

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

TYPE OF WASTE	MATRIX	QUANTITY	UNITS	TRANSPORTER 1	TRANSPORTER 2	DESTINATION
NA3082 Hazardous Waste, Liquid, N.O.S.	Liquid	8,443	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
NA3082 Hazardous Waste, Liquid, N.O.S.	Liquid	6,965	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
Non RCRA Hazardous Waste, Solids	Solid	606	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, Liquids	Liquid	110	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, Solids	Solid	30	Y	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Buttonwillow LLC 2500 West Lokern Road Buttonwillow, CA 93206
UN3077, Waste Environmentally Hazardous Substances, Solid	Solid	14	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Environmental Services, Inc. 2247 South Highway 71 Kimball, NE 69145
NA3077, Hazardous Waste, Solid, N.O.S.	Solid	413	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Environmental Services, Inc. 2247 South Highway 71 Kimball, NE 69145
RQ, NA3082, Hazardous Waste Liquid, N.O.S.	Liquid	3,450	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Environmental Services, Inc. 2247 South Highway 71 Kimball, NE 69145
NA3077, Hazardous Waste, Solid, N.O.S.	Solid	795	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
UN3264, Waste Corrosive Liquid, Acidic, Inorganic, N.O.S.	Liquid	158	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
UN3267, Waste Corrosive Liquid, Basic, Organic, N.O.S.	Liquid	30	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
UN3287, Waste Corrosive Liquid, Basic, Organic, N.O.S.	Liquid	3	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
RQ, UN3077, Environmentally Hazardous Substances, Solid, N.O.S.	Solid	936	Y	MTS	n/a	Clean Harbors Buttonwillow LLC 2500 West Lokern Road Buttonwillow, CA 93206
NA3077, Hazardous Waste, Solid, N.O.S.	Solid	160	Y	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Deer Park LLC 2027 Independence Parkway South La Porte, TX 77571

TABLE B
WASTE SHIPMENT SUMMARY TABLE

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

TYPE OF WASTE	MATRIX	QUANTITY	UNITS	TRANSPORTER 1	TRANSPORTER 2	DESTINATION
UN2924, Waste Flammable Liquids, Corrosive, N.O.S.	Liquid	11	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
UN3262, Corrosive Solid, Basic, Inorganic, N.O.S.	Solid	35	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
UN1263, Waste Paint	Solid	218	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Environmental Services, Inc. 2247 South Highway 71 Kimball, NE 69145
RQ, UN1993, Waste Flammable Liquids, N.O.S.	Liquid	104	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Environmental Services, Inc. 2247 South Highway 71 Kimball, NE 69145
UN2922, Corrosive Liquids, Toxic, N.O.S.	Liquid	192	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
NA3082 Hazardous Waste, Liquid, N.O.S.	Liquid	2,503	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Environmental Services, Inc. 2247 South Highway 71 Kimball, NE 69145
UN1490, Waste Potassium Permanganate Solution	Liquid	5,086	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
UN1760, Waste Corrosive Liquids, N.O.S.	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
Non RCRA Hazardous Waste Solid	Solid	48	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
NA3077, Hazardous Waste, Solid, N.O.S.	Solid	15,690	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Deer Park LLC 2027 Independence Parkway South La Porte, TX 77571
Non-Hazardous Soil	Solid	54	Y	Monroy Trucking	n/a	Waste Management Simi Valley Landfill 2801 N Madera Road Simi Valley, CA 93065
Non-Hazardous Soil	Solid	54	Y	RMJ Trucking LLC	n/a	Waste Management Simi Valley Landfill 2801 N Madera Road Simi Valley, CA 93065
Non-Hazardous Soil	Solid	54	Y	Giovannis Trucking	n/a	Waste Management Simi Valley Landfill 2801 N Madera Road Simi Valley, CA 93065
Non-Hazardous Soil	Solid	54	Y	J.D.C Transporter	n/a	Waste Management Simi Valley Landfill 2801 N Madera Road Simi Valley, CA 93065

TABLE B
WASTE SHIPMENT SUMMARY TABLE

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

TYPE OF WASTE	MATRIX	QUANTITY	UNITS	TRANSPORTER 1	TRANSPORTER 2	DESTINATION
Non-Hazardous Soil	Solid	54	Y	Arunco Gap	n/a	Waste Management Simi Valley Landfill 2801 N Madera Road Simi Valley, CA 93065
Non-Hazardous Soil	Solid	144	Y	Gonzales Bros Trucking	n/a	Waste Management Simi Valley Landfill 2801 N Madera Road Simi Valley, CA 93065
Non-Hazardous Soil	Solid	54	Y	J&M Trucking	n/a	Waste Management Simi Valley Landfill 2801 N Madera Road Simi Valley, CA 93065
Non-Hazardous Soil	Solid	54	Y	Rico Trucking	n/a	Waste Management Simi Valley Landfill 2801 N Madera Road Simi Valley, CA 93065
Non-Hazardous Soil	Solid	54	Y	Rochas General Co.	n/a	Waste Management Simi Valley Landfill 2801 N Madera Road Simi Valley, CA 93065
Non-Hazardous Soil	Solid	54	Y	Irribarren Transport	n/a	Waste Management Simi Valley Landfill 2801 N Madera Road Simi Valley, CA 93065
Non Hazardous, Non D.O.T. Regulated	Solid	240	Y	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Waste Management Antelope Valley Landfill 1200 West City Ranch Road Palmdale, CA 93551
Non Hazardous, Non D.O.T. Regulated (Water)	Liquid	2,061	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	11,238	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	35,000	G	Southwest Processors, Inc. 4120 Bandini Boulevard Vernon, CA 90058	n/a	Southwest Processors, Inc. 4120 Bandini Boulevard Vernon, CA 90058
NA3082 Hazardous Waste, Liquid, N.O.S.	Liquid	133,700	G	Ecology Control Industries	n/a	US Ecology Vernon 5375 South Boyle Avenue Los Angeles, CA 90058
NA3082 Hazardous Waste, Liquid, N.O.S.	Liquid	852	G	Patriot Environmental Services	n/a	US Ecology Vernon 5375 South Boyle Avenue Los Angeles, CA 90058
NA3077 Hazardous Waste, Solid, N.O.S.	Solid	3,500	P	Patriot Environmental Services	n/a	US Ecology Vernon US Hwy 95 11 Miles South of Beatty Beatty, NV 89003
RQ, NA3077 Hazardous Waste, Solid, N.O.S.	Solid	60	Y	Ecology Control Industries	n/a	US Ecology Vernon US Hwy 95 11 Miles South of Beatty Beatty, NV 89003

TABLE B
WASTE SHIPMENT SUMMARY TABLE

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

TYPE OF WASTE	MATRIX	QUANTITY	UNITS	TRANSPORTER 1	TRANSPORTER 2	DESTINATION
Non RCRA Hazardous Waste, Liquid	Liquid	500	G	Patriot Environmental Services	n/a	US Ecology Vernon US Hwy 95 11 Miles South of Beatty Beatty, NV 89003
Non Hazardous Waste, Liquid (Groundwater)	Liquid	5,090	G	American Integrated, Inc.	n/a	Crosby & Overton, Inc. 1630 W. 17th Street Long Beach, CA 90813

Notes:
D.O.T. = Department of Transportation
n/a = Not Applicable
G = Gallons
P = Pounds
RCRA = Resource Conservation and Recovery Act
Y = Yards

APPENDIX C

Third Quarter 2023 Discharge Monitoring Data Summary Tables

APPENDIX C

THIRD QUARTER 2023 DISCHARGE MONITORING DATA SUMMARY TABLES

TABLE OF CONTENTS

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
NPDES PERMIT CA0001309

*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 (J).
*3	Initial and or continuing calibration recoveries were outside acceptable control limits.
*5	Blank spike/blank spike duplicate relative percent difference was outside the control limit.
*10	Value was estimated detect or estimated non-detect (J, UJ) due to deficiencies in quantitation of the constituent including constituents reported by the laboratory as estimated maximum possible concentration (EMPC) values.
*11	No calibration was performed for this compound; result is reported as a tentatively identified compound (TIC).
*III	Unusual problems found with the data that have been described in the validation report.
ANR	Analysis not required; e.g., constituent or outfall was not required by the NPDES permit to be sampled and analyzed over the reporting period (annual, semi- annual, etc.).
Avg	Average.
B	Laboratory method blank contamination.
BA	Relative percent difference out of control.
BEF	Bioaccumulation equivalency factor.
BU	Analyzed out of holding time.
BV	Sample received after holding time expired.
C	Calibration percent relative standard deviation (%RSD) or percent difference (%D) were noncompliant.
CaCO3	Calcium carbonate
Chromium VI	Hexavalent chromium
Comp	Composite sample type.
C5	Calibration verification percent recovery (%R) was outside method control limits.
CEs/100 ml	Cell equivalents per 100 milliliters.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
%D	Percent difference between the initial and continuing calibration relative response factors.
Deg C	Degrees Celsius.
Deg F	Degrees Fahrenheit.
DL	Detection limit.
DNQ	Detected but not quantified (constituent value greater than or equal to the laboratory method detection limit and less than the laboratory reporting limit).
E	E in validation qualifier indicates that duplicates show poor agreement.
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.
J	Estimated value.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
J, DX	Estimated value, value < lowest standard method quantitation limit (MQL), but > than method detection limit (MDL).
K	The sample dilution's set-up did not meet the oxygen depletion criteria of at least 2 milligrams per liter (mg/L); therefore, the reported result is an estimated value only.
L	Laboratory control sample percent recovery (%R) was outside control limits.
L1	Laboratory control standard (LCS)/laboratory control standard duplicate (LCSD), relative percent difference (RPD) was outside the control limit.
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.
NJ	The analyte has been "tentatively identified" or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.
NM	Not measured or determined or minimum detectable activities (MDAs) are not calculated as there is no statistical method for combining MDAs.
NPDES	National Pollutant Discharge Elimination System.
NR	Not reported by laboratory by the deadline of this report.
NTU	Nephelometric turbidity unit.
OCDD	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 rejected; 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.
µg/L	Micrograms per liter.
µg/g	Micrograms per gram.
µg/kg	Micrograms per kilogram.
µmhos/cm	Micromhos per centimeter.
UJ	Result not detected at the estimated reporting limit.
WHO TEF	World Health Organization toxic equivalency factor.
w/out	Without.
^	Analysis not completed due to hold time exceedance or insufficient sample volume.
#	Per Order No. R4-2015-0033, page 16, Footnote 1. The effluent limitations for total suspended solids and settleable solids are not applicable for discharges during wet weather. During wet weather flow, a discharge event is greater than 0.1 inch of rainfall in a 24-hour period. No more than one sample per week need be obtained during extended periods of rainfall or the discharge of collected stormwater. A storm event must be preceded by at least 72 hours of dry weather.
(1)	Based on the NPDES permit, table E-3a footnote 2, receiving water samples for pH, hardness, and priority pollutants must be collected on the same day as effluent samples.
(2)	Additional sample, not required by the NPDES permit.
(4.0)3.1	Represents (dry weather limit) wet weather limit.
(3)	Secondary maximum contaminant level.
(4)	The drinking water maximum contaminant level of 3.00E-05 µg/L is for the dioxin congener 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD). TCDD Toxic Equivalent (TEQ) without detected but not quantified (DNQ) values is the sum of theproducts 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).
(j)	Analyte does not have a receiving water limit for Bell Creek Receiving Water (RSW-001, OF002).
(k)	Field parameter noted on field notes rather than COC.
(l)	When field staff arrived onsite to collect the composite sample, they discovered that the autosampler had malfunctioned and had not collected "sips." Field staff repaired the autosampler, reset it, determined it was functioning properly, then returned the next day to collect the composite sample.
(m)	The composite sample was collected as a grab sample from the sample box due to insufficient flow.
(n)	The grab sample was collected at the first opportunity given the short duration and low flow at this Outfall.
(o)	Unsafe conditions all day prevented access to the Outfall.
(p)	Various 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)	Sample collected in addition to NPDES permit required sampling frequency.
(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

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

July 1 through September 30, 2023

				8/9/2023 07:20		
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 <0.004	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	6.92	*
Toxaphene	µg/L	0.0003	1/Quarter	Grab	ND <0.054	U
POLLUTANTS WITHOUT LIMITS						
Hardness (as CaCO3)	mg/L	-	1/Quarter	Grab	610	--
Priority Pollutants	NA	-	1/5 Years	ANR	ANR	ANR
Temperature (Field)	Deg F	-	1/Quarter	Grab	72.6	*
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	*

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

ARROYO SIMI
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

				8/21/2023 09:50		
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 <0.004	U
Diazinon	µg/L	0.16	1/Quarter	Grab	ND <0.0034	UJ (H)
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	7.61	*
Toxaphene	µg/L	0.0003	1/Quarter	Grab	ND <0.054	U
POLLUTANTS WITHOUT LIMITS						
Hardness (as CaCO3)	mg/L	-	1/Quarter	Grab	170	--
Priority Pollutants	NA	-	1/5 Years	ANR	ANR	ANR
Temperature (Field)	Deg F	-	1/Quarter	Grab	64.7	*
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	0.2	*

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

OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

				8/21/2023 07:50 - 8/22/2023 07:25		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	0.01376	*
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	8.02	*
Total Suspended Solids#	mg/L	45	1/Discharge	Composite	4.6(c)	--
PRIORITY POLLUTANTS						
1,1-Dichloroethene	µg/L	6.0	1/Discharge	Grab	ND < 1.3	U
1,2-Dichloroethane	µg/L	0.5	1/Discharge	Grab	ND < 0.59	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	1.3	J (DNQ)
Cyanide	µg/L	8.5	1/Discharge	Composite	ND < 2.5	U
Lead	µg/L	5.2	1/Discharge	Composite	0.18	J (DNQ)
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	0.61(f)	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 < 0.70	U
Zinc	µg/L	119	1/Discharge	Composite	ND < 2.8	U
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	mg/L	10.1	1/Discharge	Composite	ND < 0.029	U
Barium	mg/L	1.0	1/Year	ANR	ANR	ANR
Chloride	mg/L	150	1/Discharge	Composite	7.3	--
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(x)	Composite	0.13	--
Iron	mg/L	0.3	1/Discharge(r)	Composite	0.2	--
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	41	--
Temperature (Field)	Deg F	86	1/Discharge	Grab	63.3	*
Total Dissolved Solids	mg/L	950	1/Discharge	Composite	170	--
REMAINING PRIORITY POLLUTANTS						
1,1,1-Trichloroethane	µg/L	-	1/Quarter	Grab	ND < 1.0	U
1,1,2,2-Tetrachloroethane	µg/L	-	1/Quarter	Grab	ND < 0.80	U
1,1,2-Trichloroethane	µg/L	-	1/Quarter	Grab	ND < 0.69	U
1,1-Dichloroethane	µg/L	-	1/Quarter	Grab	ND < 1.6	U
1,2,4-Trichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Dichlorobenzene (VOC)	µg/L	-	1/Quarter	Grab	ND < 0.66	U
1,2-Dichlorobenzene (SVOC)	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Dichloropropane	µg/L	-	1/Quarter	Grab	ND < 0.68	U

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

OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

				8/21/2023 07:50 - 8/22/2023 07:25		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
1,2-Diphenylhydrazine/Azobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,3-Dichlorobenzene (VOC)	µg/L	-	1/Quarter	Grab	ND < 0.62	U
1,3-Dichlorobenzene (SVOC)	µg/L	-	1/Year	ANR	ANR	ANR
1,4-Dichlorobenzene (VOC)	µg/L	-	1/Quarter	Grab	ND < 0.46	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 < 19	R (*1)
Acrylonitrile	µg/L	-	1/Quarter	Grab	ND < 5.7	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 < 1.1	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 < 0.99	U
Bromomethane (Methyl Bromide)	µg/L	-	1/Quarter	Grab	ND < 0.89	U
Butyl benzylphthalate	µg/L	-	1/Year	ANR	ANR	ANR
Carbon tetrachloride	µg/L	-	1/Quarter	Grab	ND < 1.1	U
Chlordane	µg/L	-	1/Year	ANR	ANR	ANR
Chlorobenzene	µg/L	-	1/Quarter	Grab	ND < 0.74	U
Chlorodibromomethane	µg/L	-	1/Quarter	Grab	ND < 0.61	U
Chloroethane	µg/L	-	1/Quarter	Grab	ND < 1.1	U
Chloroform	µg/L	-	1/Quarter	Grab	ND < 0.74	U

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

OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

				8/21/2023 07:50 - 8/22/2023 07:25		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Chloromethane (Methyl Chloride)	µg/L	-	1/Quarter	Grab	ND < 1.2	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 < 1.2	U
delta-BHC	µg/L	-	1/Year	ANR	ANR	ANR
Dibenzo(a,h)anthracene	µg/L	-	1/Year	ANR	ANR	ANR
Dichlorobromomethane	µg/L	-	1/Quarter	Grab	ND < 0.75	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 < 0.99	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[(x)]	Grab	ND < 0.66	U
Methylene chloride	µg/L	-	1/Quarter	Grab	ND < 2.3	U
Naphthalene (VOC)	µg/L	-	1/Year[(x)]	Grab	ND < 1.3	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[(x)]	Grab	ND < 0.59	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 < 0.86	U
Toluene	µg/L	-	1/Quarter	Grab	ND < 0.94	U
Toxaphene	µg/L	-	1/Year	ANR	ANR	ANR
trans-1,2-Dichloroethene	µg/L	-	1/Quarter	Grab	ND < 0.96	U
trans-1,3-Dichloropropene	µg/L	-	1/Quarter	Grab	ND < 0.72	U
Trichlorofluoromethane	µg/L	-	1/Year[(x)]	Grab	ND < 1.2	U
Vinyl chloride	µg/L	-	1/Quarter	Grab	ND < 1.9	U
Xylenes (Total)	µg/L	-	1/Year[(x)]	Grab	ND < 0.66	U

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

OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

				8/21/2023 07:50 - 8/22/2023 07:25		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS						
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	-	1/Quarter	Grab	ND < 1.3	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[x]	Grab	ND < 0.83	U
Cobalt	µg/L	-	1/Year	ANR	ANR	ANR
Conductivity	µmhos/cm	-	1/Discharge	Grab	260	--
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	4.88	*
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	4.90	--
Vanadium	µg/L	-	1/Year	ANR	ANR	ANR
ADDITIONAL POLLUTANTS[2]						
Antimony, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Arsenic, dissolved	µg/L	-	Additional/Year	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	ND < 0.13	U
Chromium, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Cobalt, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Copper, dissolved	µg/L	-	Additional/Discharge	Composite	2	--
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/Discharge[r]	Composite	0.020	--
Lead, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.12	U
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	ND < 0.52	U
Silver, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Thallium, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Vanadium, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Zinc, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 2.8	U

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

OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

					8/22/2023 07:25 (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	2.5E-07	1.7E-06	U (B)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	0.01	0.01	µg/L	3.8E-07	1.0E-06	UJ (*III)	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	0.01	0.4	µg/L	4.4E-07	ND	U	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	0.1	0.3	µg/L	3.5E-07	1.6E-06	UJ (*III)	**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	3.3E-07	ND	U	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	0.1	0.2	µg/L	2.5E-07	ND	U	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	0.1	0.1	µg/L	3.1E-07	ND	U	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	0.1	0.6	µg/L	2.5E-07	ND	U	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1.0	0.9	µg/L	7.0E-07	ND	U	**ND**
1,2,3,7,8-PeCDF	1/Discharge	0.05	0.2	µg/L	2.3E-07	ND	U	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	0.1	0.7	µg/L	2.4E-07	ND	U	**ND**
2,3,4,7,8-PeCDF	1/Discharge	0.5	1.6	µg/L	2.9E-07	ND	U	**ND**
2,3,7,8-TCDD	1/Discharge	1.0	1.0	µg/L	6.4E-07	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	0.1	0.8	µg/L	3.4E-07	ND	U	**ND**
OCDD	1/Discharge	0.0001	0.01	µg/L	5.0E-07	7.9E-06	U (B)	**ND**
OCDF	1/Discharge	0.0001	0.02	µg/L	7.0E-07	1.9E-06	UJ (*III)	**ND**

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

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

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

OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

				8/22/2023 07:25 (Composite)		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS						
Gross Alpha	pCi/L	15	1/Discharge	1.30 ± 1.11	1.67	U
Gross Beta	pCi/L	50	1/Discharge	0.407 ± 0.607	0.994	U
Combined Radium-226 & Radium-228	pCi/L	5.0	1/Discharge	0.874 ± 0.586	NM	U
Strontium-90	pCi/L	8.0	1/Discharge	0.294 ± 0.433	0.727	U
Tritium	pCi/L	20,000	1/Discharge	23.9 ± 172	310	U
ADDITIONAL POLLUTANTS						
Cesium-137	pCi/L	200	1/Discharge	5.87 ± 13.1	22.6	U
Uranium	pCi/L	20	1/Discharge	0.212 ± 0.141	0.115	--
ADDITIONAL POLLUTANTS WITHOUT LIMITS						
Potassium-40	pCi/L	-	1/Discharge	-23.8 ± 171	254	U

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

OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

				8/21/2023 07:50 - 8/22/2023 07:25		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	0.01376	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	LBS/DAY	29,481	1/Discharge	Composite	ND	U
Oil & Grease	LBS/DAY	14,741	1/Discharge	Grab	ND	U
Total Suspended Solids[#]	LBS/DAY	44,222	1/Discharge	Composite	0.53[(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	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	0.00015	J (DNQ)
Cyanide	LBS/DAY	8.35	1/Discharge	Composite	ND	U
Lead	LBS/DAY	5.11	1/Discharge	Composite	0.000021	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	0.00007[(f)]	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	0.84	--
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[(x)]	Composite	0.015	--
Iron	LBS/DAY	295	1/Discharge[(r)]	Composite	0.02	--
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	4.7	--
Total Dissolved Solids	LBS/DAY	933,567	1/Discharge	Composite	20	--

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

						8/21/2023 07:55 - 8/22/2023 08:20		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY / VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	1/Quarter	-	Meas	0.37728	*
CONVENTIONAL POLLUTANTS								
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	mg/L	30	1/Discharge	NA	-	Composite	6.3	--
Oil & Grease	mg/L	15	1/Discharge	NA	-	Grab	ND < 0.51	U
pH (Field)	s.u.	6.5-8.5	1/Discharge	1/Quarter	6.5-8.5	Grab	7.54	*
Total Suspended Solids#	mg/L	45	1/Discharge	1/Year	-	Composite	50(c)	--
PRIORITY POLLUTANTS								
1,1-Dichloroethene	µg/L	6.0	1/Discharge	1/5 Years	-	Grab	ND < 1.3	U
1,2-Dichloroethane	µg/L	0.5	1/Discharge	1/5 Years	-	Grab	ND < 0.59	U
2,4,6-Trichlorophenol	µg/L	13	1/Discharge	1/5 Years	-	Composite	ND < 0.13	U
2,4-Dinitrotoluene	µg/L	18	1/Discharge	1/5 Years	-	Composite	ND < 0.11	U
alpha-BHC	µg/L	0.03	1/Discharge	1/5 Years	-	Composite	ND < 0.0012	U
Antimony	µg/L	6.0	1/Year	1/5 Years	-	ANR	ANR	ANR
Arsenic	µg/L	10.0	1/Year	1/5 Years	-	ANR	ANR	ANR
Beryllium	µg/L	4.0	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Ethylhexyl) Phthalate	µg/L	4.0	1/Discharge	1/5 Years	-	Composite	ND < 3.4	U
Cadmium	µg/L	(4.0) 3.1	1/Discharge	1/5 Years	-	Composite	ND < 0.13	U
Chromium VI (Hexavalent)	µg/L	16	1/Year	1/5 Years	-	ANR	ANR	ANR
Copper	µg/L	14	1/Discharge	1/5 Years	-	Composite	3.7	--
Cyanide	µg/L	8.5	1/Discharge	1/5 Years	-	Composite	ND < 2.5	U
Lead	µg/L	5.2	1/Discharge	1/5 Years	-	Composite	1.5	--
Mercury	µg/L	0.1	1/Discharge	1/5 Years	-	Composite	ND < 0.12	U
Nickel	µg/L	94	1/Year	1/5 Years	-	ANR	ANR	ANR
N-Nitrosodimethylamine	µg/L	16	1/Discharge	1/5 Years	-	Composite	ND < 0.18	U
Pentachlorophenol	µg/L	16.5	1/Discharge	1/5 Years	-	Composite	ND < 0.80	U
Selenium	µg/L	(5) 8.2	1/Discharge	1/5 Years	-	Composite	0.91(f)	J (DNQ)
Silver	µg/L	4.1	1/Year	1/5 Years	-	ANR	ANR	ANR
Thallium	µg/L	2.0	1/Year	1/5 Years	-	ANR	ANR	ANR
Trichloroethene	µg/L	5.0	1/Discharge	1/5 Years	-	Grab	ND < 0.70	U
Zinc	µg/L	119	1/Discharge	1/5 Years	-	Composite	12	J (DNQ)
NON-CONVENTIONAL POLLUTANTS								
Ammonia - N	mg/L	10.1	1/Discharge	NA	-	Composite	ND < 0.029	U
Barium	mg/L	1.0	1/Year	NA	-	ANR	ANR	ANR
Chloride	mg/L	150	1/Discharge	NA	-	Composite	29	--
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	0.083	J (DNQ)
Fluoride	mg/L	1.6	1/Year(x)	NA	-	Composite	0.21	--
Iron	mg/L	0.3	1/Year	NA	-	ANR	ANR	ANR
Manganese	µg/L	50	1/Year	NA	-	ANR	ANR	ANR
Nitrate - N	mg/L	8	1/Discharge	NA	-	Composite	0.26	--
Nitrate + Nitrite as Nitrogen (N)	mg/L	8	1/Discharge	NA	-	Composite	0.26	--
Nitrite - N	mg/L	1	1/Discharge	NA	-	Composite	ND < 0.086	U
Perchlorate	µg/L	6.0	1/Discharge	NA	-	Composite	ND < 0.91	U
Settleable Solids#	ml/L	0.3	1/Discharge	NA	-	Grab	ND < 0.10	U
Sulfate	mg/L	300	1/Discharge	NA	-	Composite	180	--
Temperature (Field)	Deg F	86	1/Discharge	1/Quarter	-	Grab	64.8	*
Total Dissolved Solids	mg/L	950	1/Discharge	NA	-	Composite	500	--
REMAINING PRIORITY POLLUTANTS								
1,1,1-Trichloroethane	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 1.0	U
1,1,2,2-Tetrachloroethane	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 0.80	U
1,1,2-Trichloroethane	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 0.69	U
1,1-Dichloroethane	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 1.6	U
1,2,4-Trichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Dichlorobenzene (VOC)	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 0.66	U
1,2-Dichlorobenzene (SVOC)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Dichloropropane	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 0.68	U

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

						8/21/2023 07:55 - 8/22/2023 08:20		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY / VALIDATION QUALIFIER**
1,2-Diphenylhydrazine/Azobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,3-Dichlorobenzene (VOC)	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 0.62	U
1,3-Dichlorobenzene (SVOC)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,4-Dichlorobenzene (VOC)	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 0.46	U
1,4-Dichlorobenzene (SVOC)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,4-Dichlorophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,4-Dimethylphenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,4-Dinitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,6-Dinitrotoluene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Chloroethyl vinyl ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Chloronaphthalene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Chlorophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Methyl-4,6-dinitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Nitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
3,3'-Dichlorobenzidine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4,4'-DDD	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.0044	U
4,4'-DDE	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.0019	U
4,4'-DDT	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.0016	U
4-Bromophenyl phenyl ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4-Chloro-3-methylphenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4-Chlorophenyl phenyl ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4-Nitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acenaphthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acenaphthylene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acrolein	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 19	R (*1)
Acrylonitrile	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 5.7	U
Aldrin	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
alpha-Endosulfan	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Anthracene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Aroclor 1016	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.044	U
Aroclor 1221	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.044	U
Aroclor 1232	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.044	U
Aroclor 1242	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.044	U
Aroclor 1248	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.044	U
Aroclor 1254	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.052	U
Aroclor 1260	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.052	U
Benzene	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 1.1	U
Benzidine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(a)anthracene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(a)pyrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(b)fluoranthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(g,h,i)perylene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(k)fluoranthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
beta-BHC	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
beta-Endosulfan	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Chloroethoxy) Methane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Chloroethyl) Ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Chloroisopropyl) Ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bromoform	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 0.99	U
Bromomethane (Methyl Bromide)	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 0.89	U
Butyl benzylphthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Carbon tetrachloride	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 1.1	U
Chlordane	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.026	U
Chlorobenzene	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 0.74	U
Chlorodibromomethane	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 0.61	U
Chloroethane	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 1.1	U
Chloroform	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 0.74	U
Chloromethane (Methyl Chloride)	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 1.2	U

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

						8/21/2023 07:55 - 8/22/2023 08:20		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY / VALIDATION QUALIFIER**
Chromium	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chromium III (Trivalent)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chrysene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
cis-1,3-Dichloropropene	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 1.2	U
delta-BHC	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dibenzo(a,h)anthracene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dichlorobromomethane	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 0.75	U
Dieldrin	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.0013	U
Diethyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dimethyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Di-n-butyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Di-n-octyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Endosulfan sulfate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Endrin	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Endrin aldehyde	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Ethylbenzene	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 0.99	U
Fluoranthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Fluorene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
gamma-BHC (Lindane)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Heptachlor	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Heptachlor epoxide	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachlorobutadiene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachlorocyclopentadiene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Indeno(1,2,3-cd)pyrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Isophorone	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
m,p-Xylenes	µg/L	-	1/Year[(x)]	1/5 Years	-	Grab	ND < 0.66	U
Methylene chloride	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 2.3	U
Naphthalene (VOC)	µg/L	-	1/Year[(x)]	1/5 Years	-	Grab	ND < 1.3	U
Naphthalene (SVOC)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Nitrobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
N-Nitroso-di-n-propylamine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
N-Nitrosodiphenylamine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
o-Xylene	µg/L	-	1/Year[(x)]	1/5 Years	-	Grab	ND < 0.59	U
Phenanthrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Phenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Pyrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Tetrachloroethene	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 0.86	U
Toluene	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 0.94	U
Toxaphene	µg/L	-	1/Year	1/Quarter	-	Composite	ND < 0.054	U
trans-1,2-Dichloroethene	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 0.96	U
trans-1,3-Dichloropropene	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 0.72	U
Trichlorofluoromethane	µg/L	-	1/Year[(x)]	1/5 Years	-	Grab	ND < 1.2	U
Vinyl chloride	µg/L	-	1/Quarter	1/5 Years	-	Grab	ND < 1.9	U
Xylenes (Total)	µg/L	-	1/Year[(x)]	1/5 Years	-	Grab	ND < 0.66	U
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS								
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	-	1/Quarter	NA	-	Grab	ND < 1.3	U
1,2-Dichloro-1,1,2-trifluoroethane	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
1,4-Dioxane	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Boron	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
cis-1,2-Dichloroethene	µg/L	-	1/Year[(x)]	NA	-	Grab	ND < 0.83	U
Cobalt	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Conductivity	µmhos/cm	-	1/Discharge	NA	-	Grab	720	--
Cyclohexane	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Diesel Range Organics (DRO C13-C28)	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
Dissolved Oxygen (Field)	mg/L	-	1/Discharge	NA	-	Grab	4.68	*
E. Coli	mpn/100mL	-	1/Year	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

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

July 1 through September 30, 2023

						8/21/2023 07:55 - 8/22/2023 08:20		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY / VALIDATION QUALIFIER**
Gasoline Range Organics (GRO C4-C12)	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
Hardness (as CaCO3)	mg/L	-	1/Year	1/Quarter	-	Composite	230	--
Monomethyl hydrazine	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Total Organic Carbon	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
Turbidity	NTU	-	1/Discharge	NA	-	Composite	100.0	--
Vanadium	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
ADDITIONAL POLLUTANTS[2]								
Antimony, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Arsenic, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Barium, dissolved	mg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Beryllium, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Boron, dissolved	mg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Cadmium, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.13	U
Chromium, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Cobalt, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Copper, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	2.5	--
Hardness, Dissolved (as CaCO3)	mg/L	-	Additional/Year	NA	-	Composite	220	--
Human Bacteroides	CEs/100mL	-	Additional/Year	NA	-	ANR	ANR	ANR
Iron, dissolved	mg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Lead, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	0.18	J (DNQ)
Manganese, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Mercury, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.12	U
Nickel, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Selenium, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	0.66	J (DNQ)
Silver, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Thallium, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Vanadium, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Zinc, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	2.8	J (DNQ)

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

						9/14/2023 07:30 - 9/15/2023 08:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY / VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	1/Quarter	-	Meas	0.2636	*
CONVENTIONAL POLLUTANTS								
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	mg/L	30	1/Discharge	NA	-	Composite	5.8	--
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	7.83	*
Total Suspended Solids#	mg/L	45	1/Discharge	1/Year	-	Composite	3.2(d)	--
PRIORITY POLLUTANTS								
1,1-Dichloroethene	µg/L	6.0	1/Discharge	1/5 Years	-	Grab	ND < 0.67	U
1,2-Dichloroethane	µg/L	0.5	1/Discharge	1/5 Years	-	Grab	ND < 0.30	U
2,4,6-Trichlorophenol	µg/L	13	1/Discharge	1/5 Years	-	Composite	ND < 0.13	U
2,4-Dinitrotoluene	µg/L	18	1/Discharge	1/5 Years	-	Composite	ND < 0.11	U
alpha-BHC	µg/L	0.03	1/Discharge	1/5 Years	-	Composite	ND < 0.0012	U
Antimony	µg/L	6.0	1/Year	1/5 Years	-	ANR	ANR	ANR
Arsenic	µg/L	10.0	1/Year	1/5 Years	-	ANR	ANR	ANR
Beryllium	µg/L	4.0	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Ethylhexyl) Phthalate	µg/L	4.0	1/Discharge	1/5 Years	-	Composite	ND < 3.4	U
Cadmium	µg/L	(4.0) 3.1	1/Discharge	1/5 Years	-	Composite	ND < 0.13	U
Chromium VI (Hexavalent)	µg/L	16	1/Year	1/5 Years	-	ANR	ANR	ANR
Copper	µg/L	14	1/Discharge	1/5 Years	-	Composite	1.0	J (DNQ)
Cyanide	µg/L	8.5	1/Discharge	1/5 Years	-	Composite	ND < 2.5	U
Lead	µg/L	5.2	1/Discharge	1/5 Years	-	Composite	ND < 0.12	U
Mercury	µg/L	0.1	1/Discharge	1/5 Years	-	Composite	ND < 0.12	U
Nickel	µg/L	94	1/Year	1/5 Years	-	ANR	ANR	ANR
N-Nitrosodimethylamine	µg/L	16	1/Discharge	1/5 Years	-	Composite	ND < 0.17	U
Pentachlorophenol	µg/L	16.5	1/Discharge	1/5 Years	-	Composite	ND < 0.79	U
Selenium	µg/L	(5) 8.2	1/Discharge	1/5 Years	-	Composite	ND < 0.52	U
Silver	µg/L	4.1	1/Year	1/5 Years	-	ANR	ANR	ANR
Thallium	µg/L	2.0	1/Year	1/5 Years	-	ANR	ANR	ANR
Trichloroethene	µg/L	5.0	1/Discharge	1/5 Years	-	Grab	ND < 0.35	U
Zinc	µg/L	119	1/Discharge	1/5 Years	-	Composite	ND < 2.8	U
NON-CONVENTIONAL POLLUTANTS								
Ammonia - N	mg/L	10.1	1/Discharge	NA	-	Composite	ND < 0.029	U
Barium	mg/L	1.0	1/Year	NA	-	ANR	ANR	ANR
Chloride	mg/L	150	1/Discharge	NA	-	Composite	19	--
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	0.12	J (DNQ)
Fluoride	mg/L	1.6	1/Year(x)	NA	-	ANR	ANR	ANR
Iron	mg/L	0.3	1/Year	NA	-	ANR	ANR	ANR
Manganese	µg/L	50	1/Year	NA	-	ANR	ANR	ANR
Nitrate - N	mg/L	8	1/Discharge	NA	-	Composite	0.025	J (DNQ)
Nitrate + Nitrite as Nitrogen (N)	mg/L	8	1/Discharge	NA	-	Composite	0.025	J (DNQ)
Nitrite - N	mg/L	1	1/Discharge	NA	-	Composite	ND < 0.043	U
Perchlorate	µg/L	6.0	1/Discharge	NA	-	Composite	ND < 0.91	U
Settleable Solids#	ml/L	0.3	1/Discharge	NA	-	Grab	ND < 0.10	U
Sulfate	mg/L	300	1/Discharge	NA	-	Composite	150	--
Temperature (Field)	Deg F	86	1/Discharge	1/Quarter	-	Grab	70.2	*
Total Dissolved Solids	mg/L	950	1/Discharge	NA	-	Composite	430	--
REMAINING PRIORITY POLLUTANTS								
1,1,1-Trichloroethane	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
1,1,2,2-Tetrachloroethane	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
1,1,2-Trichloroethane	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
1,1-Dichloroethane	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
1,2,4-Trichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Dichlorobenzene (VOC)	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
1,2-Dichlorobenzene (SVOC)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Dichloropropane	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

						9/14/2023 07:30 - 9/15/2023 08:00		
ANALYTE	UNITS	DAILY MAXIMUM BENCHMARK LIMIT	OUTFALL SAMPLE FREQUENCY	RECEIVING WATER SAMPLE FREQUENCY	RECEIVING WATER LIMIT	SAMPLE TYPE	RESULT	LABORATORY / VALIDATION QUALIFIER
1,2-Diphenylhydrazine/Azobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,3-Dichlorobenzene (VOC)	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
1,3-Dichlorobenzene (SVOC)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,4-Dichlorobenzene (VOC)	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
1,4-Dichlorobenzene (SVOC)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,4-Dichlorophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,4-Dimethylphenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,4-Dinitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,6-Dinitrotoluene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Chloroethyl vinyl ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Chloronaphthalene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Chlorophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Methyl-4,6-dinitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Nitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
3,3'-Dichlorobenzidine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4,4'-DDD	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
4,4'-DDE	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
4,4'-DDT	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
4-Bromophenyl phenyl ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4-Chloro-3-methylphenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4-Chlorophenyl phenyl ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4-Nitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acenaphthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acenaphthylene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acrolein	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
Acrylonitrile	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
Aldrin	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
alpha-Endosulfan	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Anthracene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Aroclor 1016	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Aroclor 1221	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Aroclor 1232	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Aroclor 1242	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Aroclor 1248	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Aroclor 1254	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Aroclor 1260	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Benzene	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
Benzidine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(a)anthracene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(a)pyrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(b)fluoranthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(g,h,i)perylene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(k)fluoranthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
beta-BHC	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
beta-Endosulfan	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Chloroethoxy) Methane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Chloroethyl) Ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Chloroisopropyl) Ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bromoform	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
Bromomethane (Methyl Bromide)	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
Butyl benzylphthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Carbon tetrachloride	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
Chlordane	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Chlorobenzene	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
Chlorodibromomethane	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
Chloroethane	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
Chloroform	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
Chloromethane (Methyl Chloride)	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

						9/14/2023 07:30 - 9/15/2023 08:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY / VALIDATION QUALIFIER**
Chromium	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chromium III (Trivalent)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chrysene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
cis-1,3-Dichloropropene	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
delta-BHC	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dibenzo(a,h)anthracene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dichlorobromomethane	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
Dieldrin	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Diethyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dimethyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Di-n-butyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Di-n-octyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Endosulfan sulfate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Endrin	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Endrin aldehyde	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Ethylbenzene	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
Fluoranthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Fluorene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
gamma-BHC (Lindane)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Heptachlor	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Heptachlor epoxide	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachlorobutadiene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachlorocyclopentadiene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Indeno(1,2,3-cd)pyrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Isophorone	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
m,p-Xylenes	µg/L	-	1/Year[x]	1/5 Years	-	ANR	ANR	ANR
Methylene chloride	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
Naphthalene (VOC)	µg/L	-	1/Year[x]	1/5 Years	-	ANR	ANR	ANR
Naphthalene (SVOC)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Nitrobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
N-Nitroso-di-n-propylamine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
N-Nitrosodiphenylamine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
o-Xylene	µg/L	-	1/Year[x]	1/5 Years	-	ANR	ANR	ANR
Phenanthrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Phenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Pyrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Tetrachloroethene	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
Toluene	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
Toxaphene	µg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
trans-1,2-Dichloroethene	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
trans-1,3-Dichloropropene	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
Trichlorofluoromethane	µg/L	-	1/Year[x]	1/5 Years	-	ANR	ANR	ANR
Vinyl chloride	µg/L	-	1/Quarter	1/5 Years	-	ANR	ANR	ANR
Xylenes (Total)	µg/L	-	1/Year[x]	1/5 Years	-	ANR	ANR	ANR
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS								
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	-	1/Quarter	NA	-	ANR	ANR	ANR
1,2-Dichloro-1,1,2-trifluoroethane	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
1,4-Dioxane	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Boron	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
cis-1,2-Dichloroethene	µg/L	-	1/Year[x]	NA	-	ANR	ANR	ANR
Cobalt	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Conductivity	µmhos/cm	-	1/Discharge	NA	-	Grab	640	--
Cyclohexane	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Diesel Range Organics (DRO C13-C28)	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
Dissolved Oxygen (Field)	mg/L	-	1/Discharge	NA	-	Grab	8.86	*
E. Coli	mpn/100mL	-	1/Year	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

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

July 1 through September 30, 2023

						9/14/2023 07:30 - 9/15/2023 08:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY / VALIDATION QUALIFIER**
Gasoline Range Organics (GRO C4-C12)	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
Hardness (as CaCO3)	mg/L	-	1/Year	1/Quarter	-	ANR	ANR	ANR
Monomethyl hydrazine	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Total Organic Carbon	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
Turbidity	NTU	-	1/Discharge	NA	-	Composite	1.1	--
Vanadium	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
ADDITIONAL POLLUTANTS[2]								
Antimony, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Arsenic, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Barium, dissolved	mg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Beryllium, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Boron, dissolved	mg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Cadmium, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.13	U
Chromium, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Cobalt, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Copper, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	0.99	J (DNQ)
Hardness, Dissolved (as CaCO3)	mg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Human Bacteroides	CEs/100mL	-	Additional/Year	NA	-	ANR	ANR	ANR
Iron, dissolved	mg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Lead, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.12	U
Manganese, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Mercury, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.12	U
Nickel, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Selenium, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.52	U
Silver, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Thallium, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Vanadium, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Zinc, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 2.8	U

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

						8/22/2023 07:55 (Composite)			
ANALYTE	**SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**1998 WHO TEF**	**BEF GREAT LAKES WATER QUALITY INITIATIVE**	**UNITS**	**LAB MDL**	**LAB RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**TCDD EQUIVALENT (w/out DNQ Values)**
1,2,3,4,6,7,8-HpCDD	1/Discharge	1/Year	0.01	0.05	µg/L	3.3E-07	2.5E-05	U (B)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	1/Year	0.01	0.01	µg/L	5.2E-07	1.3E-05	U (B)	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	1/Year	0.01	0.4	µg/L	6.1E-07	2.0E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	1/Year	0.1	0.3	µg/L	4.7E-07	4.1E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	1/Year	0.1	0.08	µg/L	4.8E-07	1.2E-06	UJ (*III)	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	1/Year	0.1	0.1	µg/L	4.5E-07	1.0E-06	U (B)	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	1/Year	0.1	0.2	µg/L	4.5E-07	1.9E-06	U (B)	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	1/Year	0.1	0.1	µg/L	4.2E-07	2.9E-06	U (B)	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	1/Year	0.1	0.6	µg/L	4.3E-07	1.3E-06	U (B)	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1/Year	1.0	0.9	µg/L	8.0E-07	1.2E-06	UJ (*III)	**ND**
1,2,3,7,8-PeCDF	1/Discharge	1/Year	0.05	0.2	µg/L	3.1E-07	1.3E-06	UJ (*III)	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	1/Year	0.1	0.7	µg/L	4.3E-07	1.5E-06	U (B)	**ND**
2,3,4,7,8-PeCDF	1/Discharge	1/Year	0.5	1.6	µg/L	3.9E-07	1.8E-06	U (B)	**ND**
2,3,7,8-TCDD	1/Discharge	1/Year	1.0	1.0	µg/L	6.3E-07	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	1/Year	0.1	0.8	µg/L	3.3E-07	ND	U	**ND**
OCDD	1/Discharge	1/Year	0.0001	0.01	µg/L	5.7E-07	2.5E-04	--	**2.5E-10**
OCDF	1/Discharge	1/Year	0.0001	0.02	µg/L	8.4E-07	2.6E-05	U (B)	**ND**

TCDD TEQ w/out DNQ Values[4]	**2.5E-10**

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

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

						9/15/2023 08:00 (Composite)			
ANALYTE	**SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**1998 WHO TEF**	**BEF GREAT LAKES WATER QUALITY INITIATIVE**	**UNITS**	**LAB MDL**	**LAB RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**TCDD EQUIVALENT (w/out DNQ Values)**
1,2,3,4,6,7,8-HpCDD	1/Discharge	1/Year	0.01	0.05	µg/L	3.1E-07	4.0E-06	U (B)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	1/Year	0.01	0.01	µg/L	6.2E-07	ND	U	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	1/Year	0.01	0.4	µg/L	6.4E-07	ND	U	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	1/Year	0.1	0.3	µg/L	1.1E-06	2.5E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	1/Year	0.1	0.08	µg/L	6.6E-07	ND	U	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	1/Year	0.1	0.1	µg/L	1.2E-06	ND	U	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	1/Year	0.1	0.2	µg/L	6.2E-07	ND	U	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	1/Year	0.1	0.1	µg/L	1.1E-06	ND	U	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	1/Year	0.1	0.6	µg/L	6.2E-07	ND	U	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1/Year	1.0	0.9	µg/L	1.2E-06	ND	U	**ND**
1,2,3,7,8-PeCDF	1/Discharge	1/Year	0.05	0.2	µg/L	6.5E-07	ND	U	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	1/Year	0.1	0.7	µg/L	6.0E-07	ND	U	**ND**
2,3,4,7,8-PeCDF	1/Discharge	1/Year	0.5	1.6	µg/L	8.2E-07	ND	U	**ND**
2,3,7,8-TCDD	1/Discharge	1/Year	1.0	1.0	µg/L	8.5E-07	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	1/Year	0.1	0.8	µg/L	5.6E-07	ND	U	**ND**
OCDD	1/Discharge	1/Year	0.0001	0.01	µg/L	1.0E-06	2.4E-05	U (B)	**ND**
OCDF	1/Discharge	1/Year	0.0001	0.02	µg/L	7.1E-07	1.9E-06	UJ (*III)	**ND**

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

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

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

						8/22/2023 07:55 (Composite)		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS								
Gross Alpha	pCi/L	15	1/Discharge	NA	-/-	2.09 ± 2.18	3.46	UJ (Q)
Gross Beta	pCi/L	50	1/Discharge	NA	-/-	7.37 ± 1.60	1.60	--
Combined Radium-226 & Radium-228	pCi/L	5.0	1/Discharge	NA	-/-	2.19 ± 1.358	NM	U*
Strontium-90	pCi/L	8.0	1/Discharge	NA	-/-	0.640 ± 0.593	0.951	U
Tritium	pCi/L	20,000	1/Discharge	NA	-/-	19.8 ± 171	307	U
ADDITIONAL POLLUTANTS								
Cesium-137	pCi/L	200	1/Discharge	NA	-/-	0.155 ± 11.8	20.9	U
Uranium	pCi/L	20	1/Discharge	NA	-/-	1.56 ± 0.575	0.281	--
ADDITIONAL POLLUTANTS WITHOUT LIMITS								
Potassium-40	pCi/L	-	1/Discharge	NA	-/-	-60.4 ± 138	190	U

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

						9/15/2023 08:00 (Composite)		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS								
Gross Alpha	pCi/L	15	1/Discharge	NA	-/-	3.34 ± 2.33	3.28	J (Q)
Gross Beta	pCi/L	50	1/Discharge	NA	-/-	5.34 ± 1.65	2.02	--
Combined Radium-226 & Radium-228	pCi/L	5.0	1/Discharge	NA	-/-	0.995 ± 0.679	NM	U
Strontium-90	pCi/L	8.0	1/Discharge	NA	-/-	0.352 ± 0.283	0.444	U
Tritium	pCi/L	20,000	1/Discharge	NA	-/-	102 ± 161	273	U
ADDITIONAL POLLUTANTS								
Cesium-137	pCi/L	200	1/Discharge	NA	-/-	3.20 ± 9.99	12.5	U
Uranium	pCi/L	20	1/Discharge	NA	-/-	0.772 ± 0.380	0.259	--
ADDITIONAL POLLUTANTS WITHOUT LIMITS								
Potassium-40	pCi/L	-	1/Discharge	NA	-/-	2.84 ± 146	190	U

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

				8/21/2023 07:55 - 8/22/2023 08:20		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	0.37728	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	LBS/DAY	29,481	1/Discharge	Composite	20	--
Oil & Grease	LBS/DAY	14,741	1/Discharge	Grab	ND	U
Total Suspended Solids[#]	LBS/DAY	44,222	1/Discharge	Composite	200[(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	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	0.012	--
Cyanide	LBS/DAY	8.35	1/Discharge	Composite	ND	U
Lead	LBS/DAY	5.11	1/Discharge	Composite	0.0047	--
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	0.0029[(f)]	J (DNQ)
Silver	LBS/DAY	4.03	1/Year	ANR	ANR	ANR
TCDD TEQ_NoDNQ[(4)]	LBS/DAY	2.75E-08	1/Discharge	Composite	7.9E-13	*
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	0.038	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	91	--
Chlorine, Total Residual (Field)	LBS/DAY	98.3	1/Year	ANR	ANR	ANR
Detergents (as MBAS)	LBS/DAY	491.4	1/Discharge	Composite	0.26	J (DNQ)
Fluoride	LBS/DAY	1,572.3	1/Year[(x)]	Composite	0.66	--
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	0.82	--
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	7,862	1/Discharge	Composite	0.82	--
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	570	--
Total Dissolved Solids	LBS/DAY	933,567	1/Discharge	Composite	2,000	--

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

				9/14/2023 07:30 - 9/15/2023 08:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	0.26360	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	LBS/DAY	29,481	1/Discharge	Composite	13	--
Oil & Grease	LBS/DAY	14,741	1/Discharge	Grab	ND	U
Total Suspended Solids[#]	LBS/DAY	44,222	1/Discharge	Composite	7[(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	0.002	J (DNQ)
Cyanide	LBS/DAY	8.35	1/Discharge	Composite	ND	U
Lead	LBS/DAY	5.11	1/Discharge	Composite	ND	U
Mercury	LBS/DAY	0.1	1/Discharge	Composite	ND	U
Nickel	LBS/DAY	92.4	1/Year	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	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	42	--
Chlorine, Total Residual (Field)	LBS/DAY	98.3	1/Year	ANR	ANR	ANR
Detergents (as MBAS)	LBS/DAY	491.4	1/Discharge	Composite	0.26	J (DNQ)
Fluoride	LBS/DAY	1,572.3	1/Year[(x)]	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	0.055	J (DNQ)
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	7,862	1/Discharge	Composite	0.055	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	330	--
Total Dissolved Solids	LBS/DAY	933,567	1/Discharge	Composite	950	--

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

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

				8/21/2023 08:50 - 8/22/2023 08:35		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	64.33	1/Discharge	Meas	2.0483	*
CONVENTIONAL POLLUTANTS						
Oil & Grease	mg/L	15	1/Discharge	Grab	ND < 0.50	U
pH (Field)	s.u.	6.5-8.5	1/Discharge	Grab	8.01	*
PRIORITY POLLUTANTS						
Antimony	µg/L	6.0	1/Discharge	Composite	1.1	J (DNQ)
Cadmium	µg/L	4.0	1/Discharge	Composite	ND < 0.13	U
Copper	µg/L	13	1/Discharge	Composite	5.5	--
Cyanide	µg/L	9.5	1/Discharge	Composite	ND < 2.5	U
Lead	µg/L	5.2	1/Discharge	Composite	12	--
Mercury	µg/L	0.13	1/Discharge	Composite	ND < 0.12	U
Nickel	µg/L	86	1/Discharge	Composite	2.7	--
Thallium	µg/L	2.0	1/Discharge	Composite	ND < 0.11	U
Zinc	µg/L	120	1/Discharge	Composite	17	J (DNQ)
NON-CONVENTIONAL POLLUTANTS						
Boron	mg/L	1.0	1/Year	ANR	ANR	ANR
Chloride	mg/L	150	1/Discharge	Composite	3.8	--
Chronic Toxicity	Pass or Fail and % Effect	Pass or % Effect <50	1st & 2nd rain event/Year	ANR	ANR	ANR
Fluoride	mg/L	1.6	1/Year	ANR	ANR	ANR
Nitrate + Nitrite as Nitrogen (N)	mg/L	10	1/Discharge	Composite	0.91	--
Perchlorate	µg/L	6.0	1/Semiannual	Composite	ND < 0.91	U
Sulfate	mg/L	250	1/Discharge	Composite	4.9	--
Temperature (Field)	Deg F	86	1/Discharge	Grab	64.1	*
Total Dissolved Solids	mg/L	850	1/Discharge	Composite	96	--
REMAINING PRIORITY POLLUTANTS						
1,1,1-Trichloroethane	µg/L	-	1/Year	ANR	ANR	ANR
1,1,2,2-Tetrachloroethane	µg/L	-	1/Year	ANR	ANR	ANR
1,1,2-Trichloroethane	µg/L	-	1/Year	ANR	ANR	ANR
1,1-Dichloroethane	µg/L	-	1/Year	ANR	ANR	ANR
1,1-Dichloroethene	µg/L	-	1/Year	ANR	ANR	ANR
1,2,4-Trichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Dichlorobenzene (VOC)	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Dichlorobenzene (SVOC)	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Dichloroethane	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Dichloropropane	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Diphenylhydrazine/Azobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,3-Dichlorobenzene (VOC)	µg/L	-	1/Year	ANR	ANR	ANR
1,3-Dichlorobenzene (SVOC)	µg/L	-	1/Year	ANR	ANR	ANR
1,4-Dichlorobenzene (VOC)	µg/L	-	1/Year	ANR	ANR	ANR
1,4-Dichlorobenzene (SVOC)	µg/L	-	1/Year	ANR	ANR	ANR
2,4,6-Trichlorophenol	µg/L	-	1/Year	ANR	ANR	ANR
2,4-Dichlorophenol	µg/L	-	1/Year	ANR	ANR	ANR
2,4-Dimethylphenol	µg/L	-	1/Year	ANR	ANR	ANR
2,4-Dinitrophenol	µg/L	-	1/Year	ANR	ANR	ANR
2,4-Dinitrotoluene	µg/L	-	1/Year	ANR	ANR	ANR
2,6-Dinitrotoluene	µg/L	-	1/Year	ANR	ANR	ANR
2-Chloroethyl vinyl ether	µg/L	-	1/Year	ANR	ANR	ANR
2-Chloronaphthalene	µg/L	-	1/Year	ANR	ANR	ANR
2-Chlorophenol	µg/L	-	1/Year	ANR	ANR	ANR
2-Methyl-4,6-dinitrophenol	µg/L	-	1/Year	ANR	ANR	ANR
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

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

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

				8/21/2023 08:50 - 8/22/2023 08:35		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
4-Nitrophenol	µg/L	-	1/Year	ANR	ANR	ANR
Acenaphthene	µg/L	-	1/Year	ANR	ANR	ANR
Acenaphthylene	µg/L	-	1/Year	ANR	ANR	ANR
Acrolein	µg/L	-	1/Year	ANR	ANR	ANR
Acrylonitrile	µg/L	-	1/Year	ANR	ANR	ANR
Aldrin	µg/L	-	1/Year	ANR	ANR	ANR
alpha-BHC	µg/L	-	1/Year	ANR	ANR	ANR
alpha-Endosulfan	µg/L	-	1/Year	ANR	ANR	ANR
Anthracene	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1016	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1221	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1232	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1242	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1248	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1254	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1260	µg/L	-	1/Year	ANR	ANR	ANR
Arsenic	µg/L	-	1/Year	ANR	ANR	ANR
Asbestos, >=0.5 um	MFL	-	1/Year	ANR	ANR	ANR
Asbestos, > 10 um only	MFL	-	1/Year	ANR	ANR	ANR
Benzene	µg/L	-	1/Year	ANR	ANR	ANR
Benzidine	µg/L	-	1/Year	ANR	ANR	ANR
Benzo(a)anthracene	µg/L	-	1/Year	ANR	ANR	ANR
Benzo(a)pyrene	µg/L	-	1/Year	ANR	ANR	ANR
Benzo(b)fluoranthene	µg/L	-	1/Year	ANR	ANR	ANR
Benzo(g,h,i)perylene	µg/L	-	1/Year	ANR	ANR	ANR
Benzo(k)fluoranthene	µg/L	-	1/Year	ANR	ANR	ANR
Beryllium	µg/L	-	1/Year	ANR	ANR	ANR
beta-BHC	µg/L	-	1/Year	ANR	ANR	ANR
beta-Endosulfan	µg/L	-	1/Year	ANR	ANR	ANR
Bis (2-Chloroethoxy) Methane	µg/L	-	1/Year	ANR	ANR	ANR
Bis (2-Chloroethyl) Ether	µg/L	-	1/Year	ANR	ANR	ANR
Bis (2-Chloroisopropyl) Ether	µg/L	-	1/Year	ANR	ANR	ANR
Bis (2-Ethylhexyl) Phthalate	µg/L	-	1/Year	ANR	ANR	ANR
Bromoform	µg/L	-	1/Year	ANR	ANR	ANR
Bromomethane (Methyl Bromide)	µg/L	-	1/Year	ANR	ANR	ANR
Butyl benzylphthalate	µg/L	-	1/Year	ANR	ANR	ANR
Carbon tetrachloride	µg/L	-	1/Year	ANR	ANR	ANR
Chlordane	µg/L	-	1/Year	ANR	ANR	ANR
Chlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
Chlorodibromomethane	µg/L	-	1/Year	ANR	ANR	ANR
Chloroethane	µg/L	-	1/Year	ANR	ANR	ANR
Chloroform	µg/L	-	1/Year	ANR	ANR	ANR
Chloromethane (Methyl Chloride)	µg/L	-	1/Year	ANR	ANR	ANR
Chromium	µg/L	-	1/Year	ANR	ANR	ANR
Chromium III (Trivalent)	µg/L	-	1/Year	ANR	ANR	ANR
Chromium VI (Hexavalent)	µg/L	-	1/Year	ANR	ANR	ANR
Chrysene	µg/L	-	1/Year	ANR	ANR	ANR
cis-1,3-Dichloropropene	µg/L	-	1/Year	ANR	ANR	ANR
delta-BHC	µg/L	-	1/Year	ANR	ANR	ANR
Dibenzo(a,h)anthracene	µg/L	-	1/Year	ANR	ANR	ANR
Dichlorobromomethane	µg/L	-	1/Year	ANR	ANR	ANR
Dieldrin	µg/L	-	1/Year	ANR	ANR	ANR
Diethyl phthalate	µg/L	-	1/Year	ANR	ANR	ANR
Dimethyl phthalate	µg/L	-	1/Year	ANR	ANR	ANR
Di-n-butyl phthalate	µg/L	-	1/Year	ANR	ANR	ANR
Di-n-octyl phthalate	µg/L	-	1/Year	ANR	ANR	ANR
Endosulfan sulfate	µg/L	-	1/Year	ANR	ANR	ANR

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

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

				8/21/2023 08:50 - 8/22/2023 08:35		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Endrin	µg/L	-	1/Year	ANR	ANR	ANR
Endrin aldehyde	µg/L	-	1/Year	ANR	ANR	ANR
Ethylbenzene	µg/L	-	1/Year	ANR	ANR	ANR
Fluoranthene	µg/L	-	1/Year	ANR	ANR	ANR
Fluorene	µg/L	-	1/Year	ANR	ANR	ANR
gamma-BHC (Lindane)	µg/L	-	1/Year	ANR	ANR	ANR
Heptachlor	µg/L	-	1/Year	ANR	ANR	ANR
Heptachlor epoxide	µg/L	-	1/Year	ANR	ANR	ANR
Hexachlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
Hexachlorobutadiene	µg/L	-	1/Year	ANR	ANR	ANR
Hexachlorocyclopentadiene	µg/L	-	1/Year	ANR	ANR	ANR
Hexachloroethane	µg/L	-	1/Year	ANR	ANR	ANR
Indeno(1,2,3-cd)pyrene	µg/L	-	1/Year	ANR	ANR	ANR
Isophorone	µg/L	-	1/Year	ANR	ANR	ANR
m,p-Xylenes	µg/L	-	1/Year	ANR	ANR	ANR
Methylene chloride	µg/L	-	1/Year	ANR	ANR	ANR
Naphthalene (VOC)	µg/L	-	1/Year	ANR	ANR	ANR
Naphthalene (SVOC)	µg/L	-	1/Year	ANR	ANR	ANR
Nitrobenzene	µg/L	-	1/Year	ANR	ANR	ANR
N-Nitrosodimethylamine	µg/L	-	1/Year	ANR	ANR	ANR
N-Nitroso-di-n-propylamine	µg/L	-	1/Year	ANR	ANR	ANR
N-Nitrosodiphenylamine	µg/L	-	1/Year	ANR	ANR	ANR
o-Xylene	µg/L	-	1/Year	ANR	ANR	ANR
Pentachlorophenol	µg/L	-	1/Year	ANR	ANR	ANR
Phenanthrene	µg/L	-	1/Year	ANR	ANR	ANR
Phenol	µg/L	-	1/Year	ANR	ANR	ANR
Pyrene	µg/L	-	1/Year	ANR	ANR	ANR
Tetrachloroethene	µg/L	-	1/Year	ANR	ANR	ANR
Toluene	µg/L	-	1/Year	ANR	ANR	ANR
Toxaphene	µg/L	-	1/Year	ANR	ANR	ANR
trans-1,2-Dichloroethene	µg/L	-	1/Year	ANR	ANR	ANR
trans-1,3-Dichloropropene	µg/L	-	1/Year	ANR	ANR	ANR
Trichloroethene	µg/L	-	1/Year	ANR	ANR	ANR
Trichlorofluoromethane	µg/L	-	1/Year	ANR	ANR	ANR
Vinyl chloride	µg/L	-	1/Year	ANR	ANR	ANR
Xylenes (Total)	µg/L	-	1/Year	ANR	ANR	ANR
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS						
Aluminum	µg/L	-	1/Year	ANR	ANR	ANR
Chlorpyrifos	µg/L	-	1/Year	ANR	ANR	ANR
Diazinon	µg/L	-	1/Year	ANR	ANR	ANR
E. Coli	mpn/100mL	-	1/Year	ANR	ANR	ANR
Hardness (as CaCO3)	mg/L	-	1/Year	ANR	ANR	ANR
Iron	mg/L	-	1/Year	ANR	ANR	ANR
Selenium	µg/L	-	1/Discharge	Composite	0.67	J (DNQ)
Silver	µg/L	-	1/Discharge	Composite	ND < 0.23	U
Total Suspended Solids[#]	mg/L	-	1/Year	Composite	18[c]	--
Vanadium	µg/L	-	1/Year	ANR	ANR	ANR

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

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

				8/21/2023 08:50 - 8/22/2023 08:35		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
ADDITIONAL POLLUTANTS[2]						
Aluminum, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Antimony, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 2.0	U (B)
Arsenic, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Beryllium, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Boron, dissolved	mg/L	-	Additional/Year	ANR	ANR	ANR
Cadmium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.13	U
Chromium, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
cis-1,2-Dichloroethene	µg/L	-	Additional/Year	ANR	ANR	ANR
Copper, dissolved	µg/L	-	Additional/Discharge	Composite	4.2	--
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	2.8	--
Mercury, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.12	U
Nickel, dissolved	µg/L	-	Additional/Discharge	Composite	1.6	J (DNQ)
Selenium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.52	U
Silver, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.23	U
Thallium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.11	U
Vanadium, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Zinc, dissolved	µg/L	-	Additional/Discharge	Composite	9.5	J (DNQ)

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

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

					8/22/2023 08:35 (Composite)			
ANALYTE	**SAMPLE FREQUENCY**	**1998 WHO TEF**	**BEF GREAT LAKES WATER QUALITY INITIATIVE**	**UNITS**	**LAB MDL**	**LAB RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**TCDD EQUIVALENT (w/out DNQ Values)**
1,2,3,4,6,7,8-HpCDD	1/Discharge	0.01	0.05	µg/L	2.2E-07	1.7E-05	U (B)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	0.01	0.01	µg/L	3.9E-07	4.6E-06	U (B)	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	0.01	0.4	µg/L	4.5E-07	ND	U	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	0.1	0.3	µg/L	4.0E-07	2.3E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	0.1	0.08	µg/L	2.9E-07	5.7E-07	U (B)	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	0.1	0.1	µg/L	3.7E-07	8.9E-07	UJ (*III)	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	0.1	0.2	µg/L	2.7E-07	6.5E-07	U (B)	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	0.1	0.1	µg/L	3.5E-07	1.6E-06	UJ (*III)	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	0.1	0.6	µg/L	2.6E-07	ND	U	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1.0	0.9	µg/L	6.7E-07	ND	U	**ND**
1,2,3,7,8-PeCDF	1/Discharge	0.05	0.2	µg/L	2.4E-07	ND	U	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	0.1	0.7	µg/L	2.5E-07	ND	U	**ND**
2,3,4,7,8-PeCDF	1/Discharge	0.5	1.6	µg/L	3.2E-07	ND	U	**ND**
2,3,7,8-TCDD	1/Discharge	1.0	1.0	µg/L	6.6E-07	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	0.1	0.8	µg/L	3.3E-07	ND	U	**ND**
OCDD	1/Discharge	0.0001	0.01	µg/L	6.1E-07	1.6E-04	--	**1.6E-10**
OCDF	1/Discharge	0.0001	0.02	µg/L	7.0E-07	1.1E-05	U (B)	**ND**

TCDD TEQ w/out DNQ Values[4]	**1.6E-10**

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

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

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

				8/22/2023 08:35 (Composite)		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS						
Gross Alpha	pCi/L	15	1/Discharge	0.619 ± 0.782	1.29	U
Gross Beta	pCi/L	50	1/Discharge	3.19 ± 0.794	0.785	--
Combined Radium-226 & Radium-228	pCi/L	5.0	1/Discharge	2.08 ± 1.028	NM	U*
Strontium-90	pCi/L	8.0	1/Discharge	0.399 ± 0.584	0.978	U
Tritium	pCi/L	20,000	1/Discharge	-136 ± 152	306	U
ADDITIONAL POLLUTANTS						
Cesium-137	pCi/L	200	1/Discharge	0.565 ± 8.54	15.5	U
Uranium	pCi/L	20	1/Discharge	0.507 ± 0.368	0.370	--
ADDITIONAL POLLUTANTS WITHOUT LIMITS						
Potassium-40	pCi/L	-	1/Discharge	-20.5 ± 143	190	U

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

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

				8/21/2023 08:50 - 8/22/2023 08:35		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	64.33	1/Discharge	Meas	2.0483	*
CONVENTIONAL POLLUTANTS						
Oil & Grease	LBS/DAY	8,048	1/Discharge	Grab	ND	U
PRIORITY POLLUTANTS						
Antimony	LBS/DAY	3.22	1/Discharge	Composite	0.019	J (DNQ)
Cadmium	LBS/DAY	2.15	1/Discharge	Composite	ND	U
Copper	LBS/DAY	7	1/Discharge	Composite	0.094	--
Cyanide	LBS/DAY	5.1	1/Discharge	Composite	ND	U
Lead	LBS/DAY	2.8	1/Discharge	Composite	0.2	--
Mercury	LBS/DAY	0.07	1/Discharge	Composite	ND	U
Nickel	LBS/DAY	46.14	1/Discharge	Composite	0.046	--
TCDD TEQ_NoDNQ[(4)]	LBS/DAY	1.50E-08	1/Discharge	Composite	2.7E-12	*
Thallium	LBS/DAY	1.1	1/Discharge	Composite	ND	U
Zinc	LBS/DAY	64.4	1/Discharge	Composite	0.29	J (DNQ)
NON-CONVENTIONAL POLLUTANTS						
Boron	LBS/DAY	537	1/Year	ANR	ANR	ANR
Chloride	LBS/DAY	80,477	1/Discharge	Composite	65	--
Fluoride	LBS/DAY	858	1/Year	ANR	ANR	ANR
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	5,365	1/Discharge	Composite	16	--
Perchlorate	LBS/DAY	3.22	1/Semiannual	Composite	ND	U
Sulfate	LBS/DAY	134,128	1/Discharge	Composite	84	--
Total Dissolved Solids	LBS/DAY	456,034	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

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

July 1 through September 30, 2023

				9/13/2023 16:00 - 9/15/2023 07:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	0.84057	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	mg/L	30	1/Discharge	Composite	1.9	J (DNQ)
Oil & Grease	mg/L	15	1/Discharge	Grab	ND < 0.51	U
pH (Field)	s.u.	6.5-8.5	1/Discharge	Grab	7.82	*
Total Suspended Solids#	mg/L	45	1/Discharge	Composite	5.4[(d)]	--
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	0.13[(a)]	J (DNQ)
Chromium VI (Hexavalent)	µg/L	16	1/Year	ANR	ANR	ANR
Copper	µg/L	14	1/Discharge	Composite	1.0	J (DNQ)
Cyanide	µg/L	8.5	1/Discharge	Composite	ND < 2.5	U
Lead	µg/L	5.2	1/Discharge	Composite	0.13	J (DNQ)
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	ND < 0.52	U
Silver	µg/L	4.1	1/Year	ANR	ANR	ANR
Thallium	µg/L	2.0	1/Year	ANR	ANR	ANR
Trichloroethene	µg/L	5.0	1/Discharge	Grab	ND < 0.35	U
Zinc	µg/L	119	1/Discharge	Composite	ND < 20	U (B)
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	mg/L	10.1	1/Discharge	Composite	0.043	J (DNQ)
Barium	mg/L	1.0	1/Year	ANR	ANR	ANR
Chloride	mg/L	150	1/Discharge	Composite	14	--
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	0.12	J (DNQ)
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	140	--
Temperature (Field)	Deg F	86	1/Discharge	Grab	66.2	*
Total Dissolved Solids	mg/L	950	1/Discharge	Composite	380	--

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

OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

				9/13/2023 16:00 - 9/15/2023 07:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
REMAINING PRIORITY POLLUTANTS						
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
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

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

OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

				9/13/2023 16:00 - 9/15/2023 07:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
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
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[(X)]	Grab	ND < 0.33	U
Methylene chloride	µg/L	-	1/Quarter	Grab	ND < 1.1	U
Naphthalene (VOC)	µg/L	-	1/Year[(X)]	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[(X)]	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[(X)]	Grab	ND < 0.58	U
Vinyl chloride	µg/L	-	1/Quarter	Grab	ND < 0.94	U
Xylenes (Total)	µg/L	-	1/Year[(X)]	Grab	ND < 0.33	U

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

OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

				9/13/2023 16:00 - 9/15/2023 07:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
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(X)	Grab	ND < 0.41	U
Cobalt	µg/L	-	1/Year	ANR	ANR	ANR
Conductivity	µmhos/cm	-	1/Discharge	Grab	610	--
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	6.11	*
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	1.3	--
Vanadium	µg/L	-	1/Year	ANR	ANR	ANR
ADDITIONAL POLLUTANTS(2)						
Antimony, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Arsenic, dissolved	µg/L	-	Additional/Year	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	ND < 0.13	U
Chromium, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Cobalt, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Copper, dissolved	µg/L	-	Additional/Discharge	Composite	0.82	J (DNQ)
Hardness, Dissolved (as CaCO3)	mg/L	-	Additional/Year	ANR	ANR	ANR
Human Bacteroides	CEs/100mL	-	Additional/Year	ANR	ANR	ANR
Iron, dissolved	mg/L	-	Additional/Year	ANR	ANR	ANR
Lead, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.12	U
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	ND < 0.52	U
Silver, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Thallium, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Vanadium, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Zinc, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 2.8	U

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

OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through Septmeber 30, 2023

					9/15/2023 07:30 (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	µg/L	2.8E-07	4.5E-06	U (B)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	0.01	0.01	µg/L	6.7E-07	1.9E-06	U (B)	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	0.01	0.4	µg/L	7.2E-07	1.6E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	0.1	0.3	µg/L	1.2E-06	3.3E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	0.1	0.08	µg/L	7.5E-07	1.5E-06	U (B)	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	0.1	0.1	µg/L	1.2E-06	ND	U	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	0.1	0.2	µg/L	7.1E-07	ND	U	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	0.1	0.1	µg/L	1.1E-06	ND	U	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	0.1	0.6	µg/L	7.3E-07	ND	U	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1.0	0.9	µg/L	1.3E-06	ND	U	**ND**
1,2,3,7,8-PeCDF	1/Discharge	0.05	0.2	µg/L	7.2E-07	ND	U	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	0.1	0.7	µg/L	6.7E-07	1.7E-06	U (B)	**ND**
2,3,4,7,8-PeCDF	1/Discharge	0.5	1.6	µg/L	8.9E-07	ND	U	**ND**
2,3,7,8-TCDD	1/Discharge	1.0	1.0	µg/L	8.9E-07	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	0.1	0.8	µg/L	5.9E-07	ND	U	**ND**
OCDD	1/Discharge	0.0001	0.01	µg/L	1.1E-06	1.7E-05	U (B)	**ND**
OCDF	1/Discharge	0.0001	0.02	µg/L	6.2E-07	4.1E-06	U (B)	**ND**

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

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

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

OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

				9/15/2023 07:30 (Composite)		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS						
Gross Alpha	pCi/L	15	1/Discharge	1.29 ± 1.79	3.01	U
Gross Beta	pCi/L	50	1/Discharge	6.07 ± 1.46	1.53	--
Combined Radium-226 & Radium-228	pCi/L	5	1/Discharge	0.722 ± 0.447	NM	U
Strontium-90	pCi/L	8	1/Discharge	0.199 ± 0.326	0.548	U
Tritium	pCi/L	20,000	1/Discharge	80.2 ± 157	270	U
ADDITIONAL POLLUTANTS						
Cesium-137	pCi/L	200	1/Discharge	-12.0 ± 22.2	26.5	U
Uranium	pCi/L	20	1/Discharge	0.543 ± 0.443	0.510	--
ADDITIONAL POLLUTANTS WITHOUT LIMITS						
Potassium-40	pCi/L	-	1/Discharge	42.9 ± 117	203	U

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

OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

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

July 1 through September 30, 2023

				9/13/2023 16:00 - 9/15/2023 07:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	0.84057	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	LBS/DAY	29,481	1/Discharge	Composite	13	J (DNQ)
Oil & Grease	LBS/DAY	14,741	1/Discharge	Grab	ND	U
Total Suspended Solids#	LBS/DAY	44,222	1/Discharge	Composite	38(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	0.00091(a)	J (DNQ)
Chromium VI (Hexavalent)	LBS/DAY	15.72	1/Year	ANR	ANR	ANR
Copper	LBS/DAY	13.76	1/Discharge	Composite	0.007	J (DNQ)
Cyanide	LBS/DAY	8.35	1/Discharge	Composite	ND	U
Lead	LBS/DAY	5.11	1/Discharge	Composite	0.00091	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	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	ND	U
Zinc	LBS/DAY	117	1/Discharge	Composite	ND	U (B)
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	LBS/DAY	9,925.3	1/Discharge	Composite	0.30	J (DNQ)
Barium	LBS/DAY	983	1/Year	ANR	ANR	ANR
Chloride	LBS/DAY	147,405	1/Discharge	Composite	98	--
Chlorine, Total Residual (Field)	LBS/DAY	98.3	1/Year	ANR	ANR	ANR
Detergents (as MBAS)	LBS/DAY	491.4	1/Discharge	Composite	0.84	J (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	980	--
Total Dissolved Solids	LBS/DAY	933,567	1/Discharge	Composite	2,700	--

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

APPENDIX D

Third Quarter 2023 Summary of Permit Limit Exceedances, and/or Non-Compliance

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

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

July 1 through September 30, 2023

DAILY MAXIMUM PERMIT LIMIT EXCEEDANCES AND/OR NON-COMPLIANCE							
OUTFALL	**SAMPLE DATE**	**SAMPLE TYPE**	**ANALYTE**	**PERMIT LIMIT DAILY MAX**	**RESULT**	**UNITS**	**LABORATORY/ VALIDATION QUALIFIER**
OUTFALL 009	8/22/2023	Comp	Lead	5.2	12	ug/L	--

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

APPENDIX E

Third Quarter 2023 Analytical Laboratory Reports, Chain of Custody Forms, and Validation Reports

APPENDIX E

TABLE OF CONTENTS

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 8/20/2023 9:27:04 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Outfall

JOB NUMBER

570-147889-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

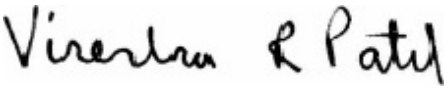
See page two for job notes and contact information.

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.

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
8/20/2023 9:27:04 AM

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

Table of Contents

Definitions/Glossary

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

Job ID: 570-147889-1

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.
Project/Site: Boeing NPDES SSFL - Outfall

Job ID: 570-147889-1

Job ID: 570-147889-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-147889-1

Comments
No additional comments.

Receipt
The samples were received on 8/9/2023 6:10 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 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 570-354121. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 608LL

Method 608: The following sample required a mercury clean-up, via EPA Method 3660A, to reduce matrix interferences caused by sulfur: Arroyo-Simi-20230809_Grab (570-147889-1). The reagent lot number used was: 3262889.
Method 608.3 PEST/PCB

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

Job ID: 570-147889-1

Client Sample ID: Arroyo-Simi-20230809_Grab

Lab Sample ID: 570-147889-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Hardness as calcium carbonate	610		10	2.1	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 - Outfall

Job ID: 570-147889-1

Method: EPA 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Arroyo-Simi-20230809_Grab
Date Collected: 08/09/23 07:20
Date Received: 08/09/23 18:10

Lab Sample ID: 570-147889-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.033	0.026	ug/L		08/11/23 09:37	08/15/23 16:17	1
4,4'-DDD	ND		0.0067	0.0044	ug/L		08/11/23 09:37	08/15/23 16:17	1
4,4'-DDE	ND		0.0033	0.0019	ug/L		08/11/23 09:37	08/15/23 16:17	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		08/11/23 09:37	08/15/23 16:17	1
Dieldrin	ND		0.0033	0.0013	ug/L		08/11/23 09:37	08/15/23 16:17	1
Toxaphene	ND		0.067	0.054	ug/L		08/11/23 09:37	08/15/23 16:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*85*		*20 - 139*	*08/11/23 09:37*	*08/15/23 16:17*	*1*

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

Job ID: 570-147889-1

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

Client Sample ID: Arroyo-Simi-20230809_Grab
Date Collected: 08/09/23 07:20
Date Received: 08/09/23 18:10

Lab Sample ID: 570-147889-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		08/11/23 09:37	08/14/23 20:53	1
Aroclor 1221	ND		0.10	0.044	ug/L		08/11/23 09:37	08/14/23 20:53	1
Aroclor 1232	ND		0.10	0.044	ug/L		08/11/23 09:37	08/14/23 20:53	1
Aroclor 1242	ND		0.10	0.044	ug/L		08/11/23 09:37	08/14/23 20:53	1
Aroclor 1248	ND		0.10	0.044	ug/L		08/11/23 09:37	08/14/23 20:53	1
Aroclor 1254	ND		0.10	0.052	ug/L		08/11/23 09:37	08/14/23 20:53	1
Aroclor 1260	ND		0.10	0.052	ug/L		08/11/23 09:37	08/14/23 20:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*76*		*20 - 139*	*08/11/23 09:37*	*08/14/23 20:53*	*1*
DCB Decachlorobiphenyl (Surr)	*93*		*20 - 154*	*08/11/23 09:37*	*08/14/23 20:53*	*1*

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

Job ID: 570-147889-1

General Chemistry

Client Sample ID: Arroyo-Simi-20230809_Grab
Date Collected: 08/09/23 07:20
Date Received: 08/09/23 18:10

Lab Sample ID: 570-147889-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate (SM 2340C)	610		10	2.1	mg/L			08/11/23 13:25	1

Surrogate Summary

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

Job ID: 570-147889-1

Method: 608.3 - Organochlorine Pesticides in Water

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

		Percent Surrogate Recovery (Acceptance Limits)
		TCX2
Lab Sample ID	Client Sample ID	(20-139)
570-147889-1	Arroyo-Simi-20230809_Grab	85
LCS 570-354121/2-A	Lab Control Sample	83

Surrogate Legend

TCX = Tetrachloro-m-xylene

Method: 608.3 - Organochlorine Pesticides in Water

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

		Percent Surrogate Recovery (Acceptance Limits)
		TCX1
Lab Sample ID	Client Sample ID	(20-139)
LCSD 570-354121/3-A	Lab Control Sample Dup	79
MB 570-354121/1-A	Method Blank	80

Surrogate Legend

TCX = Tetrachloro-m-xylene

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		TCX1	DCB1
Lab Sample ID	Client Sample ID	(20-139)	(20-154)
570-147889-1	Arroyo-Simi-20230809_Grab	76	93
LCS 570-354121/4-A	Lab Control Sample	69	103
LCSD 570-354121/5-A	Lab Control Sample Dup	76	78
MB 570-354121/1-A	Method Blank	82	85

Surrogate Legend

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

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-354121/1-A
Matrix: Water
Analysis Batch: 354828

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 354121

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.033	0.026	ug/L		08/11/23 09:37	08/15/23 13:15	1
4,4'-DDD	ND		0.0067	0.0044	ug/L		08/11/23 09:37	08/15/23 13:15	1
4,4'-DDE	ND		0.0033	0.0019	ug/L		08/11/23 09:37	08/15/23 13:15	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		08/11/23 09:37	08/15/23 13:15	1
Dieldrin	ND		0.0033	0.0013	ug/L		08/11/23 09:37	08/15/23 13:15	1
Toxaphene	ND		0.067	0.054	ug/L		08/11/23 09:37	08/15/23 13:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*80*		*20 - 139*	*08/11/23 09:37*	*08/15/23 13:15*	*1*

Lab Sample ID: LCS 570-354121/2-A
Matrix: Water
Analysis Batch: 354828

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 354121

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
4,4'-DDD			0.0333	0.0345		ug/L		103	31 - 141		
4,4'-DDE			0.0333	0.0370		ug/L		111	30 - 145		
4,4'-DDT			0.0333	0.0328		ug/L		98	25 - 160		
Dieldrin			0.0333	0.0323		ug/L		97	36 - 146		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*83*		*20 - 139*

Lab Sample ID: LCSD 570-354121/3-A
Matrix: Water
Analysis Batch: 354828

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 354121

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
4,4'-DDD			0.0333	0.0312		ug/L		94	31 - 141	10	39
4,4'-DDE			0.0333	0.0331		ug/L		99	30 - 145	11	35
4,4'-DDT			0.0333	0.0303		ug/L		91	25 - 160	8	42
Dieldrin			0.0333	0.0296		ug/L		89	36 - 146	9	49

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*79*		*20 - 139*

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

Lab Sample ID: MB 570-354121/1-A
Matrix: Water
Analysis Batch: 354581

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 354121

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		08/11/23 09:37	08/14/23 19:37	1
Aroclor 1221	ND		0.10	0.044	ug/L		08/11/23 09:37	08/14/23 19:37	1
Aroclor 1232	ND		0.10	0.044	ug/L		08/11/23 09:37	08/14/23 19:37	1
Aroclor 1242	ND		0.10	0.044	ug/L		08/11/23 09:37	08/14/23 19:37	1
Aroclor 1248	ND		0.10	0.044	ug/L		08/11/23 09:37	08/14/23 19:37	1

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

Lab Sample ID: MB 570-354121/1-A
Matrix: Water
Analysis Batch: 354581

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 354121

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1254	ND		0.10	0.052	ug/L		08/11/23 09:37	08/14/23 19:37	1
Aroclor 1260	ND		0.10	0.052	ug/L		08/11/23 09:37	08/14/23 19:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*82*		*20 - 139*	*08/11/23 09:37*	*08/14/23 19:37*	*1*
DCB Decachlorobiphenyl (Surr)	*85*		*20 - 154*	*08/11/23 09:37*	*08/14/23 19:37*	*1*

Lab Sample ID: LCS 570-354121/4-A
Matrix: Water
Analysis Batch: 354581

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 354121

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aroclor 1016	0.133	0.120	J,DX	ug/L		90	50 - 140
Aroclor 1260	0.133	0.143	J,DX	ug/L		107	8 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*69*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*103*		*20 - 154*

Lab Sample ID: LCSD 570-354121/5-A
Matrix: Water
Analysis Batch: 354581

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 354121

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aroclor 1016	0.133	0.116		ug/L		87	50 - 140	4	36
Aroclor 1260	0.133	0.137		ug/L		103	8 - 140	4	38

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*76*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*78*		*20 - 154*

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

Lab Sample ID: MB 570-354207/1
Matrix: Water
Analysis Batch: 354207

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			08/11/23 13:25	1

Lab Sample ID: LCS 570-354207/2
Matrix: Water
Analysis Batch: 354207

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	9.60		mg/L		96	90 - 110

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

Lab Sample ID: LCS 570-354207/4
Matrix: Water
Analysis Batch: 354207

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 570-354207/3
Matrix: Water
Analysis Batch: 354207

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	9.40		mg/L		94	90 - 110	2	10

Lab Sample ID: LCSD 570-354207/5
Matrix: Water
Analysis Batch: 354207

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	96.0		mg/L		96	90 - 110	0	10

Lab Sample ID: 570-147889-1 DU
Matrix: Water
Analysis Batch: 354207

Client Sample ID: Arroyo-Simi-20230809_Grab
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Hardness as calcium carbonate	610			615		mg/L				0.2	15

GC Semi VOA

Prep Batch: 354121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-147889-1	Arroyo-Simi-20230809_Grab	Total/NA	Water	608	
MB 570-354121/1-A	Method Blank	Total/NA	Water	608	
LCS 570-354121/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 570-354121/4-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-354121/3-A	Lab Control Sample Dup	Total/NA	Water	608	
LCSD 570-354121/5-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 354581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-147889-1	Arroyo-Simi-20230809_Grab	Total/NA	Water	608.3	354121
MB 570-354121/1-A	Method Blank	Total/NA	Water	608.3	354121
LCS 570-354121/4-A	Lab Control Sample	Total/NA	Water	608.3	354121
LCSD 570-354121/5-A	Lab Control Sample Dup	Total/NA	Water	608.3	354121

Analysis Batch: 354828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-147889-1	Arroyo-Simi-20230809_Grab	Total/NA	Water	608.3	354121
MB 570-354121/1-A	Method Blank	Total/NA	Water	608.3	354121
LCS 570-354121/2-A	Lab Control Sample	Total/NA	Water	608.3	354121
LCSD 570-354121/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	354121

General Chemistry

Analysis Batch: 354207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-147889-1	Arroyo-Simi-20230809_Grab	Total/NA	Water	SM 2340C	
MB 570-354207/1	Method Blank	Total/NA	Water	SM 2340C	
LCS 570-354207/2	Lab Control Sample	Total/NA	Water	SM 2340C	
LCS 570-354207/4	Lab Control Sample	Total/NA	Water	SM 2340C	
LCSD 570-354207/3	Lab Control Sample Dup	Total/NA	Water	SM 2340C	
LCSD 570-354207/5	Lab Control Sample Dup	Total/NA	Water	SM 2340C	
570-147889-1 DU	Arroyo-Simi-20230809_Grab	Total/NA	Water	SM 2340C	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-147889-1
Project/Site: Boeing NPDES SSFL - Outfall

Client Sample ID: Arroyo-Simi-20230809_Grab
Lab Sample ID: 570-147889-1

Date Collected: 08/09/23 07:20
Matrix: Water
Date Received: 08/09/23 18:10

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	354121	08/11/23 09:37	H1SH	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	354828	08/15/23 16:17	N5Y3	EET CAL 4
	Instrument ID: GC54A									
Total/NA	Prep	608			1500 mL	1 mL	354121	08/11/23 09:37	H1SH	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	354581	08/14/23 20:53	OM8W	EET CAL 4
	Instrument ID: GC58									
Total/NA	Analysis	SM 2340C		1	10 mL	50 mL	354207	08/11/23 13:25	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.
Job ID: 570-147889-1
Project/Site: Boeing NPDES SSFL - Outfall

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	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
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 - Outfall

Job ID: 570-147889-1

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 - Outfall

Job ID: 570-147889-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-147889-1	Arroyo-Simi-20230809_Grab	Water	08/09/23 07:20	08/09/23 18:10

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: 570-265917.1
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 - California; State Program - California		Job #: 570-147889-1
Address: 14859 East Clark Avenue, ,	Due Date Requested:			
City: City of Industry	TAT Requested (days): Standard TAT			
State, Zip: CA, 917451396				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Outfall	Project #: 570-147889-1			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, 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 (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Arroyo-Simi-20230809_Grab (570-147889-1)	8/9/23	07:20		Water			X	2	See Attached Instructions
Arroyo-Simi-20230809_Grab (570-147889-1MS)	8/9/23	07:20	MS	Water			X	2	See Attached Instructions
Arroyo-Simi-20230809_Grab (570-147889-1MSD)	8/9/23	07:20	MSD	Water			X	2	See Attached Instructions
Arroyo-Simi-20230809_Grab_Extra (570-147889-2)	8/9/23	07:20		Water			H	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]	8/9/23 1227	EC	[signature]	8/9/23 12:27	Weck
2	[signature] VM 8/9/23	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

7.7 Wet ice

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

Loc: 570
147889

Test America

570-147889 Chain of Custody

CHAIN OF CUSTODY FORM

VLJOUVKT

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

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)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Hardness as $CaCO_3$, 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_20230809_Grab	8/9/2023 0720	WS	250 mL Poly	3	HNO_3	100	Yes	X			
			WS	1L Glass Amber	6	None	275	Yes		X		Extract within 24-Hours of sampling at Weck Labs
			WS	1L Glass Amber	6	None	285	Yes			X	
	Arroyo_Simi_20230809_Grab_Extra	8/9/2023 0720	WS	1L Glass Amber	2	None	275	No		H		Hold
			WS	1L Glass Amber	2	None	285	No			H	Hold

ANALYSIS REQUIRED

Field Readings | Meter serial #

Field Readings: (Include units)
Time of Readings: 0720
pH 6.92 pH unit
Temp 72.6 °C (F)
Velocity 0.0 ft/sec

Field readings QC
Checked by: M Dominick
Date/Time: 8-9-2023/0720

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
M Dominick	8-9-2023/1100	H:A			
	8/9/23 1810	EC		8/9/23 1810	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

46/1.7 SCI2

2019-2020 Rainy Season
Version 2

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-147889-1

Login Number: 147889

List Source: Eurofins Calscience

List Number: 1

Creator: Patel, Virendra

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

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 9/22/2023 12:54:52 PM

JOB DESCRIPTION

Boeing NPDES SSFL - Outfall

JOB NUMBER

570-147889-2

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

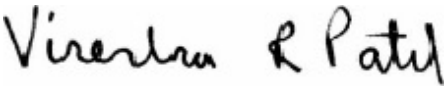
See page two for job notes and contact information.

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.

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
9/22/2023 12:54:52 PM

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

Table of Contents

Definitions/Glossary

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

Job ID: 570-147889-2

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 - Outfall

Job ID: 570-147889-2

Job ID: 570-147889-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-147889-2

Receipt
The samples were received on 8/9/2023 6:10 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.

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. The subcontract report is appended in its entirety.

Detection Summary

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

Job ID: 570-147889-2

Client Sample ID: Arroyo-Simi-20230809_Grab **Lab Sample ID: 570-147889-1**

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

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

Job ID: 570-147889-2

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 - Outfall

Job ID: 570-147889-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-147889-1	Arroyo-Simi-20230809_Grab	Water	08/09/23 07:20	08/09/23 18:10

WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Work Orders:	3H09059	**Report Date:**	9/21/2023
		Received Date:	8/9/2023
Project:	570-147889-1	**Turnaround Time:**	Normal
		Phones:	(949) 261-1022
		Fax:	(949) 260-3297
Attn:	Virendra Patel	**P.O. #:**	
Client:	Eurofins Calscience - Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	**Billing Code:**	

Dear Virendra Patel,

Enclosed are the results of analyses for samples received 8/09/23 with the Chain-of-Custody document. The samples were received in good condition, at 7.7 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Sample Results

Sample: Arroyo_Simi_20230809_Grab (570-147889-1) — Sampled: 08/09/23 7:20 by Client

3H09059-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 525.2M			**Instr:** GCMS13				
Batch ID: W3H1776 **Preparation:** EPA 525.2/SPE			**Prepared:** 08/21/23 08:27				**Analyst:** EFC
Chlorpyrifos	ND	4.0	10	ng/l	1	08/30/23	
Diazinon	ND	3.4	10	ng/l	1	08/30/23	
Surrogate(s)							
1,3-Dimethyl-2-nitrobenzene	*67%*		*50-141*	*Conc: 337*		*08/30/23*	
Triphenyl phosphate	*115%*		*63-200*	*Conc: 577*		*08/30/23*	

Sample: Arroyo_Simi_20230809_Grab-Extra (570-147889-2) — Sampled: 08/09/23 7:20 by Client

3H09059-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 525.2M			**Instr:** GCMS13				
Batch ID: W3H1776 **Preparation:** EPA 525.2/SPE			**Prepared:** 08/21/23 08:27				**Analyst:** EFC
Chlorpyrifos	ND	4.0	10	ng/l	1	08/30/23	
Diazinon	ND	3.4	10	ng/l	1	08/30/23	
Surrogate(s)							
1,3-Dimethyl-2-nitrobenzene	*76%*		*50-141*	*Conc: 353*		*08/30/23*	
Triphenyl phosphate	*125%*		*63-200*	*Conc: 583*		*08/30/23*	

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634

www.wecklabs.com

Quality Control Results

Semivolatile Organics - Low Level by Tandem GC/MS/MS

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Blank (W3H1776-BLK1)					**Prepared: 08/21/23**	**Analyzed: 08/30/23**					
Chlorpyrifos	ND	4.0	10	ng/l							
Diazinon	ND	3.4	10	ng/l							
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*399*			*ng/l*	*500*		*80*	*50-141*			
Triphenyl phosphate	*584*			*ng/l*	*500*		*117*	*63-200*			
LCS (W3H1776-BS1)					**Prepared: 08/21/23**	**Analyzed: 08/30/23**					
Chlorpyrifos	44.8	4.0	10	ng/l	50.0		90	63-145			
Diazinon	42.3	3.4	10	ng/l	50.0		85	25-180			
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*412*			*ng/l*	*500*		*82*	*50-141*			
Triphenyl phosphate	*586*			*ng/l*	*500*		*117*	*63-200*			
LCS Dup (W3H1776-BSD1)					**Prepared: 08/21/23**	**Analyzed: 08/30/23**					
Chlorpyrifos	37.1	4.0	10	ng/l	50.0		74	63-145	19	30	
Diazinon	32.9	3.4	10	ng/l	50.0		66	25-180	25	30	
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*388*			*ng/l*	*500*		*78*	*50-141*			
Triphenyl phosphate	*579*			*ng/l*	*500*		*116*	*63-200*			
Matrix Spike (W3H1776-MS1)	**Source: 3H09059-01**				**Prepared: 08/21/23**	**Analyzed: 08/30/23**					
Chlorpyrifos	43.9	4.0	10	ng/l	48.7	*ND*	90	37-168			
Diazinon	42.1	3.4	10	ng/l	48.7	*ND*	86	36-153			
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*374*			*ng/l*	*487*		*77*	*50-141*			
Triphenyl phosphate	*603*			*ng/l*	*487*		*124*	*63-200*			
Matrix Spike Dup (W3H1776-MSD1)	**Source: 3H09059-01**				**Prepared: 08/21/23**	**Analyzed: 08/30/23**					
Chlorpyrifos	40.2	3.7	9.0	ng/l	45.1	*ND*	89	37-168	9	30	
Diazinon	37.1	3.1	9.0	ng/l	45.1	*ND*	82	36-153	13	30	
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*334*			*ng/l*	*451*		*74*	*50-141*			
Triphenyl phosphate	*569*			*ng/l*	*451*		*126*	*63-200*			

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

Notes and Definitions

Item	Definition
J	Estimated conc. detected <MRL and >MDL.
%REC	Percent Recovery
Dil	Dilution
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

Reviewed by:

Ryan J. Gasio
Project Manager

DoD-ELAP ANAB #ADE-2882 • DoD-ISO ANAB # • ELAP-CA #1132 • EPA-UCMR #CA00211 • ISO17025 ANAB #L2457.01 • LACSD #10143

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-265917.1
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 - California; State Program - California		Job #: 570-147889-1
Address: 14859 East Clark Avenue, ,	Due Date Requested:			
City: City of Industry	TAT Requested (days): Standard TAT			
State, Zip: CA, 917451396				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Outfall	Project #: 570-147889-1			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, 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 (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Arroyo-Simi-20230809_Grab (570-147889-1)	8/9/23	07:20		Water			X	2	See Attached Instructions
Arroyo-Simi-20230809_Grab (570-147889-1MS)	8/9/23	07:20	MS	Water			X	2	See Attached Instructions
Arroyo-Simi-20230809_Grab (570-147889-1MSD)	8/9/23	07:20	MSD	Water			X	2	See Attached Instructions
Arroyo-Simi-20230809_Grab_Extra (570-147889-2)	8/9/23	07:20		Water			H	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		8/9/23 1227	EC		8/9/23 12:27	Weck
2	VM 8/9/23					
3						

7.1 Wet ice

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

Loc: 570
147889

Test America

570-147889 Chain of Custody

CHAIN OF CUSTODY FORM

VLJOUVKT

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

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)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Hardness as $CaCO_3$, 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_20230809_Grab	8/9/2023 0720	WS	250 mL Poly	3	HNO_3	100	Yes	X			
			WS	1L Glass Amber	6	None	275	Yes		X		Extract within 24-Hours of sampling at Weck Labs
			WS	1L Glass Amber	6	None	285	Yes			X	
	Arroyo_Simi_20230809_Grab_Extra	8/9/2023 0720	WS	1L Glass Amber	2	None	275	No		H		Hold
			WS	1L Glass Amber	2	None	285	No			H	Hold

Field Readings | Meter serial #

Field Readings: (Include units)
Time of Readings: 0720
pH 6.92 pH unit
Temp 72.6 °C/F
Velocity 0.0 ft/sec

Field readings QC
Checked by: M Dominick
Date/Time: 8-9-2023/0720

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
M Dominick	8-9-2023/1100	H:A		8/9/23 1100	EC
	8/9/23 1810	EC		8/9/23 18:10	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

46/1.7 SCI2

2019-2020 Rainy Season
Version 2

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-147889-2

Login Number: 147889
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 9/5/2023 2:54:41 PM Revision 1

JOB DESCRIPTION

Boeing NPDES SSFL - Quarterly Arroyo
SDG NUMBER Simi-Frontier Park - Dry Weather

JOB NUMBER

570-149404-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

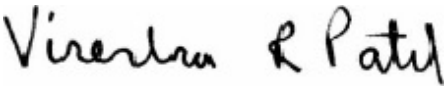
Eurofins Calscience

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



Generated
9/5/2023 2:54:41 PM
Revision 1

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-149404-1
Project/Site: Boeing NPDES SSFL - Quarterly Arroyo
SDG: Simi-Frontier Park - Dry Weather

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

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: 570-149404-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-149404-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 9/5/2023. The report (revision 1) is being revised due to: The PDF and EDD files were revised to correct the missing LCS/LCSD QC results for EPA Method 608.3 (Pest/PCB)..

Receipt
The samples were received on 8/21/2023 4:46 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 2.3º 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 570-358077. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 608LL

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 Arroyo

Job ID: 570-149404-1
SDG: Simi-Frontier Park - Dry Weather

Client Sample ID: Arroyo_Simi_20230821_Grab

Lab Sample ID: 570-149404-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Hardness as calcium carbonate	170		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 - Quarterly Arroyo

Job ID: 570-149404-1
SDG: Simi-Frontier Park - Dry Weather

Method: EPA 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Arroyo_Simi_20230821_Grab
Date Collected: 08/21/23 09:50
Date Received: 08/21/23 16:46

Lab Sample ID: 570-149404-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.033	0.026	ug/L		08/25/23 07:58	08/31/23 12:45	1
4,4'-DDD	ND		0.0067	0.0044	ug/L		08/25/23 07:58	08/31/23 12:45	1
4,4'-DDE	ND		0.0033	0.0019	ug/L		08/25/23 07:58	08/31/23 12:45	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		08/25/23 07:58	08/31/23 12:45	1
Dieldrin	ND		0.0033	0.0013	ug/L		08/25/23 07:58	08/31/23 12:45	1
Toxaphene	ND		0.067	0.054	ug/L		08/25/23 07:58	08/31/23 12:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*54*	*PI*	*20 - 139*	*08/25/23 07:58*	*08/31/23 12:45*	*1*

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

Client Sample ID: Arroyo_Simi_20230821_Grab
Lab Sample ID: 570-149404-1
Date Collected: 08/21/23 09:50
Matrix: Water
Date Received: 08/21/23 16:46

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		08/25/23 07:58	08/29/23 14:16	1
Aroclor 1221	ND		0.10	0.044	ug/L		08/25/23 07:58	08/29/23 14:16	1
Aroclor 1232	ND		0.10	0.044	ug/L		08/25/23 07:58	08/29/23 14:16	1
Aroclor 1242	ND		0.10	0.044	ug/L		08/25/23 07:58	08/29/23 14:16	1
Aroclor 1248	ND		0.10	0.044	ug/L		08/25/23 07:58	08/29/23 14:16	1
Aroclor 1254	ND		0.10	0.052	ug/L		08/25/23 07:58	08/29/23 14:16	1
Aroclor 1260	ND		0.10	0.052	ug/L		08/25/23 07:58	08/29/23 14:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*49*	*PI*	*20 - 139*	*08/25/23 07:58*	*08/29/23 14:16*	*1*
DCB Decachlorobiphenyl (Surr)	*83*		*20 - 154*	*08/25/23 07:58*	*08/29/23 14:16*	*1*

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

Job ID: 570-149404-1
SDG: Simi-Frontier Park - Dry Weather

General Chemistry

Client Sample ID: Arroyo_Simi_20230821_Grab
Date Collected: 08/21/23 09:50
Date Received: 08/21/23 16:46

Lab Sample ID: 570-149404-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate (SM 2340C)	**170**		2.0	0.42	mg/L			08/23/23 15:39	1

Surrogate Summary

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

Job ID: 570-149404-1
SDG: Simi-Frontier Park - Dry Weather

Method: 608.3 - Organochlorine Pesticides in Water

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

		Percent Surrogate Recovery (Acceptance Limits)
		TCX1
Lab Sample ID	Client Sample ID	(20-139)
570-149404-1	Arroyo_Simi_20230821_Grab	54 PI

Surrogate Legend

TCX = Tetrachloro-m-xylene

Method: 608.3 - Organochlorine Pesticides in Water

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

		Percent Surrogate Recovery (Acceptance Limits)
		TCX2
Lab Sample ID	Client Sample ID	(20-139)
LCS 570-358077/2-A	Lab Control Sample	65
LCSD 570-358077/3-A	Lab Control Sample Dup	67
MB 570-358077/1-A	Method Blank	66

Surrogate Legend

TCX = Tetrachloro-m-xylene

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		TCX1	DCB1
Lab Sample ID	Client Sample ID	(20-139)	(20-154)
570-149404-1	Arroyo_Simi_20230821_Grab	49 PI	83
LCS 570-358077/4-A	Lab Control Sample	79	79
LCSD 570-358077/5-A	Lab Control Sample Dup	76	73
MB 570-358077/1-A	Method Blank	82	113

Surrogate Legend

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

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-358077/1-A
Matrix: Water
Analysis Batch: 359791

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358077

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.033	0.026	ug/L		08/25/23 07:58	08/31/23 11:45	1
4,4'-DDD	ND		0.0067	0.0044	ug/L		08/25/23 07:58	08/31/23 11:45	1
4,4'-DDE	ND		0.0033	0.0019	ug/L		08/25/23 07:58	08/31/23 11:45	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		08/25/23 07:58	08/31/23 11:45	1
Dieldrin	ND		0.0033	0.0013	ug/L		08/25/23 07:58	08/31/23 11:45	1
Toxaphene	ND		0.067	0.054	ug/L		08/25/23 07:58	08/31/23 11:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*66*		*20 - 139*	*08/25/23 07:58*	*08/31/23 11:45*	*1*

Lab Sample ID: LCS 570-358077/2-A
Matrix: Water
Analysis Batch: 359583

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358077

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
4,4'-DDD			0.0333	0.0332		ug/L		100	31 - 141		
4,4'-DDE			0.0333	0.0314		ug/L		94	30 - 145		
4,4'-DDT			0.0333	0.0335		ug/L		100	25 - 160		
Dieldrin			0.0333	0.0325		ug/L		97	36 - 146		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*65*		*20 - 139*

Lab Sample ID: LCSD 570-358077/3-A
Matrix: Water
Analysis Batch: 359583

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 358077

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
4,4'-DDD			0.0333	0.0363		ug/L		109	31 - 141	9	39
4,4'-DDE			0.0333	0.0336		ug/L		101	30 - 145	7	35
4,4'-DDT			0.0333	0.0356		ug/L		107	25 - 160	6	42
Dieldrin			0.0333	0.0346		ug/L		104	36 - 146	6	49

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*67*		*20 - 139*

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

Lab Sample ID: MB 570-358077/1-A
Matrix: Water
Analysis Batch: 359217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358077

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		08/25/23 07:58	08/30/23 17:12	1
Aroclor 1221	ND		0.10	0.044	ug/L		08/25/23 07:58	08/30/23 17:12	1
Aroclor 1232	ND		0.10	0.044	ug/L		08/25/23 07:58	08/30/23 17:12	1
Aroclor 1242	ND		0.10	0.044	ug/L		08/25/23 07:58	08/30/23 17:12	1
Aroclor 1248	ND		0.10	0.044	ug/L		08/25/23 07:58	08/30/23 17:12	1

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

Lab Sample ID: MB 570-358077/1-A
Matrix: Water
Analysis Batch: 359217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358077

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1254	ND		0.10	0.052	ug/L		08/25/23 07:58	08/30/23 17:12	1
Aroclor 1260	ND		0.10	0.052	ug/L		08/25/23 07:58	08/30/23 17:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*82*		*20 - 139*	*08/25/23 07:58*	*08/30/23 17:12*	*1*
DCB Decachlorobiphenyl (Surr)	*113*		*20 - 154*	*08/25/23 07:58*	*08/30/23 17:12*	*1*

Lab Sample ID: LCS 570-358077/4-A
Matrix: Water
Analysis Batch: 358289

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358077

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Aroclor 1016			0.133	0.101	PI	ug/L		76	50 - 140		
Aroclor 1260			0.133	0.123		ug/L		92	8 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*79*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*79*		*20 - 154*

Lab Sample ID: LCSD 570-358077/5-A
Matrix: Water
Analysis Batch: 358289

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 358077

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aroclor 1016			0.133	0.0941	J,DX	ug/L		71	50 - 140	7	36
Aroclor 1260			0.133	0.108		ug/L		81	8 - 140	13	38

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*76*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*73*		*20 - 154*

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

Lab Sample ID: MB 570-357501/1
Matrix: Water
Analysis Batch: 357501

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			08/23/23 15:39	1

Lab Sample ID: LCS 570-357501/2
Matrix: Water
Analysis Batch: 357501

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	10.0		mg/L		100	90 - 110		

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

Lab Sample ID: LCSD 570-357501/3
Matrix: Water
Analysis Batch: 357501

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	9.80		mg/L		98	90 - 110	2	10

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-149404-1
Project/Site: Boeing NPDES SSFL - Quarterly Arroyo
SDG: Simi-Frontier Park - Dry Weather

GC Semi VOA

Prep Batch: 358077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149404-1	Arroyo_Simi_20230821_Grab	Total/NA	Water	608	
MB 570-358077/1-A	Method Blank	Total/NA	Water	608	
LCS 570-358077/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 570-358077/4-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-358077/3-A	Lab Control Sample Dup	Total/NA	Water	608	
LCSD 570-358077/5-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 358289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-358077/4-A	Lab Control Sample	Total/NA	Water	608.3	358077
LCSD 570-358077/5-A	Lab Control Sample Dup	Total/NA	Water	608.3	358077

Analysis Batch: 359217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149404-1	Arroyo_Simi_20230821_Grab	Total/NA	Water	608.3	358077
MB 570-358077/1-A	Method Blank	Total/NA	Water	608.3	358077

Analysis Batch: 359583

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-358077/2-A	Lab Control Sample	Total/NA	Water	608.3	358077
LCSD 570-358077/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	358077

Analysis Batch: 359791

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149404-1	Arroyo_Simi_20230821_Grab	Total/NA	Water	608.3	358077
MB 570-358077/1-A	Method Blank	Total/NA	Water	608.3	358077

General Chemistry

Analysis Batch: 357501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149404-1	Arroyo_Simi_20230821_Grab	Total/NA	Water	SM 2340C	
MB 570-357501/1	Method Blank	Total/NA	Water	SM 2340C	
LCS 570-357501/2	Lab Control Sample	Total/NA	Water	SM 2340C	
LCSD 570-357501/3	Lab Control Sample Dup	Total/NA	Water	SM 2340C	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-149404-1
Project/Site: Boeing NPDES SSFL - Quarterly Arroyo
SDG: Simi-Frontier Park - Dry Weather

Client Sample ID: Arroyo_Simi_20230821_Grab
Lab Sample ID: 570-149404-1
Date Collected: 08/21/23 09:50
Matrix: Water
Date Received: 08/21/23 16:46

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	358077	08/25/23 07:58	OAJ3	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	359791	08/31/23 12:45	N5Y3	EET CAL 4
	Instrument ID: GC54A									
Total/NA	Prep	608			1500 mL	1 mL	358077	08/25/23 07:58	OAJ3	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	359217	08/29/23 14:16	OM8W	EET CAL 4
	Instrument ID: GC66									
Total/NA	Analysis	SM 2340C		1	50 mL	50 mL	357501	08/23/23 15:39	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.
Job ID: 570-149404-1
Project/Site: Boeing NPDES SSFL - Quarterly Arroyo
SDG: Simi-Frontier Park - 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	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-23

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-149404-1
Project/Site: Boeing NPDES SSFL - Quarterly Arroyo
SDG: Simi-Frontier Park - 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 - Quarterly Arroyo

Job ID: 570-149404-1
SDG: Simi-Frontier Park - Dry Weather

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-149404-1	Arroyo_Simi_20230821_Grab	Water	08/21/23 09:50	08/21/23 16:46

149404

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

VLJOUVKT

Q Q Q

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

Eurofins Calscience Irvine Contact: Christian Bondoc
17461 Derian Ave Suite #100
Irvine CA 92614
Tel 949-260-3218

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)

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

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	ANALYSIS REQUIRED: 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_20230821_Grab	8/21/2023 0950	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_20230821_Grab_Extra	8/21/2023 0950	WS	1L Glass Amber	2	None	275	No		H		Hold
			WS	1L Glass Amber	2	None	285	No			H	Hold

Field Readings | Meter serial #

Field Readings: (Include units)

Time of Readings: 0945

pH 7.61 pH unit

Temp 64.7 °C/F

Velocity 0.2 ft/sec

Field readings QC

Checked by:

Date/Time: 8-21-2023/0945

570-149404 Chain of Custody

Legend: Q=Quarterly

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	8-21-2023/1240	H.A		8/21/23 1240
	8-21-23 1646			8/21/23 1646

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

2.2 | 2.3 SC12

Eurofins Calscience
2841 Daw 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: 570-271634.1
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 - California; State Program - California		Job #: 570-149404-2
Address: 14859 East Clark Avenue, ,	Due Date Requested: 9/12/2023			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 917451396				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Quarterly Arroyo	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 (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units)) (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Arroyo_Simi_20230821_Grab (570-149404-1)	8/21/23	09:50 Pacific		Water			X		2	See Attached Instructions
Arroyo_Simi_20230821_Grab_Extra (570-149404-2)	8/21/23	09:50 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
	8/21/23 1530	EC		8/21/23 15:30	Weck
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: 9.6° TM2

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-149404-1
SDG Number: Simi-Frontier Park - Dry Weather

Login Number: 149404
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 10/11/2023 10:48:10 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Quarterly Arroyo
SDG NUMBER Simi-Frontier Park - Dry Weather

JOB NUMBER

570-149404-2

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

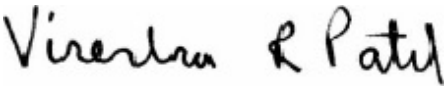
myEOL

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



Generated
10/11/2023 10:48:10 AM

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-149404-2
Project/Site: Boeing NPDES SSFL - Quarterly Arroyo
SDG: Simi-Frontier Park - 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: 570-149404-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-149404-2

Receipt
The samples were received on 8/21/2023 4:46 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 2.3º 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. The subcontract report is appended in its entirety.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-149404-2
Project/Site: Boeing NPDES SSFL - Quarterly Arroyo
SDG: Simi-Frontier Park - 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.
Job ID: 570-149404-2
Project/Site: Boeing NPDES SSFL - Quarterly Arroyo
SDG: Simi-Frontier Park - Dry Weather

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-149404-1	Arroyo_Simi_20230821_Grab	Water	08/21/23 09:50	08/21/23 16:46

WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Work Orders:	3H21106	**Report Date:**	10/03/2023
		Received Date:	8/21/2023
Project:	570-149404-2	**Turnaround Time:**	Normal
		Phones:	(949) 261-1022
		Fax:	(949) 260-3297
Attn:	Virendra Patel	**P.O. #:**	
Client:	Eurofins Calscience - Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	**Billing Code:**	

Dear Virendra Patel,

Enclosed are the results of analyses for samples received 8/21/23 with the Chain-of-Custody document. The samples were received in good condition, at 9.8 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Sample Results

Sample: Arroyo_Simi_20230821_Grab (570-149404-1) Sampled: 08/21/23 9:50 by Client

3H21106-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 525.2M			**Instr:** GCMS13				
Batch ID: W3H2784 **Preparation:** EPA 525.2/SPE			**Prepared:** 08/31/23 09:41				**Analyst:** EFC
Chlorpyrifos	ND	4.0	10	ng/l	1	09/06/23	
Diazinon	ND	3.4	10	ng/l	1	09/06/23	
Surrogate(s)							
1,3-Dimethyl-2-nitrobenzene	*53%*		*50-141*	*Conc: 246*		*09/06/23*	
Triphenyl phosphate	*135%*		*63-200*	*Conc: 632*		*09/06/23*	

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634

www.wecklabs.com

Quality Control Results

Semivolatile Organics - Low Level by Tandem GC/MS/MS

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Blank (W3H2784-BLK1)					**Prepared: 08/31/23**	**Analyzed: 09/06/23**					
Chlorpyrifos	ND	4.0	10	ng/l							
Diazinon	ND	3.4	10	ng/l							
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*453*			*ng/l*	*500*		*91*	*50-141*			
Triphenyl phosphate	*614*			*ng/l*	*500*		*123*	*63-200*			
LCS (W3H2784-BS1)					**Prepared: 08/31/23**	**Analyzed: 09/06/23**					
Chlorpyrifos	47.6	4.0	10	ng/l	50.0		95	63-145			
Diazinon	41.4	3.4	10	ng/l	50.0		83	25-180			
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*444*			*ng/l*	*500*		*89*	*50-141*			
Triphenyl phosphate	*641*			*ng/l*	*500*		*128*	*63-200*			
LCS Dup (W3H2784-BSD1)					**Prepared: 08/31/23**	**Analyzed: 09/06/23**					
Chlorpyrifos	47.7	4.0	10	ng/l	50.0		95	63-145	0.2	30	
Diazinon	38.9	3.4	10	ng/l	50.0		78	25-180	6	30	
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*410*			*ng/l*	*500*		*82*	*50-141*			
Triphenyl phosphate	*606*			*ng/l*	*500*		*121*	*63-200*			

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

Notes and Definitions

Item	Definition
J	Estimated conc. detected <MRL and >MDL.
%REC	Percent Recovery
Dil	Dilution
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

Reviewed by:

Ryan J. Gasio
Project Manager

ELAP-CA #1132 • EPA-UCMR #CA00211 • LACSD #10143

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

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

Chain of Custody Record

eurofins | Environment Testing

3H21106

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-271634.1
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 - California; State Program - California		Job #: 570-149404-2
Address: 14859 East Clark Avenue, ,	Due Date Requested: 9/12/2023			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 917451396				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Quarterly Arroyo	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 (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units)) (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Arroyo_Simi_20230821_Grab (570-149404-1)	8/21/23	09:50 Pacific		Water			X		2	See Attached Instructions
Arroyo_Simi_20230821_Grab_Extra (570-149404-2)	8/21/23	09:50 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
	8/21/23 1530	EC		8/21/23 15:30	Weck
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: 9.6 TM2

3H21106

ICOC No:
570-271634

Containers

Count	Container Type	Preservative
4	Amber Glass 1 liter - unpreserved	None

Subcontract Method Instructions

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	Deliver same day as pick up -24 hour hold time for 525.2 -2 cmpds!!Level IV package needed
2	SUBCONTRACT	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units)) (Hold)	Deliver same day as pick up -24 hour hold time for 525.2 -2 cmpds!!Level IV package needed

ORATORIES, INC.

Sample Receipt Checklist

Weck WKO: **3H21106**
D Logged by: Jaime Gomez
Checked by: Jaime Gomez

Date/Time Received: 08/18/23 @ 15:30
# of Samples: 02
Delivered by: Client

ask	Yes	No	N/A	Comments
OC present at receipt?	☒	☐		
OC properly completed?	☒	☐		
OC matches sample labels?	☒	☐		
oject Manager notified about COC discrepancy?	☐	☐	☒	
mple Temperature	9.8 °C			
mples received on ice?	☒	☐		
e Type (Blue/Wet)	WET			
l samples intact?	☒	☐		
mples in proper containers?	☒	☐		
fficient sample volume?	☒	☐		
mples intact?	☒	☐		
ceived within holding time?	☐	☐		
oject Manager notified about receipt info?	☐	☐	☒	
mple labels checked for correct preservation?	☒	☐	☐	
OC Headspace: (No) none, If Yes (see comment) 4.2, 524.3, 624.1, 8260, 1666 P/T, LUFT	☐	☐	☒	☐<6mm/Pea Size?
H verified upon receipt? etals <2; H2SO4 pres tests <2; 522<4; TOC <2; 508.1, 5.2<2, 6710B<2, 608.3 5-9	☒	☐	☐	pH paper Lot# 3082366
ee Chlorine Tested <0.1 (Organics Analyses)	☒	☐	☐	Cl Test Strip Lot#06282201
&G pH <2 verified?	☐	☐	☐	pH paper Lot#
				pH Reading:
l adjusted for O&G	☐	☐	☐	Acid Lot#
				Amt added:

149404

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

VLJOUVKT

Q Q Q

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

Eurofins Calscience Irvine Contact: Christian Bondoc
17461 Derian Ave Suite #100
Irvine CA 92614
Tel 949-260-3218

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

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: 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_20230821_Grab	8/21/2023 0950	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_20230821_Grab_Extra	8/21/2023 0950	WS	1L Glass Amber	2	None	275	No		H		Hold
			WS	1L Glass Amber	2	None	285	No			H	Hold

Field Readings | Meter serial #

Field Readings: (Include units)

Time of Readings: 0945

pH 7.61 pH unit

Temp 64.7 °C/F

Velocity 0.2 ft/sec

Field readings QC

Checked by:

Date/Time: 8-21-2023/0945

570-149404 Chain of Custody

Legend: Q=Quarterly

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	8-21-2023/1240	H.A		8/21/23 1240
	8-21-23 1646			8/21/23 1646

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

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

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

2013-2020 Rainy Season
Version 2

2.2 | 2.3 SC12

Eurofins Calscience
2841 Daw 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: 570-271634.1
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 - California; State Program - California		Job #: 570-149404-2
Address: 14859 East Clark Avenue, ,	Due Date Requested: 9/12/2023			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 917451396				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL - Quarterly Arroyo	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 (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units)) (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Arroyo_Simi_20230821_Grab (570-149404-1)	8/21/23	09:50 Pacific		Water			X		2	See Attached Instructions
Arroyo_Simi_20230821_Grab_Extra (570-149404-2)	8/21/23	09:50 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]	8/21/23 1530	EC	[signature]	8/21/23 15:30	Weck
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 9.6° TM2

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-149404-2
SDG Number: Simi-Frontier Park - Dry Weather

Login Number: 149404
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 8/24/2023 9:45:58 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Quarterly Outfall 001 - Grab

JOB NUMBER

570-149397-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

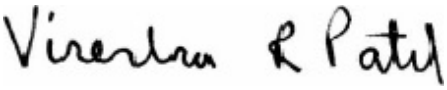
See page two for job notes and contact information.

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.

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
8/24/2023 9:45:58 AM

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-149397-1
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: 570-149397-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-149397-1

Comments
No additional comments.

Receipt
The samples were received on 8/21/2023 4:46 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 2.0º 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 570-356967. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method 624.1: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: Outfall001_20230821_Grab (570-149397-1). Elevated reporting limits (RLs) are provided.

Method 624.1: The method requirement for no headspace was not met. The following volatile sample was analyzed with significant headspace in the sample container(s): TB-20230821 (570-149397-3). Significant headspace is defined as a bubble greater than 6 mm in diameter.

Method 624.1: The following sample was received preserved with hydrochloric acid: Outfall001_20230821_Grab (570-149397-1). The requested target analyte list contains 2-Chloroethyl vinyl ether and/or Acrolein.

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 570-357155.

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

Organic Prep
Methods 1664A, 1664B: 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 570-357395.
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: 570-149397-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Grab

Client Sample ID: Outfall001_20230821_Grab
Lab Sample ID: 570-149397-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	260		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: TB-20230821
Lab Sample ID: 570-149397-3

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-149397-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Grab

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall001_20230821_Grab
Lab Sample ID: 570-149397-1
Date Collected: 08/21/23 07:50
Matrix: Water
Date Received: 08/21/23 16:46

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		2.0	1.0	ug/L			08/22/23 12:57	4
1,1,2,2-Tetrachloroethane	ND		2.0	0.80	ug/L			08/22/23 12:57	4
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		8.0	1.3	ug/L			08/22/23 12:57	4
1,1,2-Trichloroethane	ND		2.0	0.69	ug/L			08/22/23 12:57	4
1,1-Dichloroethane	ND		2.0	1.6	ug/L			08/22/23 12:57	4
1,1-Dichloroethene	ND		2.0	1.3	ug/L			08/22/23 12:57	4
1,2-Dichlorobenzene	ND		2.0	0.66	ug/L			08/22/23 12:57	4
1,2-Dichloroethane	ND		2.0	0.59	ug/L			08/22/23 12:57	4
1,2-Dichloropropane	ND		2.0	0.68	ug/L			08/22/23 12:57	4
1,3-Dichlorobenzene	ND		2.0	0.62	ug/L			08/22/23 12:57	4
1,4-Dichlorobenzene	ND		2.0	0.46	ug/L			08/22/23 12:57	4
Acrolein	ND		20	19	ug/L			08/22/23 12:57	4
Acrylonitrile	ND		8.0	5.7	ug/L			08/22/23 12:57	4
Benzene	ND		2.0	1.1	ug/L			08/22/23 12:57	4
Bromodichloromethane	ND		2.0	0.75	ug/L			08/22/23 12:57	4
Bromoform	ND		4.0	0.99	ug/L			08/22/23 12:57	4
Bromomethane	ND		2.0	0.89	ug/L			08/22/23 12:57	4
Carbon tetrachloride	ND		2.0	1.1	ug/L			08/22/23 12:57	4
Chlorobenzene	ND		2.0	0.74	ug/L			08/22/23 12:57	4
Chloroethane	ND		4.0	1.1	ug/L			08/22/23 12:57	4
Chloroform	ND		2.0	0.74	ug/L			08/22/23 12:57	4
Chloromethane	ND		2.0	1.2	ug/L			08/22/23 12:57	4
cis-1,2-Dichloroethene	ND		2.0	0.83	ug/L			08/22/23 12:57	4
cis-1,3-Dichloropropene	ND		2.0	1.2	ug/L			08/22/23 12:57	4
Dibromochloromethane	ND		2.0	0.61	ug/L			08/22/23 12:57	4
Ethylbenzene	ND		2.0	0.99	ug/L			08/22/23 12:57	4
Methylene Chloride	ND		8.0	2.3	ug/L			08/22/23 12:57	4
Naphthalene	ND		4.0	1.3	ug/L			08/22/23 12:57	4
o-Xylene	ND		2.0	0.59	ug/L			08/22/23 12:57	4
m,p-Xylene	ND		4.0	0.66	ug/L			08/22/23 12:57	4
Tetrachloroethene	ND		2.0	0.86	ug/L			08/22/23 12:57	4
Toluene	ND		2.0	0.94	ug/L			08/22/23 12:57	4
trans-1,2-Dichloroethene	ND		2.0	0.96	ug/L			08/22/23 12:57	4
trans-1,3-Dichloropropene	ND		2.0	0.72	ug/L			08/22/23 12:57	4
Trichloroethene	ND		2.0	0.70	ug/L			08/22/23 12:57	4
Trichlorofluoromethane	ND		2.0	1.2	ug/L			08/22/23 12:57	4
Vinyl chloride	ND		2.0	1.9	ug/L			08/22/23 12:57	4
Xylenes, Total	ND		4.0	0.66	ug/L			08/22/23 12:57	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*60 - 140*		*08/22/23 12:57*	*4*
Dibromofluoromethane (Surr)	*93*		*60 - 140*		*08/22/23 12:57*	*4*
Toluene-d8 (Surr)	*101*		*60 - 140*		*08/22/23 12:57*	*4*

Client Sample ID: TB-20230821
Lab Sample ID: 570-149397-3
Date Collected: 08/21/23 07:50
Matrix: Water
Date Received: 08/21/23 16:46

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			08/22/23 11:50	1

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: TB-20230821
Date Collected: 08/21/23 07:50
Date Received: 08/21/23 16:46

Lab Sample ID: 570-149397-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			08/22/23 11:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			08/22/23 11:50	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			08/22/23 11:50	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			08/22/23 11:50	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			08/22/23 11:50	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			08/22/23 11:50	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			08/22/23 11:50	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			08/22/23 11:50	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			08/22/23 11:50	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			08/22/23 11:50	1
Acrolein	ND		5.0	4.6	ug/L			08/22/23 11:50	1
Acrylonitrile	ND		2.0	1.4	ug/L			08/22/23 11:50	1
Benzene	ND		0.50	0.28	ug/L			08/22/23 11:50	1
Bromodichloromethane	ND		0.50	0.19	ug/L			08/22/23 11:50	1
Bromoform	ND		1.0	0.25	ug/L			08/22/23 11:50	1
Bromomethane	ND		0.50	0.22	ug/L			08/22/23 11:50	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			08/22/23 11:50	1
Chlorobenzene	ND		0.50	0.19	ug/L			08/22/23 11:50	1
Chloroethane	ND		1.0	0.29	ug/L			08/22/23 11:50	1
Chloroform	ND		0.50	0.19	ug/L			08/22/23 11:50	1
Chloromethane	ND		0.50	0.30	ug/L			08/22/23 11:50	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			08/22/23 11:50	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			08/22/23 11:50	1
Dibromochloromethane	ND		0.50	0.15	ug/L			08/22/23 11:50	1
Ethylbenzene	ND		0.50	0.25	ug/L			08/22/23 11:50	1
Methylene Chloride	ND		2.0	0.57	ug/L			08/22/23 11:50	1
Naphthalene	ND		1.0	0.33	ug/L			08/22/23 11:50	1
o-Xylene	ND		0.50	0.15	ug/L			08/22/23 11:50	1
m,p-Xylene	ND		1.0	0.17	ug/L			08/22/23 11:50	1
Tetrachloroethene	ND		0.50	0.21	ug/L			08/22/23 11:50	1
Toluene	ND		0.50	0.23	ug/L			08/22/23 11:50	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			08/22/23 11:50	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			08/22/23 11:50	1
Trichloroethene	ND		0.50	0.17	ug/L			08/22/23 11:50	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			08/22/23 11:50	1
Vinyl chloride	ND		0.50	0.47	ug/L			08/22/23 11:50	1
Xylenes, Total	ND		1.0	0.17	ug/L			08/22/23 11:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*60 - 140*		*08/22/23 11:50*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 140*		*08/22/23 11:50*	*1*
Toluene-d8 (Surr)	*101*		*60 - 140*		*08/22/23 11:50*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-149397-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Grab

General Chemistry

Client Sample ID: Outfall001_20230821_Grab
Date Collected: 08/21/23 07:50
Date Received: 08/21/23 16:46

Lab Sample ID: 570-149397-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664A)	ND		0.99	0.50	mg/L		08/23/23 11:59	08/23/23 13:24	1
Specific Conductance (SM 2510B)	**260**		1.0	1.0	umhos/cm			08/23/23 15:48	1
Settleable Solids (SM 2540F)	ND		0.10	0.10	mL/L			08/22/23 17:01	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Grab

Job ID: 570-149397-1

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)						
570-149397-1	Outfall001_20230821_Grab	98	93	101						
570-149397-3	TB-20230821	95	103	101						
LCS 570-356967/1003	Lab Control Sample	101	104	99						
LCSD 570-356967/4	Lab Control Sample Dup	99	106	102						
MB 570-356967/6	Method Blank	98	103	99						

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-356967/6
Matrix: Water
Analysis Batch: 356967

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			08/22/23 11:14	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			08/22/23 11:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			08/22/23 11:14	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			08/22/23 11:14	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			08/22/23 11:14	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			08/22/23 11:14	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			08/22/23 11:14	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			08/22/23 11:14	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			08/22/23 11:14	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			08/22/23 11:14	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			08/22/23 11:14	1
Acrolein	ND		5.0	4.6	ug/L			08/22/23 11:14	1
Acrylonitrile	ND		2.0	1.4	ug/L			08/22/23 11:14	1
Benzene	ND		0.50	0.28	ug/L			08/22/23 11:14	1
Bromodichloromethane	ND		0.50	0.19	ug/L			08/22/23 11:14	1
Bromoform	ND		1.0	0.25	ug/L			08/22/23 11:14	1
Bromomethane	ND		0.50	0.22	ug/L			08/22/23 11:14	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			08/22/23 11:14	1
Chlorobenzene	ND		0.50	0.19	ug/L			08/22/23 11:14	1
Chloroethane	ND		1.0	0.29	ug/L			08/22/23 11:14	1
Chloroform	ND		0.50	0.19	ug/L			08/22/23 11:14	1
Chloromethane	ND		0.50	0.30	ug/L			08/22/23 11:14	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			08/22/23 11:14	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			08/22/23 11:14	1
Dibromochloromethane	ND		0.50	0.15	ug/L			08/22/23 11:14	1
Ethylbenzene	ND		0.50	0.25	ug/L			08/22/23 11:14	1
Methylene Chloride	ND		2.0	0.57	ug/L			08/22/23 11:14	1
Naphthalene	ND		1.0	0.33	ug/L			08/22/23 11:14	1
o-Xylene	ND		0.50	0.15	ug/L			08/22/23 11:14	1
m,p-Xylene	ND		1.0	0.17	ug/L			08/22/23 11:14	1
Tetrachloroethene	ND		0.50	0.21	ug/L			08/22/23 11:14	1
Toluene	ND		0.50	0.23	ug/L			08/22/23 11:14	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			08/22/23 11:14	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			08/22/23 11:14	1
Trichloroethene	ND		0.50	0.17	ug/L			08/22/23 11:14	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			08/22/23 11:14	1
Vinyl chloride	ND		0.50	0.47	ug/L			08/22/23 11:14	1
Xylenes, Total	ND		1.0	0.17	ug/L			08/22/23 11:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*60 - 140*		*08/22/23 11:14*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 140*		*08/22/23 11:14*	*1*
Toluene-d8 (Surr)	*99*		*60 - 140*		*08/22/23 11:14*	*1*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-356967/1003
Matrix: Water
Analysis Batch: 356967

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	10.0	10.2		ug/L		102	70 - 130
1,1,2,2-Tetrachloroethane	10.0	9.97		ug/L		100	60 - 140
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	8.50		ug/L		85	60 - 140
1,1,2-Trichloroethane	10.0	10.0		ug/L		100	70 - 130
1,1-Dichloroethane	10.0	10.1		ug/L		101	70 - 130
1,1-Dichloroethene	10.0	10.2		ug/L		102	50 - 150
1,2-Dichlorobenzene	10.0	9.94		ug/L		99	65 - 135
1,2-Dichloroethane	10.0	9.79		ug/L		98	70 - 130
1,2-Dichloropropane	10.0	9.90		ug/L		99	35 - 165
1,3-Dichlorobenzene	10.0	10.1		ug/L		101	70 - 130
1,4-Dichlorobenzene	10.0	9.70		ug/L		97	65 - 135
Acrolein	20.0	24.6		ug/L		123	60 - 140
Acrylonitrile	10.0	10.3		ug/L		103	60 - 140
Benzene	10.0	10.2		ug/L		102	65 - 135
Bromodichloromethane	10.0	10.3		ug/L		103	65 - 135
Bromoform	10.0	10.5		ug/L		105	70 - 130
Bromomethane	10.0	9.89		ug/L		99	15 - 185
Carbon tetrachloride	10.0	9.81		ug/L		98	70 - 130
Chlorobenzene	10.0	10.1		ug/L		101	65 - 135
Chloroethane	10.0	9.55		ug/L		96	40 - 160
Chloroform	10.0	9.76		ug/L		98	70 - 135
Chloromethane	10.0	11.3		ug/L		113	1 - 205
cis-1,2-Dichloroethene	10.0	10.1		ug/L		101	60 - 140
cis-1,3-Dichloropropene	10.0	10.1		ug/L		101	25 - 175
Dibromochloromethane	10.0	10.4		ug/L		104	70 - 135
Ethylbenzene	10.0	10.2		ug/L		102	60 - 140
Methylene Chloride	10.0	9.70		ug/L		97	60 - 140
Naphthalene	10.0	9.61		ug/L		96	60 - 140
o-Xylene	10.0	9.99		ug/L		100	60 - 140
m,p-Xylene	20.0	20.9		ug/L		105	60 - 140
Tetrachloroethene	10.0	10.3		ug/L		103	70 - 130
Toluene	10.0	10.1		ug/L		101	70 - 130
trans-1,2-Dichloroethene	10.0	9.91		ug/L		99	70 - 130
trans-1,3-Dichloropropene	10.0	10.2		ug/L		102	50 - 150
Trichloroethene	10.0	9.66		ug/L		97	65 - 135
Trichlorofluoromethane	10.0	10.6		ug/L		106	50 - 150
Vinyl chloride	10.0	10.7		ug/L		107	5 - 195
Xylenes, Total	30.0	30.9		ug/L		103	60 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*60 - 140*
Dibromofluoromethane (Surr)	*104*		*60 - 140*
Toluene-d8 (Surr)	*99*		*60 - 140*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 570-356967/4
Matrix: Water
Analysis Batch: 356967

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-Trichloroethane			10.0	10.3		ug/L		103	70 - 130	1	36
1,1,2,2-Tetrachloroethane			10.0	10.2		ug/L		102	60 - 140	2	61
1,1,2-Trichloro-1,2,2-trifluoroethane			10.0	8.62		ug/L		86	60 - 140	1	30
1,1,2-Trichloroethane			10.0	10.1		ug/L		101	70 - 130	1	45
1,1-Dichloroethane			10.0	10.2		ug/L		102	70 - 130	1	40
1,1-Dichloroethene			10.0	10.2		ug/L		102	50 - 150	0	32
1,2-Dichlorobenzene			10.0	10.3		ug/L		103	65 - 135	3	57
1,2-Dichloroethane			10.0	10.3		ug/L		103	70 - 130	5	49
1,2-Dichloropropane			10.0	10.3		ug/L		103	35 - 165	4	55
1,3-Dichlorobenzene			10.0	10.8		ug/L		108	70 - 130	6	43
1,4-Dichlorobenzene			10.0	10.1		ug/L		101	65 - 135	4	57
Acrolein			20.0	23.5		ug/L		118	60 - 140	5	60
Acrylonitrile			10.0	9.58		ug/L		96	60 - 140	7	60
Benzene			10.0	10.2		ug/L		102	65 - 135	0	61
Bromodichloromethane			10.0	10.6		ug/L		106	65 - 135	4	56
Bromoform			10.0	11.2		ug/L		112	70 - 130	6	42
Bromomethane			10.0	9.17		ug/L		92	15 - 185	7	61
Carbon tetrachloride			10.0	9.81		ug/L		98	70 - 130	0	41
Chlorobenzene			10.0	10.2		ug/L		102	65 - 135	1	53
Chloroethane			10.0	9.36		ug/L		94	40 - 160	2	78
Chloroform			10.0	9.90		ug/L		99	70 - 135	1	30
Chloromethane			10.0	11.6		ug/L		116	1 - 205	2	60
cis-1,2-Dichloroethene			10.0	10.3		ug/L		103	60 - 140	1	30
cis-1,3-Dichloropropene			10.0	10.2		ug/L		102	25 - 175	1	58
Dibromochloromethane			10.0	10.6		ug/L		106	70 - 135	1	50
Ethylbenzene			10.0	10.2		ug/L		102	60 - 140	0	63
Methylene Chloride			10.0	10.5		ug/L		105	60 - 140	7	28
Naphthalene			10.0	10.4		ug/L		104	60 - 140	8	30
o-Xylene			10.0	10.1		ug/L		101	60 - 140	1	30
m,p-Xylene			20.0	21.3		ug/L		106	60 - 140	2	30
Tetrachloroethene			10.0	10.5		ug/L		105	70 - 130	2	39
Toluene			10.0	10.4		ug/L		104	70 - 130	3	41
trans-1,2-Dichloroethene			10.0	9.87		ug/L		99	70 - 130	0	45
trans-1,3-Dichloropropene			10.0	10.4		ug/L		104	50 - 150	1	86
Trichloroethene			10.0	10.4		ug/L		104	65 - 135	7	48
Trichlorofluoromethane			10.0	10.8		ug/L		108	50 - 150	2	84
Vinyl chloride			10.0	11.0		ug/L		110	5 - 195	3	66
Xylenes, Total			30.0	31.4		ug/L		105	60 - 140	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*60 - 140*
Dibromofluoromethane (Surr)	*106*		*60 - 140*
Toluene-d8 (Surr)	*102*		*60 - 140*

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-357395/1-A
Matrix: Water
Analysis Batch: 357425

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 357395

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		08/23/23 11:59	08/23/23 13:24	1

Lab Sample ID: LCS 570-357395/2-A
Matrix: Water
Analysis Batch: 357425

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 357395

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil & Grease)	40.0	31.7		mg/L		79	78 - 114

Lab Sample ID: LCSD 570-357395/3-A
Matrix: Water
Analysis Batch: 357425

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 357395

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil & Grease)	40.0	31.7		mg/L		79	78 - 114	0	18

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 570-357544/7
Matrix: Water
Analysis Batch: 357544

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			08/23/23 15:24	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-149397-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Grab

GC/MS VOA

Analysis Batch: 356967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149397-1	Outfall001_20230821_Grab	Total/NA	Water	624.1	
570-149397-3	TB-20230821	Total/NA	Water	624.1	
MB 570-356967/6	Method Blank	Total/NA	Water	624.1	
LCS 570-356967/1003	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-356967/4	Lab Control Sample Dup	Total/NA	Water	624.1	

General Chemistry

Analysis Batch: 357155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149397-1	Outfall001_20230821_Grab	Total/NA	Water	SM 2540F	

Prep Batch: 357395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149397-1	Outfall001_20230821_Grab	Total/NA	Water	1664A	
MB 570-357395/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-357395/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-357395/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

Analysis Batch: 357425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149397-1	Outfall001_20230821_Grab	Total/NA	Water	1664A	357395
MB 570-357395/1-A	Method Blank	Total/NA	Water	1664A	357395
LCS 570-357395/2-A	Lab Control Sample	Total/NA	Water	1664A	357395
LCSD 570-357395/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	357395

Analysis Batch: 357544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149397-1	Outfall001_20230821_Grab	Total/NA	Water	SM 2510B	
MB 570-357544/7	Method Blank	Total/NA	Water	SM 2510B	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-149397-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Grab

Client Sample ID: Outfall001_20230821_Grab
Lab Sample ID: 570-149397-1
Date Collected: 08/21/23 07:50
Matrix: Water
Date Received: 08/21/23 16:46

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		4	10 mL	10 mL	356967	08/22/23 12:57	KHF2	EET CAL 4
	Instrument ID: GCMSJJ									
Total/NA	Prep	1664A			1014 mL	1000 mL	357395	08/23/23 11:59	RY4P	EET CAL 4
Total/NA	Analysis	1664A		1			357425	08/23/23 13:24	VB5S	EET CAL 4
	Instrument ID: NO EQUIQ									
Total/NA	Analysis	SM 2510B		1			357544	08/23/23 15:48	ZL4M	EET CAL 4
	Instrument ID: ManSciMantech									
Total/NA	Analysis	SM 2540F		1	1000 mL	1 L	357155	08/22/23 17:01	TXA8	EET CAL 4
	Instrument ID: NOEQUIP									

Client Sample ID: TB-20230821
Lab Sample ID: 570-149397-3
Date Collected: 08/21/23 07:50
Matrix: Water
Date Received: 08/21/23 16:46

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	356967	08/22/23 11:50	KHF2	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: 570-149397-1
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	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
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: 570-149397-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - 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: 570-149397-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Grab

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-149397-1	Outfall001_20230821_Grab	Water	08/21/23 07:50	08/21/23 16:46
570-149397-3	TB-20230821	Water	08/21/23 07:50	08/21/23 16:46

149397

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

VLJOUVKT

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

Field Readings | Meter serial #

Field Readings: (Include units)
Time of Readings: 0745
DO 4.88 **mg/L**
pH ~~63.3~~ **pH unit** 8.02
Temp 63.3 **°C/F°**

Field readings QC
Checked by: [signature]
Date/Time: 8-21-2023 / 0745

ANALYSIS REQUIRED

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	(R) Oil & Grease (E1664A-HEM)	(Q/S) VOCs + 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) (E624)	(R) Settleable Solids (E160.5 (SM2540F))	(R) Conductivity (SM2510B / E120.1)	Comments
Outfall 001	Outfall001_20230821_Grab	8/21/2023 / 0750	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	
	Outfall001_20230821_Grab_Extra	8/21/2023 / 0750	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-20230821	8/21/2023 / 0750	WQ	40 mL VOA	2	HCl	20	No		X			

570-149397 Chain of Custody

Legend: R=Routine, Q=Quarterly, S=Semi-Annual

Relinquished By	Date/Time	Company	Received By	Date/Time
[signature]	8-21-2023 / 1240	H : A	[signature] EC	8/21/23 1240
[signature]	8-21-23 1646		[signature]	8/21/23 1646

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__

1.9/2.0 SC12

2019-2020 Rainy Season
Version 5

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-149397-1

Login Number: 149397
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 9/6/2023 9:40:31 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

JOB NUMBER

570-149525-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

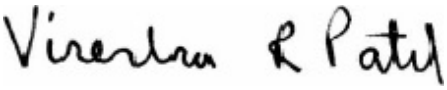
See page two for job notes and contact information.

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.

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
9/6/2023 9:40:31 AM

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-149525-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Qualifiers

GC Semi VOA

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

Metals

Qualifier	Qualifier Description
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Glossary

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

Job ID: 570-149525-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-149525-1

Comments
No additional comments.

Receipt
The samples were received on 8/22/2023 6:31 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 2.4º C, 2.9º C, 3.0º C and 3.3º C.

Receipt Exceptions

The reference method requires samples to have a pH of <2. The following samples were received with a pH of 7: Outfal001_20230822_Comp (570-149525-1), Outfal001_20230822_Comp (570-149525-1[MS]) and Outfal001_20230822_Comp (570-149525-1[MSD]). The samples were adjusted to the appropriate pH in the laboratory.

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: Outfal001_20230822_Comp_F (570-149525-3), Outfal001_20230822_Comp_F (570-149525-3[MS]) and Outfal001_20230822_Comp_F (570-149525-3[MSD]). The sample(s) 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: Outfal001_20230822_Comp_F (570-149525-3), Outfal001_20230822_Comp_F (570-149525-3[MS]) and Outfal001_20230822_Comp_F (570-149525-3[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 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 and precision for analytical batch 570-358787 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.

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 570-358077. 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 570-357244. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this

Job ID: 570-149525-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

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 - Quarterly Outfall 001 - Comp

Job ID: 570-149525-1

Client Sample ID: Outfal001_20230822_Comp — Lab Sample ID: 570-149525-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.3		1.0	0.36	mg/L	1		300.0	Total/NA
Fluoride	0.13		0.10	0.046	mg/L	1		300.0	Total/NA
Sulfate	41		1.0	0.24	mg/L	1		300.0	Total/NA
Copper	1.3	J,DX	2.0	0.32	ug/L	1		200.8	Total Recoverable
Iron	200		20	3.7	ug/L	1		200.8	Total Recoverable
Lead	0.18	J,DX	1.0	0.12	ug/L	1		200.8	Total Recoverable
Selenium	0.61	J,DX	2.0	0.52	ug/L	1		200.8	Total Recoverable
Turbidity	4.9		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Dissolved Solids	170		10	8.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.6		1.0	0.83	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Outfal001_20230822_Comp_F — Lab Sample ID: 570-149525-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	2.0	BU	2.0	0.32	ug/L	1		200.8	Dissolved
Iron	20	BU	20	3.7	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-1

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: Outfal001_20230822_Comp
Date Collected: 08/22/23 07:25
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149525-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		0.94	0.13	ug/L		08/23/23 08:09	08/29/23 12:25	1
2,4-Dinitrotoluene	ND		0.19	0.11	ug/L		08/23/23 08:09	08/29/23 12:25	1
Bis(2-ethylhexyl) phthalate	ND		4.7	3.4	ug/L		08/23/23 08:09	08/29/23 12:25	1
N-Nitrosodimethylamine	ND		0.19	0.18	ug/L		08/23/23 08:09	08/29/23 12:25	1
Pentachlorophenol	ND		0.94	0.80	ug/L		08/23/23 08:09	08/29/23 12:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*57*		*31 - 120*	*08/23/23 08:09*	*08/29/23 12:25*	*1*
Phenol-d6 (Surr)	*26*		*10 - 120*	*08/23/23 08:09*	*08/29/23 12:25*	*1*
p-Terphenyl-d14 (Surr)	*61*		*45 - 120*	*08/23/23 08:09*	*08/29/23 12:25*	*1*
2,4,6-Tribromophenol	*58*		*28 - 127*	*08/23/23 08:09*	*08/29/23 12:25*	*1*
2-Fluorophenol	*38*		*17 - 120*	*08/23/23 08:09*	*08/29/23 12:25*	*1*
Nitrobenzene-d5	*65*		*27 - 120*	*08/23/23 08:09*	*08/29/23 12:25*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-1

Method: EPA 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfal001_20230822_Comp
Date Collected: 08/22/23 07:25
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149525-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		08/25/23 07:58	08/31/23 14:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*29*	*PI*	*20 - 139*	*08/25/23 07:58*	*08/31/23 14:01*	*1*
DCB Decachlorobiphenyl (Surr)	*65*		*20 - 154*	*08/25/23 07:58*	*08/31/23 14:01*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-1

Method: EPA 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfal001_20230822_Comp
Date Collected: 08/22/23 07:25
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149525-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.3**		1.0	0.36	mg/L			08/23/23 13:26	1
Nitrite as N	ND		0.10	0.043	mg/L			08/23/23 13:26	1
Fluoride	**0.13**		0.10	0.046	mg/L			08/23/23 13:26	1
Nitrate as N	ND		0.10	0.020	mg/L			08/23/23 13:26	1
Sulfate	**41**		1.0	0.24	mg/L			08/23/23 13:26	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-1

Method: EPA 314.0 - Perchlorate (IC)

Client Sample ID: Outfal001_20230822_Comp
Date Collected: 08/22/23 07:25
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149525-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			08/23/23 14:08	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-1

Method: EPA NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfal001_20230822_Comp
Date Collected: 08/22/23 07:25
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149525-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	0.020	mg/L			09/05/23 14:39	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-1

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfal001_20230822_Comp
Date Collected: 08/22/23 07:25
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149525-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		08/23/23 08:50	08/25/23 10:36	1
Copper	**1.3**	**J,DX**	2.0	0.32	ug/L		08/23/23 08:50	08/25/23 10:36	1
Iron	**200**		20	3.7	ug/L		08/23/23 08:50	08/25/23 10:36	1
Lead	**0.18**	**J,DX**	1.0	0.12	ug/L		08/23/23 08:50	08/25/23 10:36	1
Selenium	**0.61**	**J,DX**	2.0	0.52	ug/L		08/23/23 08:50	08/25/23 10:36	1
Zinc	ND		20	2.8	ug/L		08/23/23 08:50	08/25/23 10:36	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-1

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfal001_20230822_Comp_F
Date Collected: 08/22/23 07:25
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149525-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	BU	1.0	0.13	ug/L			08/24/23 14:29	1
Copper	**2.0**	**BU**	2.0	0.32	ug/L			08/24/23 14:29	1
Iron	**20**	**BU**	20	3.7	ug/L			08/24/23 14:29	1
Lead	ND	BU	1.0	0.12	ug/L			08/24/23 14:29	1
Selenium	ND	BU	2.0	0.52	ug/L			08/24/23 14:29	1
Zinc	ND	BU	20	2.8	ug/L			08/24/23 14:29	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-1

Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: Outfal001_20230822_Comp
Date Collected: 08/22/23 07:25
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149525-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		08/23/23 16:15	08/24/23 14:33	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-1

Method: EPA 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfal001_20230822_Comp_F
Date Collected: 08/22/23 07:25
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149525-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.20	0.12	ug/L		08/23/23 16:13	08/24/23 15:18	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-1

General Chemistry

Client Sample ID: Outfal001_20230822_Comp
Date Collected: 08/22/23 07:25
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149525-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.075	0.029	mg/L		08/30/23 11:21	08/30/23 13:45	1
Cyanide, Total (EPA Kelada 01)	ND		5.0	2.5	ug/L			08/28/23 13:24	1
Turbidity (SM 2130B)	**4.9**		0.05	0.05	NTU			08/23/23 14:03	1
Total Dissolved Solids (SM 2540C)	**170**		10	8.7	mg/L			08/24/23 19:37	1
Total Suspended Solids (SM 2540D)	**4.6**		1.0	0.83	mg/L			08/23/23 12:09	1
Biochemical Oxygen Demand (SM 5210B)	ND		2.0	1.0	mg/L		08/23/23 14:48	08/28/23 13:22	1
MBAS (SM 5540C)	ND		0.20	0.050	mg/L		08/23/23 14:12	08/23/23 16:31	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-1

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)
570-149525-1	Outfal001_20230822_Comp	57	26	61	58	38	65
MB 570-357244/1-A	Method Blank	70	34	77	65	50	78

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	DCB2								
Lab Sample ID	Client Sample ID	(20-139)	(20-154)								
570-149525-1	Outfal001_20230822_Comp	29 PI	65								

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)									
		TCX2	DCB2								
Lab Sample ID	Client Sample ID	(20-139)	(20-154)								
MB 570-358077/1-A	Method Blank	66	67								

Surrogate Legend

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

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-357244/1-A
Matrix: Water
Analysis Batch: 359102

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 357244

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.14	ug/L		08/23/23 08:08	08/29/23 13:27	1
2,4-Dinitrotoluene	ND		0.20	0.12	ug/L		08/23/23 08:08	08/29/23 13:27	1
Bis(2-ethylhexyl) phthalate	ND		5.0	3.6	ug/L		08/23/23 08:08	08/29/23 13:27	1
N-Nitrosodimethylamine	ND		0.20	0.19	ug/L		08/23/23 08:08	08/29/23 13:27	1
Pentachlorophenol	ND		1.0	0.84	ug/L		08/23/23 08:08	08/29/23 13:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*70*		*31 - 120*	*08/23/23 08:08*	*08/29/23 13:27*	*1*
Phenol-d6 (Surr)	*34*		*10 - 120*	*08/23/23 08:08*	*08/29/23 13:27*	*1*
p-Terphenyl-d14 (Surr)	*77*		*45 - 120*	*08/23/23 08:08*	*08/29/23 13:27*	*1*
2,4,6-Tribromophenol	*65*		*28 - 127*	*08/23/23 08:08*	*08/29/23 13:27*	*1*
2-Fluorophenol	*50*		*17 - 120*	*08/23/23 08:08*	*08/29/23 13:27*	*1*
Nitrobenzene-d5	*78*		*27 - 120*	*08/23/23 08:08*	*08/29/23 13:27*	*1*

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-358077/1-A
Matrix: Water
Analysis Batch: 359791

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358077

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		08/25/23 07:58	08/31/23 11:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*66*		*20 - 139*	*08/25/23 07:58*	*08/31/23 11:45*	*1*
DCB Decachlorobiphenyl (Surr)	*67*		*20 - 154*	*08/25/23 07:58*	*08/31/23 11:45*	*1*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-357219/5
Matrix: Water
Analysis Batch: 357219

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			08/23/23 08:05	1
Fluoride	ND		0.10	0.046	mg/L			08/23/23 08:05	1
Sulfate	ND		1.0	0.24	mg/L			08/23/23 08:05	1

Lab Sample ID: LCS 570-357219/6
Matrix: Water
Analysis Batch: 357219

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	53.1		mg/L		106	90 - 110
Fluoride	2.50	2.24		mg/L		90	90 - 110
Sulfate	50.0	49.7		mg/L		99	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 570-357219/7
Matrix: Water
Analysis Batch: 357219

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	53.0		mg/L		106	90 - 110	0	15
Fluoride	2.50	2.27		mg/L		91	90 - 110	1	15
Sulfate	50.0	49.7		mg/L		99	90 - 110	0	15

Lab Sample ID: MB 570-357220/5
Matrix: Water
Analysis Batch: 357220

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			08/23/23 08:05	1
Nitrate as N	ND		0.10	0.020	mg/L			08/23/23 08:05	1

Lab Sample ID: LCS 570-357220/6
Matrix: Water
Analysis Batch: 357220

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	5.18		mg/L		104	90 - 110

Lab Sample ID: LCSD 570-357220/7
Matrix: Water
Analysis Batch: 357220

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	2.55		mg/L		102	90 - 110	1	15
Nitrate as N	5.00	5.19		mg/L		104	90 - 110	0	15

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-357321/7
Matrix: Water
Analysis Batch: 357321

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			08/23/23 12:53	1

Lab Sample ID: LCS 570-357321/8
Matrix: Water
Analysis Batch: 357321

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	26.1		ug/L		104	85 - 115

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: LCSD 570-357321/9
Matrix: Water
Analysis Batch: 357321

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	26.4		ug/L		105	85 - 115	1	15

Lab Sample ID: 570-149525-1 MS
Matrix: Water
Analysis Batch: 357321

Client Sample ID: Outfal001_20230822_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate	ND		50.0	55.2		ug/L		110	80 - 120		

Lab Sample ID: 570-149525-1 MSD
Matrix: Water
Analysis Batch: 357321

Client Sample ID: Outfal001_20230822_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	ND		50.0	55.0		ug/L		110	80 - 120	0	15

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 570-357293/1-A
Matrix: Water
Analysis Batch: 358172

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 357293

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		08/23/23 08:50	08/25/23 10:54	1
Copper	ND		2.0	0.32	ug/L		08/23/23 08:50	08/25/23 10:54	1
Iron	ND		20	3.7	ug/L		08/23/23 08:50	08/25/23 10:54	1
Lead	ND		1.0	0.12	ug/L		08/23/23 08:50	08/25/23 10:54	1
Selenium	ND		2.0	0.52	ug/L		08/23/23 08:50	08/25/23 10:54	1
Zinc	ND		20	2.8	ug/L		08/23/23 08:50	08/25/23 10:54	1

Lab Sample ID: LCS 570-357293/2-A
Matrix: Water
Analysis Batch: 358172

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 357293

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Cadmium			80.0	78.2		ug/L		98	85 - 115		
Copper			80.0	80.7		ug/L		101	85 - 115		
Iron			800	792		ug/L		99	85 - 115		
Lead			80.0	78.0		ug/L		97	85 - 115		
Selenium			80.0	78.0		ug/L		98	85 - 115		
Zinc			80.0	79.4		ug/L		99	85 - 115		

Lab Sample ID: LCSD 570-357293/3-A
Matrix: Water
Analysis Batch: 358172

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 357293

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium			80.0	80.3		ug/L		100	85 - 115	3	20
Copper			80.0	82.5		ug/L		103	85 - 115	2	20

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 570-357293/3-A
Matrix: Water
Analysis Batch: 358172

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 357293

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron			800	802		ug/L		100	85 - 115	1	20
Lead			80.0	80.4		ug/L		100	85 - 115	3	20
Selenium			80.0	78.7		ug/L		98	85 - 115	1	20
Zinc			80.0	79.8		ug/L		100	85 - 115	1	20

Lab Sample ID: 570-149525-1 MS
Matrix: Water
Analysis Batch: 358171

Client Sample ID: Outfal001_20230822_Comp
Prep Type: Total Recoverable
Prep Batch: 357293

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	ND		80.0	76.6		ug/L		96	80 - 120
Copper	1.3	J,DX	80.0	77.6		ug/L		95	80 - 120
Iron	200		800	976		ug/L		97	80 - 120
Lead	0.18	J,DX	80.0	75.0		ug/L		93	80 - 120
Selenium	0.61	J,DX	80.0	74.8		ug/L		93	80 - 120
Zinc	ND		80.0	77.7		ug/L		97	80 - 120

Lab Sample ID: 570-149525-1 MSD
Matrix: Water
Analysis Batch: 358171

Client Sample ID: Outfal001_20230822_Comp
Prep Type: Total Recoverable
Prep Batch: 357293

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	ND		80.0	81.2		ug/L		101	80 - 120	6	20
Copper	1.3	J,DX	80.0	83.0		ug/L		102	80 - 120	7	20
Iron	200		800	1040		ug/L		105	80 - 120	6	20
Lead	0.18	J,DX	80.0	80.4		ug/L		100	80 - 120	7	20
Selenium	0.61	J,DX	80.0	79.2		ug/L		98	80 - 120	6	20
Zinc	ND		80.0	83.3		ug/L		104	80 - 120	7	20

Lab Sample ID: MB 570-357706/1-A
Matrix: Water
Analysis Batch: 357915

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			08/24/23 14:03	1
Copper	ND		2.0	0.32	ug/L			08/24/23 14:03	1
Iron	ND		20	3.7	ug/L			08/24/23 14:03	1
Lead	ND		1.0	0.12	ug/L			08/24/23 14:03	1
Selenium	ND		2.0	0.52	ug/L			08/24/23 14:03	1
Zinc	ND		20	2.8	ug/L			08/24/23 14:03	1

Lab Sample ID: LCS 570-357706/2-A
Matrix: Water
Analysis Batch: 357915

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium			80.0	75.8		ug/L		95	85 - 115
Copper			80.0	76.3		ug/L		95	85 - 115
Iron			800	761		ug/L		95	85 - 115

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 570-357706/2-A
Matrix: Water
Analysis Batch: 357915

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	80.0	76.6		ug/L		96	85 - 115
Selenium	80.0	73.4		ug/L		92	85 - 115
Zinc	80.0	74.2		ug/L		93	85 - 115

Lab Sample ID: LCSD 570-357706/3-A
Matrix: Water
Analysis Batch: 357915

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	76.1		ug/L		95	85 - 115	0	20
Copper	80.0	77.7		ug/L		97	85 - 115	2	20
Iron	800	767		ug/L		96	85 - 115	1	20
Lead	80.0	78.3		ug/L		98	85 - 115	2	20
Selenium	80.0	74.9		ug/L		94	85 - 115	2	20
Zinc	80.0	75.9		ug/L		95	85 - 115	2	20

Lab Sample ID: 570-149525-3 MS
Matrix: Water
Analysis Batch: 357915

Client Sample ID: Outfal001_20230822_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	76.6	BU	ug/L		96	80 - 120
Copper	2.0	BU	80.0	80.4	BU	ug/L		98	80 - 120
Iron	20	BU	800	808	BU	ug/L		98	80 - 120
Lead	ND	BU	80.0	79.7	BU	ug/L		100	80 - 120
Selenium	ND	BU	80.0	79.3	BU	ug/L		99	80 - 120
Zinc	ND	BU	80.0	76.9	BU	ug/L		96	80 - 120

Lab Sample ID: 570-149525-3 MSD
Matrix: Water
Analysis Batch: 357915

Client Sample ID: Outfal001_20230822_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	73.3	BU	ug/L		92	80 - 120	4	20
Copper	2.0	BU	80.0	76.5	BU	ug/L		93	80 - 120	5	20
Iron	20	BU	800	764	BU	ug/L		93	80 - 120	6	20
Lead	ND	BU	80.0	73.6	BU	ug/L		92	80 - 120	8	20
Selenium	ND	BU	80.0	76.2	BU	ug/L		95	80 - 120	4	20
Zinc	ND	BU	80.0	72.7	BU	ug/L		91	80 - 120	6	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-357522/1-A
Matrix: Water
Analysis Batch: 357922

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 357522

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		08/23/23 16:15	08/24/23 14:21	1

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 570-357522/2-A
Matrix: Water
Analysis Batch: 357922

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 357522

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury			8.00	7.32		ug/L		91	85 - 115		

Lab Sample ID: LCSD 570-357522/3-A
Matrix: Water
Analysis Batch: 357922

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 357522

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury			8.00	7.02		ug/L		88	85 - 115	4	10

Lab Sample ID: 570-149525-1 MS
Matrix: Water
Analysis Batch: 357922

Client Sample ID: Outfal001_20230822_Comp
Prep Type: Total/NA
Prep Batch: 357522

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury	ND		8.00	7.97		ug/L		100	85 - 115		

Lab Sample ID: 570-149525-1 MSD
Matrix: Water
Analysis Batch: 357922

Client Sample ID: Outfal001_20230822_Comp
Prep Type: Total/NA
Prep Batch: 357522

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		8.00	8.00		ug/L		100	85 - 115	0	10

Lab Sample ID: MB 570-357459/1-B
Matrix: Water
Analysis Batch: 357922

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 357519

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		08/23/23 16:13	08/24/23 14:57	1

Lab Sample ID: LCS 570-357459/2-B
Matrix: Water
Analysis Batch: 357922

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 357519

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 570-357459/3-B
Matrix: Water
Analysis Batch: 357922

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 357519

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury			8.00	7.38		ug/L		92	85 - 115	5	10

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 570-149525-3 MS
Matrix: Water
Analysis Batch: 357922

Client Sample ID: Outfal001_20230822_Comp_F
Prep Type: Dissolved
Prep Batch: 357519

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND	BU	8.00	7.91	BU	ug/L		99	85 - 115

Lab Sample ID: 570-149525-3 MSD
Matrix: Water
Analysis Batch: 357922

Client Sample ID: Outfal001_20230822_Comp_F
Prep Type: Dissolved
Prep Batch: 357519

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND	BU	8.00	7.98	BU	ug/L		100	85 - 115	1	10

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 570-359717/5-A
Matrix: Water
Analysis Batch: 359720

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 359717

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.075	0.029	mg/L		08/30/23 11:21	08/30/23 13:03	1

Lab Sample ID: LCS 570-359717/6-A
Matrix: Water
Analysis Batch: 359720

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 359717

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.500	0.504		mg/L		101	90 - 110

Lab Sample ID: LCSD 570-359717/7-A
Matrix: Water
Analysis Batch: 359720

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 359717

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.500	0.495		mg/L		99	90 - 110	2	20

Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate

Lab Sample ID: MB 570-358787/11
Matrix: Water
Analysis Batch: 358787

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			08/28/23 12:19	1

Lab Sample ID: LCS 570-358787/12
Matrix: Water
Analysis Batch: 358787

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	241		ug/L		96	90 - 110

Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate (Continued)

Lab Sample ID: LCSD 570-358787/13
Matrix: Water
Analysis Batch: 358787

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	250		ug/L		100	90 - 110	4	20

Lab Sample ID: MRL 570-358787/10
Matrix: Water
Analysis Batch: 358787

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	5.62		ug/L		113	50 - 150		

Method: SM 2130B - Turbidity

Lab Sample ID: LCSSRM 570-357438/1
Matrix: Water
Analysis Batch: 357438

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		100.4	99.0 - 101.0		

Lab Sample ID: LCSSRM 570-357438/2
Matrix: Water
Analysis Batch: 357438

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		101.0	99.0 - 101.0		

Lab Sample ID: LCSSRM 570-357438/3
Matrix: Water
Analysis Batch: 357438

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		

Lab Sample ID: 570-149525-1 DU
Matrix: Water
Analysis Batch: 357438

Client Sample ID: Outfal001_20230822_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Turbidity	4.9			5.1		NTU				4	25

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 570-358013/1
Matrix: Water
Analysis Batch: 358013

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			08/24/23 19:37	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 570-358013/2
Matrix: Water
Analysis Batch: 358013

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	1020		mg/L		102	84 - 108

Lab Sample ID: LCSD 570-358013/3
Matrix: Water
Analysis Batch: 358013

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	1010		mg/L		101	84 - 108	2	10

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-357400/1
Matrix: Water
Analysis Batch: 357400

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			08/23/23 12:09	1

Lab Sample ID: LCS 570-357400/2
Matrix: Water
Analysis Batch: 357400

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	103		mg/L		103	77 - 116

Lab Sample ID: LCSD 570-357400/3
Matrix: Water
Analysis Batch: 357400

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	106		mg/L		106	77 - 116	3	10

Method: SM 5210B - BOD, 5-Day

Lab Sample ID: LCS 570-357298/2-B
Matrix: Water
Analysis Batch: 358799

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 357298

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	199	201		mg/L		101	84.6 - 115.4

Lab Sample ID: USB 570-358799/2
Matrix: Water
Analysis Batch: 358799

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			08/28/23 12:14	1

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 570-357448/5-A
Matrix: Water
Analysis Batch: 357553

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 357448

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.20	0.050	mg/L		08/23/23 14:11	08/23/23 16:26	1

Lab Sample ID: LCS 570-357448/6-A
Matrix: Water
Analysis Batch: 357553

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 357448

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
MBAS			0.500	0.537		mg/L		107	83 - 122		

Lab Sample ID: LCSD 570-357448/7-A
Matrix: Water
Analysis Batch: 357553

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 357448

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS			0.500	0.541		mg/L		108	83 - 122	1	10

Lab Sample ID: 570-149525-1 MS
Matrix: Water
Analysis Batch: 357553

Client Sample ID: Outfal001_20230822_Comp
Prep Type: Total/NA
Prep Batch: 357448

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
MBAS	ND		0.500	0.553		mg/L		111	64 - 141		

Lab Sample ID: 570-149525-1 MSD
Matrix: Water
Analysis Batch: 357553

Client Sample ID: Outfal001_20230822_Comp
Prep Type: Total/NA
Prep Batch: 357448

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS	ND		0.500	0.569		mg/L		114	64 - 141	3	10

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-1

GC/MS Semi VOA

Prep Batch: 357244

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	625	
MB 570-357244/1-A	Method Blank	Total/NA	Water	625	

Analysis Batch: 359102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	625.1 SIM	357244
MB 570-357244/1-A	Method Blank	Total/NA	Water	625.1 SIM	357244

GC Semi VOA

Prep Batch: 358077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	608	
MB 570-358077/1-A	Method Blank	Total/NA	Water	608	

Analysis Batch: 359791

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	608.3	358077
MB 570-358077/1-A	Method Blank	Total/NA	Water	608.3	358077

HPLC/IC

Analysis Batch: 357219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	300.0	
MB 570-357219/5	Method Blank	Total/NA	Water	300.0	
LCS 570-357219/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-357219/7	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 357220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	300.0	
MB 570-357220/5	Method Blank	Total/NA	Water	300.0	
LCS 570-357220/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-357220/7	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 357321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	314.0	
MB 570-357321/7	Method Blank	Total/NA	Water	314.0	
LCS 570-357321/8	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-357321/9	Lab Control Sample Dup	Total/NA	Water	314.0	
570-149525-1 MS	Outfal001_20230822_Comp	Total/NA	Water	314.0	
570-149525-1 MSD	Outfal001_20230822_Comp	Total/NA	Water	314.0	

Analysis Batch: 361054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	NO2NO3 Calc	

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-1

Metals

Prep Batch: 357293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total Recoverable	Water	200.8	
MB 570-357293/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-357293/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-357293/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-149525-1 MS	Outfal001_20230822_Comp	Total Recoverable	Water	200.8	
570-149525-1 MSD	Outfal001_20230822_Comp	Total Recoverable	Water	200.8	

Filtration Batch: 357459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-3	Outfal001_20230822_Comp_F	Dissolved	Water	Filtration	
MB 570-357459/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-357459/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-357459/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-149525-3 MS	Outfal001_20230822_Comp_F	Dissolved	Water	Filtration	
570-149525-3 MSD	Outfal001_20230822_Comp_F	Dissolved	Water	Filtration	

Prep Batch: 357519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-3	Outfal001_20230822_Comp_F	Dissolved	Water	245.1	357459
MB 570-357459/1-B	Method Blank	Dissolved	Water	245.1	357459
LCS 570-357459/2-B	Lab Control Sample	Dissolved	Water	245.1	357459
LCSD 570-357459/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	357459
570-149525-3 MS	Outfal001_20230822_Comp_F	Dissolved	Water	245.1	357459
570-149525-3 MSD	Outfal001_20230822_Comp_F	Dissolved	Water	245.1	357459

Prep Batch: 357522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	245.1	
MB 570-357522/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-357522/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-357522/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-149525-1 MS	Outfal001_20230822_Comp	Total/NA	Water	245.1	
570-149525-1 MSD	Outfal001_20230822_Comp	Total/NA	Water	245.1	

Filtration Batch: 357706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-3	Outfal001_20230822_Comp_F	Dissolved	Water	Filtration	
MB 570-357706/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-357706/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-357706/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-149525-3 MS	Outfal001_20230822_Comp_F	Dissolved	Water	Filtration	
570-149525-3 MSD	Outfal001_20230822_Comp_F	Dissolved	Water	Filtration	

Analysis Batch: 357915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-3	Outfal001_20230822_Comp_F	Dissolved	Water	200.8	357706
MB 570-357706/1-A	Method Blank	Dissolved	Water	200.8	357706
LCS 570-357706/2-A	Lab Control Sample	Dissolved	Water	200.8	357706
LCSD 570-357706/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	357706
570-149525-3 MS	Outfal001_20230822_Comp_F	Dissolved	Water	200.8	357706

Metals (Continued)

Analysis Batch: 357915 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-3 MSD	Outfal001_20230822_Comp_F	Dissolved	Water	200.8	357706

Analysis Batch: 357922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	245.1	357522
570-149525-3	Outfal001_20230822_Comp_F	Dissolved	Water	245.1	357519
MB 570-357459/1-B	Method Blank	Dissolved	Water	245.1	357519
MB 570-357522/1-A	Method Blank	Total/NA	Water	245.1	357522
LCS 570-357459/2-B	Lab Control Sample	Dissolved	Water	245.1	357519
LCS 570-357522/2-A	Lab Control Sample	Total/NA	Water	245.1	357522
LCSD 570-357459/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	357519
LCSD 570-357522/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	357522
570-149525-1 MS	Outfal001_20230822_Comp	Total/NA	Water	245.1	357522
570-149525-1 MSD	Outfal001_20230822_Comp	Total/NA	Water	245.1	357522
570-149525-3 MS	Outfal001_20230822_Comp_F	Dissolved	Water	245.1	357519
570-149525-3 MSD	Outfal001_20230822_Comp_F	Dissolved	Water	245.1	357519

Analysis Batch: 358171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total Recoverable	Water	200.8	357293
570-149525-1 MS	Outfal001_20230822_Comp	Total Recoverable	Water	200.8	357293
570-149525-1 MSD	Outfal001_20230822_Comp	Total Recoverable	Water	200.8	357293

Analysis Batch: 358172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-357293/1-A	Method Blank	Total Recoverable	Water	200.8	357293
LCS 570-357293/2-A	Lab Control Sample	Total Recoverable	Water	200.8	357293
LCSD 570-357293/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	357293

General Chemistry

Prep Batch: 357298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	BOD Prep	
LCS 570-357298/2-B	Lab Control Sample	Total/NA	Water	BOD Prep	

Analysis Batch: 357400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	SM 2540D	
MB 570-357400/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-357400/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-357400/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 357438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	SM 2130B	
LCSSRM 570-357438/1	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-357438/2	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-357438/3	Lab Control Sample	Total/NA	Water	SM 2130B	
570-149525-1 DU	Outfal001_20230822_Comp	Total/NA	Water	SM 2130B	

General Chemistry

Prep Batch: 357448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	SM 5540C	
MB 570-357448/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-357448/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-357448/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	
570-149525-1 MS	Outfal001_20230822_Comp	Total/NA	Water	SM 5540C	
570-149525-1 MSD	Outfal001_20230822_Comp	Total/NA	Water	SM 5540C	

Analysis Batch: 357553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	SM 5540C	357448
MB 570-357448/5-A	Method Blank	Total/NA	Water	SM 5540C	357448
LCS 570-357448/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	357448
LCSD 570-357448/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	357448
570-149525-1 MS	Outfal001_20230822_Comp	Total/NA	Water	SM 5540C	357448
570-149525-1 MSD	Outfal001_20230822_Comp	Total/NA	Water	SM 5540C	357448

Analysis Batch: 358013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	SM 2540C	
MB 570-358013/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 570-358013/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 570-358013/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

Analysis Batch: 358787

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	Kelada 01	
MB 570-358787/11	Method Blank	Total/NA	Water	Kelada 01	
LCS 570-358787/12	Lab Control Sample	Total/NA	Water	Kelada 01	
LCSD 570-358787/13	Lab Control Sample Dup	Total/NA	Water	Kelada 01	
MRL 570-358787/10	Lab Control Sample	Total/NA	Water	Kelada 01	

Analysis Batch: 358799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	SM 5210B	357298
USB 570-358799/2	Method Blank	Total/NA	Water	SM 5210B	
LCS 570-357298/2-B	Lab Control Sample	Total/NA	Water	SM 5210B	357298

Prep Batch: 359717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	Distill/Ammonia	
MB 570-359717/5-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 570-359717/6-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	
LCSD 570-359717/7-A	Lab Control Sample Dup	Total/NA	Water	Distill/Ammonia	

Analysis Batch: 359720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	350.1	359717
MB 570-359717/5-A	Method Blank	Total/NA	Water	350.1	359717
LCS 570-359717/6-A	Lab Control Sample	Total/NA	Water	350.1	359717
LCSD 570-359717/7-A	Lab Control Sample Dup	Total/NA	Water	350.1	359717

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-1

Client Sample ID: Outfal001_20230822_Comp

Date Collected: 08/22/23 07:25
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149525-1

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			1060.9 mL	2 mL	357244	08/23/23 08:09	H1SH	EET CAL 4
Total/NA	Analysis	625.1 SIM		1	1 mL	1 mL	359102	08/29/23 12:25	ULLI	EET CAL 4
	Instrument ID: GCMSJJJ									
Total/NA	Prep	608			1500 mL	1 mL	358077	08/25/23 07:58	OAJ3	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	359791	08/31/23 14:01	N5Y3	EET CAL 4
	Instrument ID: GC54A									
Total/NA	Analysis	300.0		1	4 mL	4 mL	357219	08/23/23 13:26	UIP1	EET CAL 4
	Instrument ID: IC7									
Total/NA	Analysis	300.0		1	4 mL	4 mL	357220	08/23/23 13:26	UIP1	EET CAL 4
	Instrument ID: IC7									
Total/NA	Analysis	314.0		1	4 mL	4 mL	357321	08/23/23 14:08	YO8L	EET CAL 4
	Instrument ID: IC8									
Total/NA	Analysis	NO2NO3 Calc		1			361054	09/05/23 14:39	WH6J	EET CAL 4
	Instrument ID: NOEQUIP									
Total Recoverable	Prep	200.8			50 mL	50 mL	357293	08/23/23 08:50	JP8N	EET CAL 4
Total Recoverable	Analysis	200.8		1			358171	08/25/23 10:36	Y2WS	EET CAL 4
	Instrument ID: ICPMS09									
Total/NA	Prep	245.1			25 mL	50 mL	357522	08/23/23 16:15	EV3M	EET CAL 4
Total/NA	Analysis	245.1		1			357922	08/24/23 14:33	C0YH	EET CAL 4
	Instrument ID: HG9									
Total/NA	Prep	Distill/Ammonia			5 mL	5 mL	359717	08/30/23 11:21	UXCH	EET CAL 4
Total/NA	Analysis	350.1		1	5 mL	5 mL	359720	08/30/23 13:45	UXCH	EET CAL 4
	Instrument ID: ACA2									
Total/NA	Analysis	Kelada 01		1	8 mL	8 mL	358787	08/28/23 13:24	GG0B	EET CAL 4
	Instrument ID: LACHAT01									
Total/NA	Analysis	SM 2130B		1			357438	08/23/23 14:03	ZVB7	EET CAL 4
	Instrument ID: TUR4									
Total/NA	Analysis	SM 2540C		1	100 mL	1000 mL	358013	08/24/23 19:37	ZL7L	EET CAL 4
	Instrument ID: BAL100									
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	357400	08/23/23 12:09	UWCT	EET CAL 4
	Instrument ID: BAL71									
Total/NA	Prep	BOD Prep					357298	08/23/23 14:48	U7UR	EET CAL 4
Total/NA	Analysis	SM 5210B		1	300 mL	300 mL	358799	08/28/23 13:22	U7UR	EET CAL 4
	Instrument ID: BOD3									
Total/NA	Prep	SM 5540C			100 mL	100 mL	357448	08/23/23 14:12	TXA8	EET CAL 4
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	357553	08/23/23 16:31	TXA8	EET CAL 4
	Instrument ID: UV8									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-149525-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Client Sample ID: Outfal001_20230822_Comp_F
Lab Sample ID: 570-149525-3
Date Collected: 08/22/23 07:25
Matrix: Water
Date Received: 08/22/23 18:31

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	357706	08/24/23 08:39	JP8N	EET CAL 4
Dissolved	Analysis	200.8		1			357915	08/24/23 14:29	Y2WS	EET CAL 4
	Instrument ID: ICPMS09									
Dissolved	Filtration	Filtration			25 mL	25 mL	357459	08/23/23 14:43	EV3M	EET CAL 4
Dissolved	Prep	245.1			25 mL	50 mL	357519	08/23/23 16:13	EV3M	EET CAL 4
Dissolved	Analysis	245.1		1			357922	08/24/23 15:18	C0YH	EET CAL 4
	Instrument ID: HG9									

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: 570-149525-1
Project/Site: Boeing NPDES SSFL - Quarterly 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	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-23

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-1

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
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
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 001 - Comp

Job ID: 570-149525-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-149525-1	Outfal001_20230822_Comp	Water	08/22/23 07:25	08/22/23 18:31
570-149525-3	Outfal001_20230822_Comp_F	Water	08/22/23 07:25	08/22/23 18:31

149525

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 Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 **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: (E200.8): 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
Outfall 001	Outfall001_20230822_Comp	8/22/2023 0725	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_2 & NO_3
			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								
	Outfall001_20230822_Comp_Extra	8/22/2023 0725	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]	8-22-2023/1400	H&A	[signature] EC	8/22/23 1400
[signature] EC	8.22.23 1831		[signature] EC	8/22/23 1831

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

570-149525 Chain of Custody

2.7/3.0, 2.6/2.9, 2.1/2.4, 3.0/3.3 SC15

2019-2020 Rainy Season
Version 5

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									ANALYSIS REQUIRED													
Eurofins Calscience Project Manager: Virendra Patel, 2841 Dow Avenue, Suite #100, Tustin, CA 92780, Tel: 714-895-5494									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)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	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
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 001 Comp																						
Project Manager: Katherine Miller, 520.289.8606, 520.904.6944 (cell)																						
Field Manager: Mark Dominick, 978.234.5033, 818.599.0702 (cell)																						
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD														
Outfall 001	Outfall001_20230822_Comp_F	8/22/2023 0725	WM	1 L Poly	1	None	190	No														
			WM	500 mL Poly	1	HNO_3	80	No														
3			WM	1L Poly	1	None	200	Yes	X									X			Filter and preserve w/in 24hrs of receipt Outfall 001 analyze for Fe.	
			WM	1 L Glass Amber	2	None	250	No														
			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_20230822_Comp	8/22/2023 0725	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			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	8.22.2023 / 1400	H:A		8/22/23 1400
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	8.22.23	1831	M Rat	8/22/23 1831
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: 570-272825.1
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 #: 570-149525-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/27/2023			
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 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)	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:												
Outfal001_20230822_Comp (570-149525-1)	8/22/23	07:25 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
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:

8/23/23 1329

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: 570-272920.1
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 #: 570-149525-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 9/14/2023			
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 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:							
Outfal001_20230822_Comp (570-149525-1)	8/22/23	07:25 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfal001_20230822_Comp_Extra (570-149525-2)	8/22/23	07:25 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
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: 570-149525-1

Login Number: 149525
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 9/22/2023 1:06:50 PM

JOB DESCRIPTION

Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

JOB NUMBER

570-149525-2

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

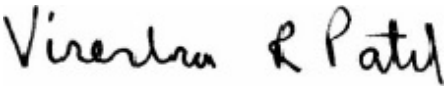
Eurofins Calscience

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



Generated
9/22/2023 1:06:50 PM

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-2

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: 570-149525-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-149525-2

Receipt
The samples were received on 8/22/2023 6:31 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 2.4º C, 2.9º C, 3.0º C and 3.3º C.

Receipt Exceptions

The reference method requires samples to have a pH of <2. The following samples were received with a pH of 7: Outfal001_20230822_Comp (570-149525-1), Outfal001_20230822_Comp (570-149525-1[MS]) and Outfal001_20230822_Comp (570-149525-1[MSD]). The samples were 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 DFS 1 exceeded this criteria: Outfal001_20230822_Comp (570-149525-1), (CCV 320-707510/2), (LCS 320-705588/2-A), (LCSD 320-705588/3-A) and (MB 320-705588/1-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 - Quarterly Outfall 001 - Comp

Job ID: 570-149525-2

Client Sample ID: Outfal001_20230822_Comp

Lab Sample ID: 570-149525-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000016	J,DX MB q	0.000047	0.00000035	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000017	J,DX MB	0.000047	0.00000025	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000010	J,DX MB q	0.000047	0.00000038	ug/L	1		1613B	Total/NA
OCDD	0.0000079	J,DX MB	0.000095	0.00000050	ug/L	1		1613B	Total/NA
OCDF	0.0000019	J,DX MB q	0.000095	0.00000070	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000016	J,DX MB q	0.000047	0.00000033	ug/L	1		1613B	Total/NA
Total HpCDD	0.0000029	J,DX MB	0.000047	0.00000025	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000010	J,DX MB q	0.000047	0.00000041	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-2

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfal001_20230822_Comp
Date Collected: 08/22/23 07:25
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149525-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000095	0.00000064	ug/L		09/13/23 08:35	09/20/23 06:49	1
2,3,7,8-TCDF	ND		0.0000095	0.00000034	ug/L		09/13/23 08:35	09/20/23 06:49	1
1,2,3,7,8-PeCDD	ND		0.000047	0.00000070	ug/L		09/13/23 08:35	09/20/23 06:49	1
1,2,3,7,8-PeCDF	ND		0.000047	0.00000023	ug/L		09/13/23 08:35	09/20/23 06:49	1
2,3,4,7,8-PeCDF	ND		0.000047	0.00000029	ug/L		09/13/23 08:35	09/20/23 06:49	1
1,2,3,4,7,8-HxCDD	**0.0000016**	**J,DX MB q**	0.000047	0.00000035	ug/L		09/13/23 08:35	09/20/23 06:49	1
1,2,3,6,7,8-HxCDD	ND		0.000047	0.00000033	ug/L		09/13/23 08:35	09/20/23 06:49	1
1,2,3,7,8,9-HxCDD	ND		0.000047	0.00000031	ug/L		09/13/23 08:35	09/20/23 06:49	1
1,2,3,4,7,8-HxCDF	ND		0.000047	0.00000025	ug/L		09/13/23 08:35	09/20/23 06:49	1
1,2,3,6,7,8-HxCDF	ND		0.000047	0.00000025	ug/L		09/13/23 08:35	09/20/23 06:49	1
1,2,3,7,8,9-HxCDF	ND		0.000047	0.00000025	ug/L		09/13/23 08:35	09/20/23 06:49	1
2,3,4,6,7,8-HxCDF	ND		0.000047	0.00000024	ug/L		09/13/23 08:35	09/20/23 06:49	1
1,2,3,4,6,7,8-HpCDD	**0.0000017**	**J,DX MB**	0.000047	0.00000025	ug/L		09/13/23 08:35	09/20/23 06:49	1
1,2,3,4,6,7,8-HpCDF	**0.0000010**	**J,DX MB q**	0.000047	0.00000038	ug/L		09/13/23 08:35	09/20/23 06:49	1
1,2,3,4,7,8,9-HpCDF	ND		0.000047	0.00000044	ug/L		09/13/23 08:35	09/20/23 06:49	1
OCDD	**0.0000079**	**J,DX MB**	0.000095	0.00000050	ug/L		09/13/23 08:35	09/20/23 06:49	1
OCDF	**0.0000019**	**J,DX MB q**	0.000095	0.00000070	ug/L		09/13/23 08:35	09/20/23 06:49	1
Total TCDD	ND		0.0000095	0.00000064	ug/L		09/13/23 08:35	09/20/23 06:49	1
Total TCDF	ND		0.0000095	0.00000034	ug/L		09/13/23 08:35	09/20/23 06:49	1
Total PeCDD	ND		0.000047	0.00000070	ug/L		09/13/23 08:35	09/20/23 06:49	1
Total PeCDF	ND		0.000047	0.00000029	ug/L		09/13/23 08:35	09/20/23 06:49	1
Total HxCDD	**0.0000016**	**J,DX MB q**	0.000047	0.00000033	ug/L		09/13/23 08:35	09/20/23 06:49	1
Total HxCDF	ND		0.000047	0.00000025	ug/L		09/13/23 08:35	09/20/23 06:49	1
Total HpCDD	**0.0000029**	**J,DX MB**	0.000047	0.00000025	ug/L		09/13/23 08:35	09/20/23 06:49	1
Total HpCDF	**0.0000010**	**J,DX MB q**	0.000047	0.00000041	ug/L		09/13/23 08:35	09/20/23 06:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*75*		*25 - 164*	*09/13/23 08:35*	*09/20/23 06:49*	*1*
13C-2,3,7,8-TCDF	*80*		*24 - 169*	*09/13/23 08:35*	*09/20/23 06:49*	*1*
13C-1,2,3,7,8-PeCDD	*68*		*25 - 181*	*09/13/23 08:35*	*09/20/23 06:49*	*1*

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfal001_20230822_Comp
Date Collected: 08/22/23 07:25
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149525-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	71		24 - 185	09/13/23 08:35	09/20/23 06:49	1
13C-2,3,4,7,8-PeCDF	65		21 - 178	09/13/23 08:35	09/20/23 06:49	1
13C-1,2,3,4,7,8-HxCDD	67		32 - 141	09/13/23 08:35	09/20/23 06:49	1
13C-1,2,3,6,7,8-HxCDD	67		28 - 130	09/13/23 08:35	09/20/23 06:49	1
13C-1,2,3,4,7,8-HxCDF	71		26 - 152	09/13/23 08:35	09/20/23 06:49	1
13C-1,2,3,6,7,8-HxCDF	66		26 - 123	09/13/23 08:35	09/20/23 06:49	1
13C-1,2,3,7,8,9-HxCDF	60		29 - 147	09/13/23 08:35	09/20/23 06:49	1
13C-2,3,4,6,7,8-HxCDF	68		28 - 136	09/13/23 08:35	09/20/23 06:49	1
13C-1,2,3,4,6,7,8-HpCDD	64		23 - 140	09/13/23 08:35	09/20/23 06:49	1
13C-1,2,3,4,6,7,8-HpCDF	69		28 - 143	09/13/23 08:35	09/20/23 06:49	1
13C-1,2,3,4,7,8,9-HpCDF	61		26 - 138	09/13/23 08:35	09/20/23 06:49	1
13C-OCDD	60		17 - 157	09/13/23 08:35	09/20/23 06:49	1
13C-OCDF	69		17 - 157	09/13/23 08:35	09/20/23 06:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	99		35 - 197	09/13/23 08:35	09/20/23 06:49	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-2

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)								
570-149525-1	Outfal001_20230822_Comp	99								
MB 320-705588/1-A	Method Blank	100								

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 320-705588/2-A	Lab Control Sample	95								
LCSD 320-705588/3-A	Lab Control Sample Dup	97								

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-2

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)
570-149525-1	Outfal001_20230822_Comp	75	80	68	71	65	67	67	71
MB 320-705588/1-A	Method Blank	78	81	71	75	69	67	68	71

		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)
570-149525-1	Outfal001_20230822_Comp	66	60	68	64	69	61	60	69
MB 320-705588/1-A	Method Blank	65	61	70	69	71	64	64	73

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 320-705588/2-A	Lab Control Sample	77	79	69	75	66	68	69	70
LCSD 320-705588/3-A	Lab Control Sample Dup	84	86	76	84	75	76	77	82

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)	OCDF (13-199)
LCS 320-705588/2-A	Lab Control Sample	66	62	71	71	72	65	66	75
LCSD 320-705588/3-A	Lab Control Sample Dup	76	71	79	77	82	72	72	83

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: 570-149525-2
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - 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

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-705588/1-A
Matrix: Water
Analysis Batch: 707510

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 705588

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000080	ug/L		09/13/23 08:35	09/20/23 02:48	1
2,3,7,8-TCDF	ND		0.000010	0.00000042	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,7,8-PeCDD	ND		0.000050	0.0000010	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,7,8-PeCDF	0.00000184	J,DX	0.000050	0.00000037	ug/L		09/13/23 08:35	09/20/23 02:48	1
2,3,4,7,8-PeCDF	0.00000190	J,DX	0.000050	0.00000044	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,4,7,8-HxCDD	0.00000259	J,DX q	0.000050	0.00000049	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,6,7,8-HxCDD	0.00000228	J,DX	0.000050	0.00000048	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,7,8,9-HxCDD	0.00000280	J,DX	0.000050	0.00000044	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,4,7,8-HxCDF	0.00000202	J,DX	0.000050	0.00000039	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,6,7,8-HxCDF	0.00000187	J,DX	0.000050	0.00000037	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,7,8,9-HxCDF	0.00000200	J,DX	0.000050	0.00000036	ug/L		09/13/23 08:35	09/20/23 02:48	1
2,3,4,6,7,8-HxCDF	0.00000171	J,DX q	0.000050	0.00000035	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,4,6,7,8-HpCDD	0.00000323	J,DX	0.000050	0.00000018	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,4,6,7,8-HpCDF	0.00000301	J,DX	0.000050	0.00000044	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,4,7,8,9-HpCDF	0.00000228	J,DX	0.000050	0.00000053	ug/L		09/13/23 08:35	09/20/23 02:48	1
OCDD	0.00000803	J,DX	0.00010	0.00000046	ug/L		09/13/23 08:35	09/20/23 02:48	1
OCDF	0.00000499	J,DX	0.00010	0.00000090	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total TCDD	ND		0.000010	0.00000080	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total TCDF	ND		0.000010	0.00000042	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total PeCDD	ND		0.000050	0.0000010	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total PeCDF	0.00000374	J,DX	0.000050	0.00000040	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total HxCDD	0.00000767	J,DX q	0.000050	0.00000047	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total HxCDF	0.00000760	J,DX q	0.000050	0.00000037	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total HpCDD	0.00000323	J,DX	0.000050	0.00000018	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total HpCDF	0.00000528	J,DX	0.000050	0.00000049	ug/L		09/13/23 08:35	09/20/23 02:48	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*78*		*25 - 164*	*09/13/23 08:35*	*09/20/23 02:48*	*1*
13C-2,3,7,8-TCDF	*81*		*24 - 169*	*09/13/23 08:35*	*09/20/23 02:48*	*1*
13C-1,2,3,7,8-PeCDD	*71*		*25 - 181*	*09/13/23 08:35*	*09/20/23 02:48*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-705588/1-A
Matrix: Water
Analysis Batch: 707510

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 705588

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	75		24 - 185	09/13/23 08:35	09/20/23 02:48	1
13C-2,3,4,7,8-PeCDF	69		21 - 178	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,4,7,8-HxCDD	67		32 - 141	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,6,7,8-HxCDD	68		28 - 130	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,4,7,8-HxCDF	71		26 - 152	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,6,7,8-HxCDF	65		26 - 123	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,7,8,9-HxCDF	61		29 - 147	09/13/23 08:35	09/20/23 02:48	1
13C-2,3,4,6,7,8-HxCDF	70		28 - 136	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,4,6,7,8-HpCDD	69		23 - 140	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,4,6,7,8-HpCDF	71		28 - 143	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,4,7,8,9-HpCDF	64		26 - 138	09/13/23 08:35	09/20/23 02:48	1
13C-OCDD	64		17 - 157	09/13/23 08:35	09/20/23 02:48	1
13C-OCDF	73		17 - 157	09/13/23 08:35	09/20/23 02:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	100		35 - 197	09/13/23 08:35	09/20/23 02:48	1

Lab Sample ID: LCS 320-705588/2-A
Matrix: Water
Analysis Batch: 707510

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 705588

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
2,3,7,8-TCDD			0.000200	0.000198		ug/L		99	67 - 158		
2,3,7,8-TCDF			0.000200	0.000194		ug/L		97	75 - 158		
1,2,3,7,8-PeCDD			0.00100	0.000993		ug/L		99	70 - 142		
1,2,3,7,8-PeCDF			0.00100	0.000972		ug/L		97	80 - 134		
2,3,4,7,8-PeCDF			0.00100	0.00107		ug/L		107	68 - 160		
1,2,3,4,7,8-HxCDD			0.00100	0.000893	MB	ug/L		89	70 - 164		
1,2,3,6,7,8-HxCDD			0.00100	0.000892		ug/L		89	76 - 134		
1,2,3,7,8,9-HxCDD			0.00100	0.000949		ug/L		95	64 - 162		
1,2,3,4,7,8-HxCDF			0.00100	0.000925		ug/L		93	72 - 134		
1,2,3,6,7,8-HxCDF			0.00100	0.000858		ug/L		86	84 - 130		
1,2,3,7,8,9-HxCDF			0.00100	0.000875		ug/L		88	78 - 130		
2,3,4,6,7,8-HxCDF			0.00100	0.000897		ug/L		90	70 - 156		
1,2,3,4,6,7,8-HpCDD			0.00100	0.000896	MB	ug/L		90	70 - 140		
1,2,3,4,6,7,8-HpCDF			0.00100	0.000860	MB	ug/L		86	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000920		ug/L		92	78 - 138		
OCDD			0.00200	0.00179	MB	ug/L		89	78 - 144		
OCDF			0.00200	0.00156	MB	ug/L		78	63 - 170		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	77		20 - 175
13C-2,3,7,8-TCDF	79		22 - 152
13C-1,2,3,7,8-PeCDD	69		21 - 227
13C-1,2,3,7,8-PeCDF	75		21 - 192
13C-2,3,4,7,8-PeCDF	66		13 - 328
13C-1,2,3,4,7,8-HxCDD	68		21 - 193

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-705588/2-A
Matrix: Water
Analysis Batch: 707510

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 705588

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,6,7,8-HxCDD	69		25 - 163
13C-1,2,3,4,7,8-HxCDF	70		19 - 202
13C-1,2,3,6,7,8-HxCDF	66		21 - 159
13C-1,2,3,7,8,9-HxCDF	62		17 - 205
13C-2,3,4,6,7,8-HxCDF	71		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	71		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	72		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	65		20 - 186
13C-OCDD	66		13 - 199
13C-OCDF	75		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	95		31 - 191

Lab Sample ID: LCSD 320-705588/3-A
Matrix: Water
Analysis Batch: 707510

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 705588

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000196		ug/L		98	67 - 158	1	50
2,3,7,8-TCDF			0.000200	0.000198		ug/L		99	75 - 158	2	50
1,2,3,7,8-PeCDD			0.00100	0.00100		ug/L		100	70 - 142	1	50
1,2,3,7,8-PeCDF			0.00100	0.000959		ug/L		96	80 - 134	1	50
2,3,4,7,8-PeCDF			0.00100	0.00107		ug/L		107	68 - 160	0	50
1,2,3,4,7,8-HxCDD			0.00100	0.000949	MB	ug/L		95	70 - 164	6	50
1,2,3,6,7,8-HxCDD			0.00100	0.000920		ug/L		92	76 - 134	3	50
1,2,3,7,8,9-HxCDD			0.00100	0.000981		ug/L		98	64 - 162	3	50
1,2,3,4,7,8-HxCDF			0.00100	0.000947		ug/L		95	72 - 134	2	50
1,2,3,6,7,8-HxCDF			0.00100	0.000899		ug/L		90	84 - 130	5	50
1,2,3,7,8,9-HxCDF			0.00100	0.000885		ug/L		88	78 - 130	1	50
2,3,4,6,7,8-HxCDF			0.00100	0.000914		ug/L		91	70 - 156	2	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.000924	MB	ug/L		92	70 - 140	3	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.000894	MB	ug/L		89	82 - 122	4	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000964		ug/L		96	78 - 138	5	50
OCDD			0.00200	0.00183	MB	ug/L		92	78 - 144	2	50
OCDF			0.00200	0.00164	MB	ug/L		82	63 - 170	5	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	84		20 - 175
13C-2,3,7,8-TCDF	86		22 - 152
13C-1,2,3,7,8-PeCDD	76		21 - 227
13C-1,2,3,7,8-PeCDF	84		21 - 192
13C-2,3,4,7,8-PeCDF	75		13 - 328
13C-1,2,3,4,7,8-HxCDD	76		21 - 193
13C-1,2,3,6,7,8-HxCDD	77		25 - 163
13C-1,2,3,4,7,8-HxCDF	82		19 - 202
13C-1,2,3,6,7,8-HxCDF	76		21 - 159

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-705588/3-A
Matrix: Water
Analysis Batch: 707510

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 705588

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-1,2,3,7,8,9-HxCDF	71		17 - 205
13C-2,3,4,6,7,8-HxCDF	79		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	77		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	82		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	72		20 - 186
13C-OCDD	72		13 - 199
13C-OCDF	83		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	97		31 - 191

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-149525-2
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Specialty Organics

Prep Batch: 705588

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	1613B	
MB 320-705588/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-705588/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-705588/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 707510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	1613B	705588
MB 320-705588/1-A	Method Blank	Total/NA	Water	1613B	705588
LCS 320-705588/2-A	Lab Control Sample	Total/NA	Water	1613B	705588
LCSD 320-705588/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	705588

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-2

Client Sample ID: Outfal001_20230822_Comp
Date Collected: 08/22/23 07:25
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149525-1
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			1057.9 mL	20.0 uL	705588	09/13/23 08:35	AS	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	707510	09/20/23 06:49	KSS	EET SAC
	Instrument ID: DFS 1									

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: 570-149525-2
Project/Site: Boeing NPDES SSFL - Quarterly 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	08-11-24
Arkansas DEQ	State	88-0691	05-18-24
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-24
Florida	NELAP	E87570	06-30-24
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 (All)	NELAP	01944	06-30-24
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-24
Nevada	State	CA00044	07-31-24
New Hampshire	NELAP	2997	04-18-24
New Jersey	NELAP	CA005	06-30-24
New York	NELAP	11666	04-01-24
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-24
Texas	NELAP	T104704399-19-13	05-31-24
US Fish & Wildlife	US Federal Programs	58448	04-30-24
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442021-12	02-29-24
Virginia	NELAP	460278	03-14-24
Washington	State	C581	05-05-24
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-24
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 - Quarterly Outfall 001 - Comp

Job ID: 570-149525-2

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.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-149525-1	Outfal001_20230822_Comp	Water	08/22/23 07:25	08/22/23 18:31

149525

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 Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 **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: (E200.8): 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
Outfall 001	Outfall001_20230822_Comp	8/22/2023 1025	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_2 & NO_3
			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								
	Outfall001_20230822_Comp_Extra	8/22/2023 1025	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:
	8-22-2023/1400	H&A	EC	8/22/23 1400
EC	8.22.23 1831		MD	8/22/23 1831

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

570-149525 Chain of Custody

2.7/3.0, 2.6/2.9, 2.1/2.4, 3.0/3.3 SC15

2019-2020 Rainy Season
Version 5

149525

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									ANALYSIS REQUIRED													
Eurofins Calscience Project Manager: Virendra Patel, 2841 Dow Avenue, Suite #100, Tustin, CA 92780, Tel: 714-895-5494									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)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	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
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 001 Comp																						
Project Manager: Katherine Miller, 520.289.8606, 520.904.6944 (cell)																						
Field Manager: Mark Dominick, 978.234.5033, 818.599.0702 (cell)																						
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD														
Outfall 001	Outfall001_20230822_Comp_F	8/22/2023 0725	WM	1 L Poly	1	None	190	No														
			WM	500 mL Poly	1	HNO_3	80	No														
3			WM	1L Poly	1	None	200	Yes	X									X			Filter and preserve w/in 24hrs of receipt Outfall 001 analyze for Fe.	
			WM	1 L Glass Amber	2	None	250	No														
			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_20230822_Comp	8/22/2023 0725	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			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	8.22.2023 / 1400	HA	[signature]	8/22/23 1400
[signature]	8.22.23 1831		M Rat	8/22/23 1831

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: 570-272825.1
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 #: 570-149525-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/27/2023			
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 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)	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:												
Outfal001_20230822_Comp (570-149525-1)	8/22/23	07:25 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
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:

8/23/23 1329

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: 570-272920.1
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 #: 570-149525-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 9/14/2023			
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 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:							
Outfal001_20230822_Comp (570-149525-1)	8/22/23	07:25 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfal001_20230822_Comp_Extra (570-149525-2)	8/22/23	07:25 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
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: 570-272920.1
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 #: 570-149525-2
Address: 880 Riverside Parkway,	Due Date Requested: 9/14/2023			
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 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_20230822_Comp (570-149525-1)	8/22/23	07:25 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L, Use Boeing glassware.
Outfall001_20230822_Comp_Extra (570-149525-2)	8/22/23	07:25 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		8/23/23 1415			08/24/23 0930	
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: 1.0 °C

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: 570-272920.1
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 #: 570-149525-2
Address: 880 Riverside Parkway	Due Date Requested: 9/14/2023			
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 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:							
Outfal001_20230822_Comp (570-149525-1)	8/22/23	07:25 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L, Use Boeing glassware.
Outfal001_20230822_Comp_Extra (570-149525-2)	8/22/23	07:25 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	[signature]	8/23/23 1418		[signature]	08/24/23 0930	EETSac
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: 2.5°C

Ver: 06/08/2021

eurofins | Environment Testing

Sacramento
Sample Receiving Notes

Tracking # 780710599880

Job _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal Cooler Custody Seal Temperature & corrected Temperature & other observations.
File in the job folder with the COC

Therm. ID L06 Corr Factor (+ / -) NA °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal Seal

Cooler ID _____

Temp Observed 2.5 °C Corrected 2.5 °C

From Temp Blank ☐ Sample ☒

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☒	☐
Cooler Temperature is acceptable?	☒	☐	☐
Frozen samples show signs of thaw?	☐	☐	☒

Initials: DM Date: 08/24/23

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☒	☐	☐
Samples compromised/tampered with?	☐	☒	☐
COC is complete w/o discrepancies	☒	☐	☐
Sample custody seal?	☐	☐	☒
Sample containers have legible labels?	☒	☐	☐
Sample date/times are provided?	☒	☐	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Is the Field Sampler's name on COC?	☐	☐	☒
Samples w/o discrepancies?	☒	☐	☐
Zero headspace?*	☐	☐	☒
Alkalinity has no headspace?	☐	☐	☒
Perchlorate has headspace? (Methods 314, 331 6850)	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: DM Date: 08/24/23

Notes _____

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☒	☐	☐
NCM Filed?	☐	☐	☒
Samples received within hold time?	☐	☐	☒
Log Release checked in TALS?	☐	☐	☒

Initials DM Date: 08/24/23

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-149525-2

Login Number: 149525
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: 570-149525-2

Login Number: 149525
List Number: 3
Creator: Morazzini, Dominic S

List Source: Eurofins Sacramento
List Creation: 08/24/23 01:23 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 present with no number.
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.0, 2.5
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 9/28/2023 3:30:13 PM

JOB DESCRIPTION

Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

JOB NUMBER

570-149525-3

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

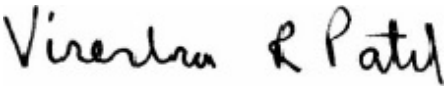
myEOL

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



Generated
9/28/2023 3:30:13 PM

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-3

Qualifiers

Rad

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

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

Job ID: 570-149525-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-149525-3

Receipt
The samples were received on 8/22/2023 6:31 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 2.4º C, 2.9º C, 3.0º C and 3.3º C.

Receipt Exceptions

The reference method requires samples to have a pH of <2. The following samples were received with a pH of 7: Outfal001_20230822_Comp (570-149525-1), Outfal001_20230822_Comp (570-149525-1[MS]) and Outfal001_20230822_Comp (570-149525-1[MSD]). The samples were adjusted to the appropriate pH in the laboratory.

RAD
Methods 900.0, 9310: Gross Alpha and Gross Beta batch 625658
The detection goal was not met for the following sample due to a reduction of the sample size attributed to high residual mass: (570-149529-R-1-J). Analytical results are reported with the detection limit achieved.

Methods 900.0, 9310: Gross Alpha and Gross Beta batch 625658
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.
Outfal001_20230822_Comp (570-149525-1), (LCS 160-625658/2-A), (LCSB 160-625658/3-A), (MB 160-625658/1-A), (570-149529-R-1-J), (570-149529-N-1-T MS), (570-149529-N-1-V MSBT), (570-149529-N-1-W MSBTD) and (570-149529-N-1-U MSD)

Methods 900.0, 9310: Gross Alpha Beta prep batch 160-625658:

The matrix spike (MS) recoveries for preparation batch 160-625658 and analytical batch 160-627783 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits. (570-149529-N-1-T MS)

Methods 900.0, 9310: Gross Alpha Beta prep batch 160-625658:

The following samples have an RER/RPD result outside of the acceptance criteria for Gross Alpha. The precision is acceptable for other target analytes indicating a potential matrix interference isolated to Gross Alpha. (570-149529-N-1-U MSD)

Method 901.1: Gamma prep batch 160-628810
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 activity is well below the RL and MDC.

Outfal001_20230822_Comp (570-149525-1)

Method 901.1: Gamma 160-628810
Many isotopes requested by gamma spectrometry analysis do not have any gamma emissions, the gamma emissions they do have are very poor, and/or are reported by assuming secular equilibrium with a longer-lived parent (or vice-versa). For example, Th-232 (which does not have a good gamma-ray) is often reported assuming the shorter-lived Ra-228 daughter is in equilibrium with the Th-232 parent. Or, Pb-214 and/or Bi-214, daughters of potentially volatile Rn-222 in the Ra-226 decay chain, may not be in equilibrium with the parent unless sufficient time has been allowed since the break in equilibrium (e.g. 21 days in the case of Ra-226-supported ingrowth). 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

Job ID: 570-149525-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

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.

Outfal001_20230822_Comp (570-149525-1), (570-149524-J-1-K) and (570-149524-J-1-L DU)

Method 903.0: Radium 226 batch 625460
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.
Outfal001_20230822_Comp (570-149525-1), (LCS 160-625460/2-A), (MB 160-625460/1-A), (860-55796-E-2-A), (860-55796-F-2-A DU), (570-149529-R-1-F), (570-149529-N-1-K MS) and (570-149529-N-1-L MSD)

Method 904.0: Radium-228 batch 625463
The matrix spike matrix spike duplicate (MS/MSD) recoveries for were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. (570-149529-N-1-N MS) and (570-149529-N-1-O MSD)

Method 904.0: Radium-228 batch 625463
The detection goal was not met for the following sample(s). Sample was prepped at a reduced volume due to the presence of matrix interferences: (570-149529-R-1-G). Analytical results are reported with the detection limit achieved.

Method 904.0: Radium-228 batch 625463
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.
Outfal001_20230822_Comp (570-149525-1), (LCS 160-625463/2-A), (MB 160-625463/1-A), (860-55796-E-2-B), (860-55796-F-2-B DU), (570-149529-R-1-G), (570-149529-N-1-N MS) and (570-149529-N-1-O MSD)

Method 905: Strontium-90 batch 625654
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: 570-149525-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

applied as the Activity Reference Date.
Outfal001_20230822_Comp (570-149525-1), (LCS 160-625654/2-A), (MB 160-625654/1-A), (570-149529-R-1-I), (570-149529-N-1-R MS) and (570-149529-N-1-S MSD)

Method 906.0:

Method 906.0: Tritium 628539
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. Outfal001_20230822_Comp (570-149525-1), (LCS 160-628539/2-A), (MB 160-628539/1-A), (570-149529-Q-1-A), (570-149529-M-1-F MS) and (570-149529-M-1-G MSD)

Method A-01-R: Isotopic Uranium batch 625457
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.
Outfal001_20230822_Comp (570-149525-1), (LCS 160-625457/2-A), (MB 160-625457/1-A), (570-149529-R-1-H), (570-149529-N-1-P MS) and (570-149529-N-1-Q MSD)

Method Fill_Geo-0:

Method PrecSep_0:

Method PrecSep-21:

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.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-3

Client Sample ID: Outfal001_20230822_Comp **Lab Sample ID: 570-149525-1**

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-3

Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfal001_20230822_Comp
Date Collected: 08/22/23 07:25
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149525-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	1.30	U F	1.10	1.11	3.00	1.67	pCi/L	08/28/23 10:36	09/12/23 15:37	1
Gross Beta	0.407	U	0.606	0.607	4.00	0.994	pCi/L	08/28/23 10:36	09/12/23 15:37	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-3

Method: EPA 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfal001_20230822_Comp
Date Collected: 08/22/23 07:25
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149525-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	5.87	U G	13.1	13.1	20.0	22.6	pCi/L	09/19/23 14:19	09/27/23 13:08	1
Potassium-40	-23.8	U	171	171		254	pCi/L	09/19/23 14:19	09/27/23 13:08	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-3

Method: EPA 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfal001_20230822_Comp
Date Collected: 08/22/23 07:25
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149525-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0205	U	0.115	0.115	1.00	0.239	pCi/L	08/25/23 10:06	09/18/23 20:38	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.0*		*30 - 110*	*08/25/23 10:06*	*09/18/23 20:38*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-3

Method: EPA 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfal001_20230822_Comp
Date Collected: 08/22/23 07:25
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149525-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.761	U	0.571	0.575	1.00	0.874	pCi/L	08/25/23 10:18	09/13/23 12:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.0*		*30 - 110*	*08/25/23 10:18*	*09/13/23 12:05*	*1*
Y Carrier	*82.2*		*30 - 110*	*08/25/23 10:18*	*09/13/23 12:05*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-3

Method: EPA 905 - Strontium-90 (GFPC)

Client Sample ID: Outfal001_20230822_Comp
Date Collected: 08/22/23 07:25
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149525-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.294	U	0.433	0.433	3.00	0.727	pCi/L	08/28/23 10:28	09/05/23 15:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*71.3*		*30 - 110*	*08/28/23 10:28*	*09/05/23 15:53*	*1*
Y Carrier	*89.3*		*30 - 110*	*08/28/23 10:28*	*09/05/23 15:53*	*1*

Client Sample Results

Client: Haley & Aldrich, Inc.
Job ID: 570-149525-3
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Method: EPA 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfal001_20230822_Comp
Lab Sample ID: 570-149525-1
Date Collected: 08/22/23 07:25
Matrix: Water
Date Received: 08/22/23 18:31

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	23.9	U	172	172	500	310	pCi/L	09/18/23 09:49	09/18/23 22:01	1

Method: DOE A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfal001_20230822_Comp
Date Collected: 08/22/23 07:25
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149525-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.212		0.140	0.141	1.00	0.115	pCi/L	08/25/23 08:16	09/15/23 15:11	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*85.5*		*30 - 110*	*08/25/23 08:16*	*09/15/23 15:11*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-3

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)							
570-149525-1	Outfall001_20230822_Comp	84.0							
LCS 160-625460/2-A	Lab Control Sample	89.2							
MB 160-625460/1-A	Method Blank	100							

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)						
570-149525-1	Outfall001_20230822_Comp	84.0	82.2						
LCS 160-625463/2-A	Lab Control Sample	89.2	80.4						
MB 160-625463/1-A	Method Blank	100	80.4						

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)						
570-149525-1	Outfall001_20230822_Comp	71.3	89.3						
LCS 160-625654/2-A	Lab Control Sample	80.9	96.8						
MB 160-625654/1-A	Method Blank	78.6	94.2						

Tracer/Carrier Legend

Sr = Sr Carrier
Y = Y Carrier

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

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

		Percent Yield (Acceptance Limits)							
		U-232							
Lab Sample ID	Client Sample ID	(30-110)							
570-149525-1	Outfall001_20230822_Comp	85.5							
LCS 160-625457/2-A	Lab Control Sample	83.3							
MB 160-625457/1-A	Method Blank	87.1							

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-625658/1-A
Matrix: Water
Analysis Batch: 627787

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 625658

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.04019	U	0.469	0.469	3.00	0.936	pCi/L	08/28/23 10:36	09/12/23 07:54	1
Gross Beta	-0.4932	U	0.474	0.476	4.00	0.935	pCi/L	08/28/23 10:36	09/12/23 07:54	1

Lab Sample ID: LCS 160-625658/2-A
Matrix: Water
Analysis Batch: 627787

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 625658

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Alpha	49.6	54.56		8.06	3.00	2.37	pCi/L	110	75 - 125

Lab Sample ID: LCSB 160-625658/3-A
Matrix: Water
Analysis Batch: 627787

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 625658

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Beta	72.7	72.17		7.75	4.00	0.942	pCi/L	99	75 - 125

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-628810/1-A
Matrix: Water
Analysis Batch: 629849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 628810

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.1884	U	7.12	7.12	20.0	13.2	pCi/L	09/19/23 14:19	09/27/23 13:06	1
Potassium-40	-71.05	U	104	104		165	pCi/L	09/19/23 14:19	09/27/23 13:06	1

Lab Sample ID: LCS 160-628810/2-A
Matrix: Water
Analysis Batch: 629847

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 628810

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Americium-241	135000	153800		18300		418	pCi/L	114	75 - 125
Cesium-137	40400	42080		5020	20.0	107	pCi/L	104	75 - 125
Cobalt-60	16700	17520		2090		74.6	pCi/L	105	75 - 125

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-625460/1-A
Matrix: Water
Analysis Batch: 628636

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 625460

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.04639	U	0.0560	0.0562	1.00	0.135	pCi/L	08/25/23 10:06	09/18/23 20:34	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*30 - 110*	*08/25/23 10:06*	*09/18/23 20:34*	*1*

Lab Sample ID: LCS 160-625460/2-A
Matrix: Water
Analysis Batch: 628636

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 625460

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			11.3	11.38		1.20	1.00	0.143	pCi/L	100	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*89.2*		*30 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-625463/1-A
Matrix: Water
Analysis Batch: 627936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 625463

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.09332	U	0.282	0.282	1.00	0.506	pCi/L	08/25/23 10:18	09/13/23 11:57	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*30 - 110*	*08/25/23 10:18*	*09/13/23 11:57*	*1*
Y Carrier	*80.4*		*30 - 110*	*08/25/23 10:18*	*09/13/23 11:57*	*1*

Lab Sample ID: LCS 160-625463/2-A
Matrix: Water
Analysis Batch: 627936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 625463

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			7.88	9.103		1.31	1.00	0.636	pCi/L	116	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*89.2*		*30 - 110*
Y Carrier	*80.4*		*30 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-625654/1-A
Matrix: Water
Analysis Batch: 626552

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 625654

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.04493	U	0.173	0.173	3.00	0.305	pCi/L	08/28/23 10:28	09/05/23 15:50	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*78.6*		*30 - 110*	*08/28/23 10:28*	*09/05/23 15:50*	*1*
Y Carrier	*94.2*		*30 - 110*	*08/28/23 10:28*	*09/05/23 15:50*	*1*

Lab Sample ID: LCS 160-625654/2-A
Matrix: Water
Analysis Batch: 626552

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 625654

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Strontium-90	7.27	7.585		0.826	3.00	0.298	pCi/L	104	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*80.9*		*30 - 110*
Y Carrier	*96.8*		*30 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-628539/1-A
Matrix: Water
Analysis Batch: 628990

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 628539

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-18.02	U	167	167	500	307	pCi/L	09/18/23 09:49	09/18/23 20:30	1

Lab Sample ID: LCS 160-628539/2-A
Matrix: Water
Analysis Batch: 628990

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 628539

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Tritium	2040	1656		341	500	315	pCi/L	81	75 - 125

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-625457/1-A
Matrix: Water
Analysis Batch: 628196

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 625457

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.08563	U	0.1193	0.1196	1.00	0.171	pCi/L	08/25/23 08:16	09/15/23 19:09	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: MB 160-625457/1-A
Matrix: Water
Analysis Batch: 628196

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 625457

Tracer	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Uranium-232	87.1		30 - 110	08/25/23 08:16	09/15/23 19:09	1

Lab Sample ID: LCS 160-625457/2-A
Matrix: Water
Analysis Batch: 628209

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 625457

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Uranium-234			12.7	12.48		1.49	1.00	0.118	pCi/L	98	75 - 125		
Uranium-238			13.0	14.19		1.64	1.00	0.103	pCi/L	109	75 - 125		

Tracer	LCS %Yield	LCS Qualifier	Limits
Uranium-232	83.3		30 - 110

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-3

Rad

Prep Batch: 625457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	ExtChrom	
MB 160-625457/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-625457/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	

Prep Batch: 625460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	PrecSep-21	
MB 160-625460/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-625460/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 625463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	PrecSep_0	
MB 160-625463/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-625463/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 625654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	PrecSep-7	
MB 160-625654/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-625654/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	

Prep Batch: 625658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	Evaporation	
MB 160-625658/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-625658/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-625658/3-A	Lab Control Sample	Total/NA	Water	Evaporation	

Prep Batch: 628539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-628539/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-628539/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 628810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149525-1	Outfal001_20230822_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-628810/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-628810/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Job ID: 570-149525-3

Client Sample ID: Outfal001_20230822_Comp

Date Collected: 08/22/23 07:25
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149525-1

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			199.98 mL	1.0 g	625658	08/28/23 10:36	ASG	EET SL
Total/NA	Analysis	900.0		1			627783	09/12/23 15:37	SCB	EET SL
	Instrument ID: GFPCRED									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	628810	09/19/23 14:19	SAC	EET SL
Total/NA	Analysis	901.1		1			629845	09/27/23 13:08	CAH	EET SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			740.95 mL	1.0 g	625460	08/25/23 10:06	KAC	EET SL
Total/NA	Analysis	903.0		1			628634	09/18/23 20:38	SCB	EET SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			740.95 mL	1.0 g	625463	08/25/23 10:18	KAC	EET SL
Total/NA	Analysis	904.0		1			627939	09/13/23 12:05	FLC	EET SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-7			488.51 mL	1.0 g	625654	08/28/23 10:28	KAC	EET SL
Total/NA	Analysis	905		1			626552	09/05/23 15:53	SCB	EET SL
	Instrument ID: GFPCRED									
Total/NA	Prep	LSC_Dist_Susp			100.10 mL	1.0 g	628539	09/18/23 09:49	DJP	EET SL
Total/NA	Analysis	906.0		1			628990	09/18/23 22:01	REV	EET SL
	Instrument ID: LSC3180									
Total/NA	Prep	ExtChrom			499.9 mL	1.0 mL	625457	08/25/23 08:16	MST	EET SL
Total/NA	Analysis	A-01-R		1			628276	09/15/23 15:11	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: 570-149525-3
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - Comp

Laboratory: Eurofins St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
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	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-24
HI - RadChem Recognition	State	n/a	06-30-24
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	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-24
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	07-31-24
North Dakota	State	R-207	06-30-24
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23 *
Texas	NELAP	T104704193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-24
Virginia	NELAP	10310	06-15-25
West Virginia DEP	State	381	10-31-23

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

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-149525-3
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 001 - 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 001 - Comp

Job ID: 570-149525-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-149525-1	Outfal001_20230822_Comp	Water	08/22/23 07:25	08/22/23 18:31

149525

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 Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 **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: (E200.8): Zn (E200.8): Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM52108_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
Outfall 001	Outfall001_20230822_Comp	8/22/2023 0725	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_2 & NO_3
			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								
	Outfall001_20230822_Comp_Extra	8/22/2023 0725	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]	8-22-2023/1400	H&A	[signature] EC	8/22/23 1400
[signature] EC	8.22.23 1831		[signature] EC	8/22/23 1831

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

570-149525 Chain of Custody

2.7/3.0, 2.6/2.9, 2.1/2.4, 3.0/3.3 SC15

2019-2020 Rainy Season
Version 5

9/28/2023

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									ANALYSIS REQUIRED													
Eurofins Calscience Project Manager: Virendra Patel, 2841 Dow Avenue, Suite #100, Tustin, CA 92780, Tel: 714-895-5494									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)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	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
Eurofins Calscience Project Manager: Virendra Patel, 2841 Dow Avenue, Suite #100, Tustin, CA 92780, Tel: 714-895-5494																						
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 001 Comp																						
Project Manager: Katherine Miller, 520.289.8606, 520.904.6944 (cell)																						
Field Manager: Mark Dominick, 978.234.5033, 818.599.0702 (cell)																						
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD														
Outfall 001	Outfall001_20230822_Comp_F	8/22/2023 0725	WM	1 L Poly	1	None	190	No														
			WM	500 mL Poly	1	HNO_3	80	No														
3			WM	1L Poly	1	None	200	Yes	X										X			Filter and preserve w/in 24hrs of receipt Outfall 001 analyze for Fe.
			WM	1 L Glass Amber	2	None	250	No														
			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_20230822_Comp	8/22/2023 0725	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			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	8.22.2023 / 1400	HA	[signature]	8/22/23 1400
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	8.22.23 1831		[signature]	8/22/23 1831
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
			[signature]	

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: 570-272825.1
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 #: 570-149525-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/27/2023			
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 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)	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:												
Outfal001_20230822_Comp (570-149525-1)	8/22/23	07:25 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
	8/23/23 1329				
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: 570-272920.1
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 #: 570-149525-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 9/14/2023			
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 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:							
Outfal001_20230822_Comp (570-149525-1)	8/22/23	07:25 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfal001_20230822_Comp_Extra (570-149525-2)	8/22/23	07:25 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
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: 570-272825.1
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 #: 570-149525-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/27/2023			
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 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)	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:												
Outfal001_20230822_Comp (570-149525-1)	8/22/23	07:25 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
1	FED EX	8/23/23 1329		FED EX		
2	Relinquished by:	Date/Time:	Company	Received by: M. Pinette	Date/Time: AUG 24 2023 0700	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.

9/28/2023

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-149525-3

Login Number: 149525
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: 570-149525-3

Login Number: 149525
List Number: 2
Creator: Pinette, Meadow L

List Source: Eurofins St. Louis
List Creation: 08/24/23 02:28 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.	N/A	
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 8/24/2023 1:25:52 PM

JOB DESCRIPTION

Boeing NPDES SSFL - Quarterly Outfall 002 - Grab

JOB NUMBER

570-149398-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

myEOL

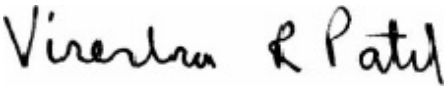
Eurofins Calscience

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



Generated
8/24/2023 1:25:52 PM

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-149398-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Grab

Glossary

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

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-149398-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Grab

Job ID: 570-149398-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-149398-1

Comments
No additional comments.

Receipt
The samples were received on 8/21/2023 4:46 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 2.6º 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 570-356967. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method 624.1: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: Outfall002_20230821_Grab (570-149398-1). Elevated reporting limits (RLs) are provided.

Method 624.1: The method requirement for no headspace was not met. The following volatile sample was analyzed with significant headspace in the sample container(s): TB-20230821 (570-149398-3). Significant headspace is defined as a bubble greater than 6 mm in diameter.

Method 624.1: The following sample was received preserved with hydrochloric acid: Outfall002_20230821_Grab (570-149398-1). The requested target analyte list contains 2-Chloroethyl vinyl ether and/or Acrolein.

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 570-357155.

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

Organic Prep
Methods 1664A, 1664B: 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 570-357395.
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: 570-149398-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Grab

Client Sample ID: Outfall002_20230821_Grab
Lab Sample ID: 570-149398-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	720		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: TB-20230821
Lab Sample ID: 570-149398-3

No Detections.

This Detection Summary does not include radiochemical test results.

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall002_20230821_Grab
Lab Sample ID: 570-149398-1
Date Collected: 08/21/23 08:20
Matrix: Water
Date Received: 08/21/23 16:46

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		2.0	1.0	ug/L			08/22/23 12:34	4
1,1,2,2-Tetrachloroethane	ND		2.0	0.80	ug/L			08/22/23 12:34	4
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		8.0	1.3	ug/L			08/22/23 12:34	4
1,1,2-Trichloroethane	ND		2.0	0.69	ug/L			08/22/23 12:34	4
1,1-Dichloroethane	ND		2.0	1.6	ug/L			08/22/23 12:34	4
1,1-Dichloroethene	ND		2.0	1.3	ug/L			08/22/23 12:34	4
1,2-Dichlorobenzene	ND		2.0	0.66	ug/L			08/22/23 12:34	4
1,2-Dichloroethane	ND		2.0	0.59	ug/L			08/22/23 12:34	4
1,2-Dichloropropane	ND		2.0	0.68	ug/L			08/22/23 12:34	4
1,3-Dichlorobenzene	ND		2.0	0.62	ug/L			08/22/23 12:34	4
1,4-Dichlorobenzene	ND		2.0	0.46	ug/L			08/22/23 12:34	4
Acrolein	ND		20	19	ug/L			08/22/23 12:34	4
Acrylonitrile	ND		8.0	5.7	ug/L			08/22/23 12:34	4
Benzene	ND		2.0	1.1	ug/L			08/22/23 12:34	4
Bromodichloromethane	ND		2.0	0.75	ug/L			08/22/23 12:34	4
Bromoform	ND		4.0	0.99	ug/L			08/22/23 12:34	4
Bromomethane	ND		2.0	0.89	ug/L			08/22/23 12:34	4
Carbon tetrachloride	ND		2.0	1.1	ug/L			08/22/23 12:34	4
Chlorobenzene	ND		2.0	0.74	ug/L			08/22/23 12:34	4
Chloroethane	ND		4.0	1.1	ug/L			08/22/23 12:34	4
Chloroform	ND		2.0	0.74	ug/L			08/22/23 12:34	4
Chloromethane	ND		2.0	1.2	ug/L			08/22/23 12:34	4
cis-1,2-Dichloroethene	ND		2.0	0.83	ug/L			08/22/23 12:34	4
cis-1,3-Dichloropropene	ND		2.0	1.2	ug/L			08/22/23 12:34	4
Dibromochloromethane	ND		2.0	0.61	ug/L			08/22/23 12:34	4
Ethylbenzene	ND		2.0	0.99	ug/L			08/22/23 12:34	4
Methylene Chloride	ND		8.0	2.3	ug/L			08/22/23 12:34	4
Naphthalene	ND		4.0	1.3	ug/L			08/22/23 12:34	4
o-Xylene	ND		2.0	0.59	ug/L			08/22/23 12:34	4
m,p-Xylene	ND		4.0	0.66	ug/L			08/22/23 12:34	4
Tetrachloroethene	ND		2.0	0.86	ug/L			08/22/23 12:34	4
Toluene	ND		2.0	0.94	ug/L			08/22/23 12:34	4
trans-1,2-Dichloroethene	ND		2.0	0.96	ug/L			08/22/23 12:34	4
trans-1,3-Dichloropropene	ND		2.0	0.72	ug/L			08/22/23 12:34	4
Trichloroethene	ND		2.0	0.70	ug/L			08/22/23 12:34	4
Trichlorofluoromethane	ND		2.0	1.2	ug/L			08/22/23 12:34	4
Vinyl chloride	ND		2.0	1.9	ug/L			08/22/23 12:34	4
Xylenes, Total	ND		4.0	0.66	ug/L			08/22/23 12:34	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*60 - 140*		*08/22/23 12:34*	*4*
Dibromofluoromethane (Surr)	*100*		*60 - 140*		*08/22/23 12:34*	*4*
Toluene-d8 (Surr)	*102*		*60 - 140*		*08/22/23 12:34*	*4*

Client Sample ID: TB-20230821
Lab Sample ID: 570-149398-3
Date Collected: 08/21/23 08:20
Matrix: Water
Date Received: 08/21/23 16:46

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			08/22/23 12:12	1

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: TB-20230821
Date Collected: 08/21/23 08:20
Date Received: 08/21/23 16:46

Lab Sample ID: 570-149398-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			08/22/23 12:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			08/22/23 12:12	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			08/22/23 12:12	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			08/22/23 12:12	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			08/22/23 12:12	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			08/22/23 12:12	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			08/22/23 12:12	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			08/22/23 12:12	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			08/22/23 12:12	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			08/22/23 12:12	1
Acrolein	ND		5.0	4.6	ug/L			08/22/23 12:12	1
Acrylonitrile	ND		2.0	1.4	ug/L			08/22/23 12:12	1
Benzene	ND		0.50	0.28	ug/L			08/22/23 12:12	1
Bromodichloromethane	ND		0.50	0.19	ug/L			08/22/23 12:12	1
Bromoform	ND		1.0	0.25	ug/L			08/22/23 12:12	1
Bromomethane	ND		0.50	0.22	ug/L			08/22/23 12:12	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			08/22/23 12:12	1
Chlorobenzene	ND		0.50	0.19	ug/L			08/22/23 12:12	1
Chloroethane	ND		1.0	0.29	ug/L			08/22/23 12:12	1
Chloroform	ND		0.50	0.19	ug/L			08/22/23 12:12	1
Chloromethane	ND		0.50	0.30	ug/L			08/22/23 12:12	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			08/22/23 12:12	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			08/22/23 12:12	1
Dibromochloromethane	ND		0.50	0.15	ug/L			08/22/23 12:12	1
Ethylbenzene	ND		0.50	0.25	ug/L			08/22/23 12:12	1
Methylene Chloride	ND		2.0	0.57	ug/L			08/22/23 12:12	1
Naphthalene	ND		1.0	0.33	ug/L			08/22/23 12:12	1
o-Xylene	ND		0.50	0.15	ug/L			08/22/23 12:12	1
m,p-Xylene	ND		1.0	0.17	ug/L			08/22/23 12:12	1
Tetrachloroethene	ND		0.50	0.21	ug/L			08/22/23 12:12	1
Toluene	ND		0.50	0.23	ug/L			08/22/23 12:12	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			08/22/23 12:12	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			08/22/23 12:12	1
Trichloroethene	ND		0.50	0.17	ug/L			08/22/23 12:12	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			08/22/23 12:12	1
Vinyl chloride	ND		0.50	0.47	ug/L			08/22/23 12:12	1
Xylenes, Total	ND		1.0	0.17	ug/L			08/22/23 12:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*60 - 140*		*08/22/23 12:12*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 140*		*08/22/23 12:12*	*1*
Toluene-d8 (Surr)	*106*		*60 - 140*		*08/22/23 12:12*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-149398-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Grab

General Chemistry

Client Sample ID: Outfall002_20230821_Grab
Date Collected: 08/21/23 08:20
Date Received: 08/21/23 16:46

Lab Sample ID: 570-149398-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664A)	ND		1.0	0.51	mg/L		08/23/23 11:59	08/23/23 13:24	1
Specific Conductance (SM 2510B)	**720**		1.0	1.0	umhos/cm			08/23/23 15:52	1
Settleable Solids (SM 2540F)	ND		0.10	0.10	mL/L			08/22/23 17:01	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Grab

Job ID: 570-149398-1

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)
570-149398-1	Outfall002_20230821_Grab	100	100	102
570-149398-3	TB-20230821	96	103	106
LCS 570-356967/1003	Lab Control Sample	101	104	99
LCSD 570-356967/4	Lab Control Sample Dup	99	106	102
MB 570-356967/6	Method Blank	98	103	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Client: Haley & Aldrich, Inc.
Job ID: 570-149398-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Grab

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-356967/6
Matrix: Water
Analysis Batch: 356967

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			08/22/23 11:14	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			08/22/23 11:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			08/22/23 11:14	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			08/22/23 11:14	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			08/22/23 11:14	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			08/22/23 11:14	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			08/22/23 11:14	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			08/22/23 11:14	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			08/22/23 11:14	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			08/22/23 11:14	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			08/22/23 11:14	1
Acrolein	ND		5.0	4.6	ug/L			08/22/23 11:14	1
Acrylonitrile	ND		2.0	1.4	ug/L			08/22/23 11:14	1
Benzene	ND		0.50	0.28	ug/L			08/22/23 11:14	1
Bromodichloromethane	ND		0.50	0.19	ug/L			08/22/23 11:14	1
Bromoform	ND		1.0	0.25	ug/L			08/22/23 11:14	1
Bromomethane	ND		0.50	0.22	ug/L			08/22/23 11:14	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			08/22/23 11:14	1
Chlorobenzene	ND		0.50	0.19	ug/L			08/22/23 11:14	1
Chloroethane	ND		1.0	0.29	ug/L			08/22/23 11:14	1
Chloroform	ND		0.50	0.19	ug/L			08/22/23 11:14	1
Chloromethane	ND		0.50	0.30	ug/L			08/22/23 11:14	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			08/22/23 11:14	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			08/22/23 11:14	1
Dibromochloromethane	ND		0.50	0.15	ug/L			08/22/23 11:14	1
Ethylbenzene	ND		0.50	0.25	ug/L			08/22/23 11:14	1
Methylene Chloride	ND		2.0	0.57	ug/L			08/22/23 11:14	1
Naphthalene	ND		1.0	0.33	ug/L			08/22/23 11:14	1
o-Xylene	ND		0.50	0.15	ug/L			08/22/23 11:14	1
m,p-Xylene	ND		1.0	0.17	ug/L			08/22/23 11:14	1
Tetrachloroethene	ND		0.50	0.21	ug/L			08/22/23 11:14	1
Toluene	ND		0.50	0.23	ug/L			08/22/23 11:14	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			08/22/23 11:14	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			08/22/23 11:14	1
Trichloroethene	ND		0.50	0.17	ug/L			08/22/23 11:14	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			08/22/23 11:14	1
Vinyl chloride	ND		0.50	0.47	ug/L			08/22/23 11:14	1
Xylenes, Total	ND		1.0	0.17	ug/L			08/22/23 11:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*60 - 140*		*08/22/23 11:14*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 140*		*08/22/23 11:14*	*1*
Toluene-d8 (Surr)	*99*		*60 - 140*		*08/22/23 11:14*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-149398-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Grab

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-356967/1003
Matrix: Water
Analysis Batch: 356967

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	10.0	10.2		ug/L		102	70 - 130
1,1,2,2-Tetrachloroethane	10.0	9.97		ug/L		100	60 - 140
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	8.50		ug/L		85	60 - 140
1,1,2-Trichloroethane	10.0	10.0		ug/L		100	70 - 130
1,1-Dichloroethane	10.0	10.1		ug/L		101	70 - 130
1,1-Dichloroethene	10.0	10.2		ug/L		102	50 - 150
1,2-Dichlorobenzene	10.0	9.94		ug/L		99	65 - 135
1,2-Dichloroethane	10.0	9.79		ug/L		98	70 - 130
1,2-Dichloropropane	10.0	9.90		ug/L		99	35 - 165
1,3-Dichlorobenzene	10.0	10.1		ug/L		101	70 - 130
1,4-Dichlorobenzene	10.0	9.70		ug/L		97	65 - 135
Acrolein	20.0	24.6		ug/L		123	60 - 140
Acrylonitrile	10.0	10.3		ug/L		103	60 - 140
Benzene	10.0	10.2		ug/L		102	65 - 135
Bromodichloromethane	10.0	10.3		ug/L		103	65 - 135
Bromoform	10.0	10.5		ug/L		105	70 - 130
Bromomethane	10.0	9.89		ug/L		99	15 - 185
Carbon tetrachloride	10.0	9.81		ug/L		98	70 - 130
Chlorobenzene	10.0	10.1		ug/L		101	65 - 135
Chloroethane	10.0	9.55		ug/L		96	40 - 160
Chloroform	10.0	9.76		ug/L		98	70 - 135
Chloromethane	10.0	11.3		ug/L		113	1 - 205
cis-1,2-Dichloroethene	10.0	10.1		ug/L		101	60 - 140
cis-1,3-Dichloropropene	10.0	10.1		ug/L		101	25 - 175
Dibromochloromethane	10.0	10.4		ug/L		104	70 - 135
Ethylbenzene	10.0	10.2		ug/L		102	60 - 140
Methylene Chloride	10.0	9.70		ug/L		97	60 - 140
Naphthalene	10.0	9.61		ug/L		96	60 - 140
o-Xylene	10.0	9.99		ug/L		100	60 - 140
m,p-Xylene	20.0	20.9		ug/L		105	60 - 140
Tetrachloroethene	10.0	10.3		ug/L		103	70 - 130
Toluene	10.0	10.1		ug/L		101	70 - 130
trans-1,2-Dichloroethene	10.0	9.91		ug/L		99	70 - 130
trans-1,3-Dichloropropene	10.0	10.2		ug/L		102	50 - 150
Trichloroethene	10.0	9.66		ug/L		97	65 - 135
Trichlorofluoromethane	10.0	10.6		ug/L		106	50 - 150
Vinyl chloride	10.0	10.7		ug/L		107	5 - 195
Xylenes, Total	30.0	30.9		ug/L		103	60 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*60 - 140*
Dibromofluoromethane (Surr)	*104*		*60 - 140*
Toluene-d8 (Surr)	*99*		*60 - 140*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 570-356967/4
Matrix: Water
Analysis Batch: 356967

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-Trichloroethane			10.0	10.3		ug/L		103	70 - 130	1	36
1,1,2,2-Tetrachloroethane			10.0	10.2		ug/L		102	60 - 140	2	61
1,1,2-Trichloro-1,2,2-trifluoroethane			10.0	8.62		ug/L		86	60 - 140	1	30
1,1,2-Trichloroethane			10.0	10.1		ug/L		101	70 - 130	1	45
1,1-Dichloroethane			10.0	10.2		ug/L		102	70 - 130	1	40
1,1-Dichloroethene			10.0	10.2		ug/L		102	50 - 150	0	32
1,2-Dichlorobenzene			10.0	10.3		ug/L		103	65 - 135	3	57
1,2-Dichloroethane			10.0	10.3		ug/L		103	70 - 130	5	49
1,2-Dichloropropane			10.0	10.3		ug/L		103	35 - 165	4	55
1,3-Dichlorobenzene			10.0	10.8		ug/L		108	70 - 130	6	43
1,4-Dichlorobenzene			10.0	10.1		ug/L		101	65 - 135	4	57
Acrolein			20.0	23.5		ug/L		118	60 - 140	5	60
Acrylonitrile			10.0	9.58		ug/L		96	60 - 140	7	60
Benzene			10.0	10.2		ug/L		102	65 - 135	0	61
Bromodichloromethane			10.0	10.6		ug/L		106	65 - 135	4	56
Bromoform			10.0	11.2		ug/L		112	70 - 130	6	42
Bromomethane			10.0	9.17		ug/L		92	15 - 185	7	61
Carbon tetrachloride			10.0	9.81		ug/L		98	70 - 130	0	41
Chlorobenzene			10.0	10.2		ug/L		102	65 - 135	1	53
Chloroethane			10.0	9.36		ug/L		94	40 - 160	2	78
Chloroform			10.0	9.90		ug/L		99	70 - 135	1	30
Chloromethane			10.0	11.6		ug/L		116	1 - 205	2	60
cis-1,2-Dichloroethene			10.0	10.3		ug/L		103	60 - 140	1	30
cis-1,3-Dichloropropene			10.0	10.2		ug/L		102	25 - 175	1	58
Dibromochloromethane			10.0	10.6		ug/L		106	70 - 135	1	50
Ethylbenzene			10.0	10.2		ug/L		102	60 - 140	0	63
Methylene Chloride			10.0	10.5		ug/L		105	60 - 140	7	28
Naphthalene			10.0	10.4		ug/L		104	60 - 140	8	30
o-Xylene			10.0	10.1		ug/L		101	60 - 140	1	30
m,p-Xylene			20.0	21.3		ug/L		106	60 - 140	2	30
Tetrachloroethene			10.0	10.5		ug/L		105	70 - 130	2	39
Toluene			10.0	10.4		ug/L		104	70 - 130	3	41
trans-1,2-Dichloroethene			10.0	9.87		ug/L		99	70 - 130	0	45
trans-1,3-Dichloropropene			10.0	10.4		ug/L		104	50 - 150	1	86
Trichloroethene			10.0	10.4		ug/L		104	65 - 135	7	48
Trichlorofluoromethane			10.0	10.8		ug/L		108	50 - 150	2	84
Vinyl chloride			10.0	11.0		ug/L		110	5 - 195	3	66
Xylenes, Total			30.0	31.4		ug/L		105	60 - 140	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*60 - 140*
Dibromofluoromethane (Surr)	*106*		*60 - 140*
Toluene-d8 (Surr)	*102*		*60 - 140*

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-357395/1-A
Matrix: Water
Analysis Batch: 357425

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 357395

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		08/23/23 11:59	08/23/23 13:24	1

Lab Sample ID: LCS 570-357395/2-A
Matrix: Water
Analysis Batch: 357425

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 357395

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil & Grease)	40.0	31.7		mg/L		79	78 - 114

Lab Sample ID: LCSD 570-357395/3-A
Matrix: Water
Analysis Batch: 357425

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 357395

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil & Grease)	40.0	31.7		mg/L		79	78 - 114	0	18

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 570-357544/7
Matrix: Water
Analysis Batch: 357544

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			08/23/23 15:24	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-149398-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Grab

GC/MS VOA

Analysis Batch: 356967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149398-1	Outfall002_20230821_Grab	Total/NA	Water	624.1	
570-149398-3	TB-20230821	Total/NA	Water	624.1	
MB 570-356967/6	Method Blank	Total/NA	Water	624.1	
LCS 570-356967/1003	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-356967/4	Lab Control Sample Dup	Total/NA	Water	624.1	

General Chemistry

Analysis Batch: 357155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149398-1	Outfall002_20230821_Grab	Total/NA	Water	SM 2540F	

Prep Batch: 357395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149398-1	Outfall002_20230821_Grab	Total/NA	Water	1664A	
MB 570-357395/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-357395/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-357395/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

Analysis Batch: 357425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149398-1	Outfall002_20230821_Grab	Total/NA	Water	1664A	357395
MB 570-357395/1-A	Method Blank	Total/NA	Water	1664A	357395
LCS 570-357395/2-A	Lab Control Sample	Total/NA	Water	1664A	357395
LCSD 570-357395/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	357395

Analysis Batch: 357544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149398-1	Outfall002_20230821_Grab	Total/NA	Water	SM 2510B	
MB 570-357544/7	Method Blank	Total/NA	Water	SM 2510B	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-149398-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Grab

Client Sample ID: Outfall002_20230821_Grab
Lab Sample ID: 570-149398-1
Date Collected: 08/21/23 08:20
Matrix: Water
Date Received: 08/21/23 16:46

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		4	10 mL	10 mL	356967	08/22/23 12:34	KHF2	EET CAL 4
	Instrument ID: GCMSJJ									
Total/NA	Prep	1664A			996 mL	1000 mL	357395	08/23/23 11:59	RY4P	EET CAL 4
Total/NA	Analysis	1664A		1			357425	08/23/23 13:24	VB5S	EET CAL 4
	Instrument ID: NO EQUIQ									
Total/NA	Analysis	SM 2510B		1			357544	08/23/23 15:52	ZL4M	EET CAL 4
	Instrument ID: ManSciMantech									
Total/NA	Analysis	SM 2540F		1	1000 mL	1 L	357155	08/22/23 17:01	TXA8	EET CAL 4
	Instrument ID: NOEQUIP									

Client Sample ID: TB-20230821
Lab Sample ID: 570-149398-3
Date Collected: 08/21/23 08:20
Matrix: Water
Date Received: 08/21/23 16:46

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	356967	08/22/23 12:12	KHF2	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: 570-149398-1
Project/Site: Boeing NPDES SSFL - Quarterly 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	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
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 - Quarterly Outfall 002 - Grab

Job ID: 570-149398-1

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 002 - Grab

Job ID: 570-149398-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-149398-1	Outfall002_20230821_Grab	Water	08/21/23 08:20	08/21/23 16:46
570-149398-3	TB-20230821	Water	08/21/23 08:20	08/21/23 16:46

149398

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

VLTOOVKT

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 002 Grab	Field Readings: (Include units) Time of Readings: 0905	
Eurofins Calscience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 **ECI Project #57013187**		DO 4.68 mg/L pH 7.54 pH unit Temp 64.8 °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)	Field readings QC Checked by: MDominick Date/Time: 8-21-2023/0805	
Sampler: Adrien Mobeka	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 002	Outfall002_20230821_Grab	8/21/2023 0820	WM	1 L Glass Amber	2	HCl	15	No	X											
			WM	40 mL VOA	9	HCl	20	Yes		X										
			WM	1 L Poly	1	None	70	No			X									
			WM	500 mL Poly	1	None	75	No				X								
	Outfall002_20230821_Grab_Extra	8/21/2023 0820	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-20230821	8/21/2023 0820	WQ	40 mL VOA	2	HCl	20	No		X										

570-149398 Chain of Custody

Legend: R=Routine, Q=Quarterly, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
MDominick	8-21-2023/1240	ITA	[signature] oc	8/21/23 1240
[signature]	8-21-23 1646		[signature]	8/21/23 1646
Relinquished By	Date/Time:	Company:	Received By	Date/Time:

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

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

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

2.5/2.6 SCI2

2019-2020 Rainy Season
Version 5

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-149398-1

Login Number: 149398
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 9/6/2023 9:38:45 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

JOB NUMBER

570-149529-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

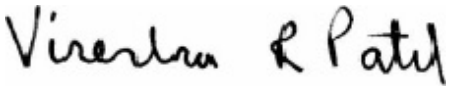
myEOL

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



Generated
9/6/2023 9:38:45 AM

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-1

Qualifiers

GC Semi VOA

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

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: 570-149529-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-149529-1

Comments
No additional comments.

Receipt
The samples were received on 8/22/2023 6:31 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 2.2º C, 2.4º C, 2.6º C and 2.9º C.

Receipt Exceptions

The reference method requires samples to have a pH of <2. The following samples were received with a pH of 7: Outfall002_20230822_Comp (570-149529-1), Outfall002_20230822_Comp (570-149529-1[MS]) and Outfall002_20230822_Comp (570-149529-1[MSD]). The samples were adjusted to the appropriate pH in the laboratory.

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 following sample was diluted due to the nature of the sample matrix: Outfall002_20230822_Comp (570-149529-1). Elevated reporting limits (RLs) are provided.

Method 300.0: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with analytical batch 570-357667 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Nitrate as N in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

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

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method Filtration: The following samples were not filtered within 15 minutes of sample collection as required by the method: Outfall002_20230822_Comp_F (570-149529-3), Outfall002_20230822_Comp_F (570-149529-3[MS]) and Outfall002_20230822_Comp_F (570-149529-3[MSD]). The sample(s) 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_20230822_Comp_F (570-149529-3), Outfall002_20230822_Comp_F (570-149529-3[MS]) and Outfall002_20230822_Comp_F (570-149529-3[MSD]). The sample(s) 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_20230822_Comp_F (570-149529-3), Outfall002_20230822_Comp_F (570-149529-3[MS]) and Outfall002_20230822_Comp_F (570-149529-3[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 5540C: Sample result concentrations for methylene blue active substances (MBAS) are calculated as LAS, mol. wt. 320.

Job ID: 570-149529-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

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

Organic Prep
Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-358077. 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 570-357244. 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 - Quarterly Outfall 002 - Comp

Job ID: 570-149529-1

Client Sample ID: Outfall002_20230822_Comp — Lab Sample ID: 570-149529-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	29		2.0	0.72	mg/L	2		300.0	Total/NA
Fluoride	0.21		0.20	0.092	mg/L	2		300.0	Total/NA
Nitrate as N	0.26		0.20	0.039	mg/L	2		300.0	Total/NA
Sulfate	180		5.0	1.2	mg/L	5		300.0	Total/NA
Nitrate Nitrite as N	0.26		0.10	0.020	mg/L	1		NO2NO3 Calc	Total/NA
Copper	3.7		2.0	0.32	ug/L	1		200.8	Total Recoverable
Lead	1.5		1.0	0.12	ug/L	1		200.8	Total Recoverable
Selenium	0.91	J,DX	2.0	0.52	ug/L	1		200.8	Total Recoverable
Zinc	12	J,DX	20	2.8	ug/L	1		200.8	Total Recoverable
Hardness as calcium carbonate	230		7.1	0.50	mg/L	1		SM 2340B	Total Recoverable
Turbidity	100		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Dissolved Solids	500		10	8.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	50		5.0	4.1	mg/L	1		SM 2540D	Total/NA
Biochemical Oxygen Demand	6.3		3.0	1.5	mg/L	1		SM 5210B	Total/NA
MBAS	0.083	J,DX	0.20	0.050	mg/L	1		SM 5540C	Total/NA

Client Sample ID: Outfall002_20230822_Comp_F — Lab Sample ID: 570-149529-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	2.5	BU	2.0	0.32	ug/L	1		200.8	Dissolved
Lead	0.18	J,DX BU	1.0	0.12	ug/L	1		200.8	Dissolved
Selenium	0.66	J,DX BU	2.0	0.52	ug/L	1		200.8	Dissolved
Zinc	2.8	J,DX BU	20	2.8	ug/L	1		200.8	Dissolved
Hardness as calcium carbonate	220		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: 570-149529-1

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: Outfall002_20230822_Comp
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		0.94	0.13	ug/L		08/23/23 08:09	08/29/23 12:46	1
2,4-Dinitrotoluene	ND		0.19	0.11	ug/L		08/23/23 08:09	08/29/23 12:46	1
Bis(2-ethylhexyl) phthalate	ND		4.7	3.4	ug/L		08/23/23 08:09	08/29/23 12:46	1
N-Nitrosodimethylamine	ND		0.19	0.18	ug/L		08/23/23 08:09	08/29/23 12:46	1
Pentachlorophenol	ND		0.94	0.80	ug/L		08/23/23 08:09	08/29/23 12:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*57*		*31 - 120*	*08/23/23 08:09*	*08/29/23 12:46*	*1*
Phenol-d6 (Surr)	*25*		*10 - 120*	*08/23/23 08:09*	*08/29/23 12:46*	*1*
p-Terphenyl-d14 (Surr)	*58*		*45 - 120*	*08/23/23 08:09*	*08/29/23 12:46*	*1*
2,4,6-Tribromophenol	*64*		*28 - 127*	*08/23/23 08:09*	*08/29/23 12:46*	*1*
2-Fluorophenol	*34*		*17 - 120*	*08/23/23 08:09*	*08/29/23 12:46*	*1*
Nitrobenzene-d5	*60*		*27 - 120*	*08/23/23 08:09*	*08/29/23 12:46*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-1

Method: EPA 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall002_20230822_Comp
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		08/25/23 07:58	08/31/23 14:16	1
Chlordane (technical)	ND		0.033	0.026	ug/L		08/25/23 07:58	08/31/23 14:16	1
4,4'-DDD	ND		0.0067	0.0044	ug/L		08/25/23 07:58	08/31/23 14:16	1
4,4'-DDE	ND		0.0033	0.0019	ug/L		08/25/23 07:58	08/31/23 14:16	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		08/25/23 07:58	08/31/23 14:16	1
Dieldrin	ND		0.0033	0.0013	ug/L		08/25/23 07:58	08/31/23 14:16	1
Toxaphene	ND		0.067	0.054	ug/L		08/25/23 07:58	08/31/23 14:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*51*		*20 - 139*	*08/25/23 07:58*	*08/31/23 14:16*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-1

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

Client Sample ID: Outfall002_20230822_Comp
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		08/25/23 07:58	08/30/23 17:51	1
Aroclor 1221	ND		0.10	0.044	ug/L		08/25/23 07:58	08/30/23 17:51	1
Aroclor 1232	ND		0.10	0.044	ug/L		08/25/23 07:58	08/30/23 17:51	1
Aroclor 1242	ND		0.10	0.044	ug/L		08/25/23 07:58	08/30/23 17:51	1
Aroclor 1248	ND		0.10	0.044	ug/L		08/25/23 07:58	08/30/23 17:51	1
Aroclor 1254	ND		0.10	0.052	ug/L		08/25/23 07:58	08/30/23 17:51	1
Aroclor 1260	ND		0.10	0.052	ug/L		08/25/23 07:58	08/30/23 17:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*76*		*20 - 154*	*08/25/23 07:58*	*08/30/23 17:51*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-1

Method: EPA 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall002_20230822_Comp
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**29**		2.0	0.72	mg/L			08/23/23 13:43	2
Nitrite as N	ND		0.20	0.086	mg/L			08/23/23 13:43	2
Fluoride	**0.21**		0.20	0.092	mg/L			08/23/23 13:43	2
Nitrate as N	**0.26**		0.20	0.039	mg/L			08/23/23 13:43	2
Sulfate	**180**		5.0	1.2	mg/L			08/24/23 23:56	5

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-1

Method: EPA 314.0 - Perchlorate (IC)

Client Sample ID: Outfall002_20230822_Comp
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			08/30/23 15:27	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-1

Method: EPA NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall002_20230822_Comp
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.26		0.10	0.020	mg/L			09/05/23 14:39	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-1

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall002_20230822_Comp
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		08/23/23 08:50	08/25/23 10:29	1
Copper	**3.7**		2.0	0.32	ug/L		08/23/23 08:50	08/25/23 10:29	1
Lead	**1.5**		1.0	0.12	ug/L		08/23/23 08:50	08/25/23 10:29	1
Selenium	**0.91**	**J,DX**	2.0	0.52	ug/L		08/23/23 08:50	08/25/23 10:29	1
Zinc	**12**	**J,DX**	20	2.8	ug/L		08/23/23 08:50	08/25/23 10:29	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-1

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall002_20230822_Comp_F
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	BU	1.0	0.13	ug/L			08/24/23 14:10	1
Copper	**2.5**	**BU**	2.0	0.32	ug/L			08/24/23 14:10	1
Lead	**0.18**	**J,DX BU**	1.0	0.12	ug/L			08/24/23 14:10	1
Selenium	**0.66**	**J,DX BU**	2.0	0.52	ug/L			08/24/23 14:10	1
Zinc	**2.8**	**J,DX BU**	20	2.8	ug/L			08/24/23 14:10	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-1

Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: Outfall002_20230822_Comp
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		08/23/23 16:15	08/24/23 14:42	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-1

Method: EPA 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall002_20230822_Comp_F
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.20	0.12	ug/L		08/23/23 16:13	08/24/23 15:12	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Client Sample ID: Outfall002_20230822_Comp
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	230		7.1	0.50	mg/L			08/30/23 17:21	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Client Sample ID: Outfall002_20230822_Comp_F
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	220		7.1	0.50	mg/L			08/30/23 17:06	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-1

General Chemistry

Client Sample ID: Outfall002_20230822_Comp
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.075	0.029	mg/L		09/01/23 11:52	09/01/23 13:31	1
Cyanide, Total (EPA Kelada 01)	ND		5.0	2.5	ug/L			08/31/23 13:25	1
Turbidity (SM 2130B)	**100**		0.05	0.05	NTU			08/23/23 14:09	1
Total Dissolved Solids (SM 2540C)	**500**		10	8.7	mg/L			08/24/23 19:37	1
Total Suspended Solids (SM 2540D)	**50**		5.0	4.1	mg/L			08/23/23 12:09	1
Biochemical Oxygen Demand (SM 5210B)	**6.3**		3.0	1.5	mg/L		08/23/23 14:48	08/28/23 13:26	1
MBAS (SM 5540C)	**0.083**	**J,DX**	0.20	0.050	mg/L		08/23/23 14:12	08/23/23 16:32	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-1

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)
570-149529-1	Outfall002_20230822_Comp	57	25	58	64	34	60
MB 570-357244/1-A	Method Blank	70	34	77	65	50	78

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)
570-149529-1	Outfall002_20230822_Comp	51
MB 570-358077/1-A	Method Blank	66

Surrogate Legend

TCX = Tetrachloro-m-xylene

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

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

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	DCB1 (20-154)
570-149529-1	Outfall002_20230822_Comp	76
LCS 570-358077/4-A	Lab Control Sample	96
LCSD 570-358077/5-A	Lab Control Sample Dup	100
MB 570-358077/1-A	Method Blank	113

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-357244/1-A
Matrix: Water
Analysis Batch: 359102

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 357244

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.14	ug/L		08/23/23 08:08	08/29/23 13:27	1
2,4-Dinitrotoluene	ND		0.20	0.12	ug/L		08/23/23 08:08	08/29/23 13:27	1
Bis(2-ethylhexyl) phthalate	ND		5.0	3.6	ug/L		08/23/23 08:08	08/29/23 13:27	1
N-Nitrosodimethylamine	ND		0.20	0.19	ug/L		08/23/23 08:08	08/29/23 13:27	1
Pentachlorophenol	ND		1.0	0.84	ug/L		08/23/23 08:08	08/29/23 13:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*70*		*31 - 120*	*08/23/23 08:08*	*08/29/23 13:27*	*1*
Phenol-d6 (Surr)	*34*		*10 - 120*	*08/23/23 08:08*	*08/29/23 13:27*	*1*
p-Terphenyl-d14 (Surr)	*77*		*45 - 120*	*08/23/23 08:08*	*08/29/23 13:27*	*1*
2,4,6-Tribromophenol	*65*		*28 - 127*	*08/23/23 08:08*	*08/29/23 13:27*	*1*
2-Fluorophenol	*50*		*17 - 120*	*08/23/23 08:08*	*08/29/23 13:27*	*1*
Nitrobenzene-d5	*78*		*27 - 120*	*08/23/23 08:08*	*08/29/23 13:27*	*1*

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-358077/1-A
Matrix: Water
Analysis Batch: 359791

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358077

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		08/25/23 07:58	08/31/23 11:45	1
Chlordane (technical)	ND		0.033	0.026	ug/L		08/25/23 07:58	08/31/23 11:45	1
4,4'-DDD	ND		0.0067	0.0044	ug/L		08/25/23 07:58	08/31/23 11:45	1
4,4'-DDE	ND		0.0033	0.0019	ug/L		08/25/23 07:58	08/31/23 11:45	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		08/25/23 07:58	08/31/23 11:45	1
Dieldrin	ND		0.0033	0.0013	ug/L		08/25/23 07:58	08/31/23 11:45	1
Toxaphene	ND		0.067	0.054	ug/L		08/25/23 07:58	08/31/23 11:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*66*		*20 - 139*	*08/25/23 07:58*	*08/31/23 11:45*	*1*

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

Lab Sample ID: MB 570-358077/1-A
Matrix: Water
Analysis Batch: 359217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358077

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		08/25/23 07:58	08/30/23 17:12	1
Aroclor 1221	ND		0.10	0.044	ug/L		08/25/23 07:58	08/30/23 17:12	1
Aroclor 1232	ND		0.10	0.044	ug/L		08/25/23 07:58	08/30/23 17:12	1
Aroclor 1242	ND		0.10	0.044	ug/L		08/25/23 07:58	08/30/23 17:12	1
Aroclor 1248	ND		0.10	0.044	ug/L		08/25/23 07:58	08/30/23 17:12	1
Aroclor 1254	ND		0.10	0.052	ug/L		08/25/23 07:58	08/30/23 17:12	1
Aroclor 1260	ND		0.10	0.052	ug/L		08/25/23 07:58	08/30/23 17:12	1

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

Lab Sample ID: MB 570-358077/1-A
Matrix: Water
Analysis Batch: 359217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358077

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*113*		*20 - 154*	*08/25/23 07:58*	*08/30/23 17:12*	*1*

Lab Sample ID: LCS 570-358077/4-A
Matrix: Water
Analysis Batch: 359217

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358077

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Aroclor 1016			0.133	0.144	PI	ug/L		108	50 - 140		
Aroclor 1260			0.133	0.128		ug/L		96	8 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*96*		*20 - 154*

Lab Sample ID: LCSD 570-358077/5-A
Matrix: Water
Analysis Batch: 359217

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 358077

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aroclor 1016			0.133	0.130	PI	ug/L		97	50 - 140	11	36
Aroclor 1260			0.133	0.130	PI	ug/L		97	8 - 140	2	38

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*100*		*20 - 154*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-357219/5
Matrix: Water
Analysis Batch: 357219

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			08/23/23 08:05	1
Fluoride	ND		0.10	0.046	mg/L			08/23/23 08:05	1
Sulfate	ND		1.0	0.24	mg/L			08/23/23 08:05	1

Lab Sample ID: LCS 570-357219/6
Matrix: Water
Analysis Batch: 357219

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	53.1		mg/L		106	90 - 110		
Fluoride			2.50	2.24		mg/L		90	90 - 110		
Sulfate			50.0	49.7		mg/L		99	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 570-357219/7
Matrix: Water
Analysis Batch: 357219

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	53.0		mg/L		106	90 - 110	0	15
Fluoride			2.50	2.27		mg/L		91	90 - 110	1	15
Sulfate			50.0	49.7		mg/L		99	90 - 110	0	15

Lab Sample ID: MB 570-357220/5
Matrix: Water
Analysis Batch: 357220

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			08/23/23 08:05	1
Nitrate as N	ND		0.10	0.020	mg/L			08/23/23 08:05	1

Lab Sample ID: LCS 570-357220/6
Matrix: Water
Analysis Batch: 357220

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	5.18		mg/L		104	90 - 110		

Lab Sample ID: LCSD 570-357220/7
Matrix: Water
Analysis Batch: 357220

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	2.55		mg/L		102	90 - 110	1	15
Nitrate as N			5.00	5.19		mg/L		104	90 - 110	0	15

Lab Sample ID: MB 570-357668/5
Matrix: Water
Analysis Batch: 357668

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.24	mg/L			08/24/23 12:16	1

Lab Sample ID: LCS 570-357668/6
Matrix: Water
Analysis Batch: 357668

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Sulfate			50.0	48.1		mg/L		96	90 - 110		

Lab Sample ID: LCSD 570-357668/7
Matrix: Water
Analysis Batch: 357668

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate			50.0	48.0		mg/L		96	90 - 110	0	15

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-359587/7
Matrix: Water
Analysis Batch: 359587

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			08/30/23 13:37	1

Lab Sample ID: LCS 570-359587/8
Matrix: Water
Analysis Batch: 359587

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	23.5		ug/L		94	85 - 115

Lab Sample ID: LCSD 570-359587/9
Matrix: Water
Analysis Batch: 359587

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	25.0	23.3		ug/L		93	85 - 115	1	15

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 570-357293/1-A
Matrix: Water
Analysis Batch: 358172

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 357293

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		08/23/23 08:50	08/25/23 10:54	1
Copper	ND		2.0	0.32	ug/L		08/23/23 08:50	08/25/23 10:54	1
Lead	ND		1.0	0.12	ug/L		08/23/23 08:50	08/25/23 10:54	1
Selenium	ND		2.0	0.52	ug/L		08/23/23 08:50	08/25/23 10:54	1
Zinc	ND		20	2.8	ug/L		08/23/23 08:50	08/25/23 10:54	1

Lab Sample ID: LCS 570-357293/2-A
Matrix: Water
Analysis Batch: 358172

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 357293

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	80.0	78.2		ug/L		98	85 - 115
Copper	80.0	80.7		ug/L		101	85 - 115
Lead	80.0	78.0		ug/L		97	85 - 115
Selenium	80.0	78.0		ug/L		98	85 - 115
Zinc	80.0	79.4		ug/L		99	85 - 115

Lab Sample ID: LCSD 570-357293/3-A
Matrix: Water
Analysis Batch: 358172

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 357293

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	80.0	80.3		ug/L		100	85 - 115	3	20
Copper	80.0	82.5		ug/L		103	85 - 115	2	20
Lead	80.0	80.4		ug/L		100	85 - 115	3	20
Selenium	80.0	78.7		ug/L		98	85 - 115	1	20

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 570-357293/3-A
Matrix: Water
Analysis Batch: 358172

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 357293

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Zinc			80.0	79.8		ug/L		100	85 - 115	1	20

Lab Sample ID: 570-149529-1 MS
Matrix: Water
Analysis Batch: 358171

Client Sample ID: Outfall002_20230822_Comp
Prep Type: Total Recoverable
Prep Batch: 357293

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	ND		80.0	79.7		ug/L		100	80 - 120
Copper	3.7		80.0	82.6		ug/L		99	80 - 120
Lead	1.5		80.0	79.3		ug/L		97	80 - 120
Selenium	0.91	J,DX	80.0	75.9		ug/L		94	80 - 120
Zinc	12	J,DX	80.0	89.8		ug/L		97	80 - 120

Lab Sample ID: 570-149529-1 MSD
Matrix: Water
Analysis Batch: 358171

Client Sample ID: Outfall002_20230822_Comp
Prep Type: Total Recoverable
Prep Batch: 357293

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	ND		80.0	80.6		ug/L		101	80 - 120	1	20
Copper	3.7		80.0	83.8		ug/L		100	80 - 120	1	20
Lead	1.5		80.0	81.5		ug/L		100	80 - 120	3	20
Selenium	0.91	J,DX	80.0	76.5		ug/L		95	80 - 120	1	20
Zinc	12	J,DX	80.0	90.6		ug/L		98	80 - 120	1	20

Lab Sample ID: MB 570-357706/1-A
Matrix: Water
Analysis Batch: 357915

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			08/24/23 14:03	1
Copper	ND		2.0	0.32	ug/L			08/24/23 14:03	1
Lead	ND		1.0	0.12	ug/L			08/24/23 14:03	1
Selenium	ND		2.0	0.52	ug/L			08/24/23 14:03	1
Zinc	ND		20	2.8	ug/L			08/24/23 14:03	1

Lab Sample ID: LCS 570-357706/2-A
Matrix: Water
Analysis Batch: 357915

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium			80.0	75.8		ug/L		95	85 - 115
Copper			80.0	76.3		ug/L		95	85 - 115
Lead			80.0	76.6		ug/L		96	85 - 115
Selenium			80.0	73.4		ug/L		92	85 - 115
Zinc			80.0	74.2		ug/L		93	85 - 115

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 570-357706/3-A
Matrix: Water
Analysis Batch: 357915

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	76.1		ug/L		95	85 - 115	0	20
Copper			80.0	77.7		ug/L		97	85 - 115	2	20
Lead			80.0	78.3		ug/L		98	85 - 115	2	20
Selenium			80.0	74.9		ug/L		94	85 - 115	2	20
Zinc			80.0	75.9		ug/L		95	85 - 115	2	20

Lab Sample ID: 570-149529-3 MS
Matrix: Water
Analysis Batch: 357915

Client Sample ID: Outfall002_20230822_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	77.1	BU	ug/L		96	80 - 120
Copper	2.5	BU	80.0	79.8	BU	ug/L		97	80 - 120
Lead	0.18	J,DX BU	80.0	77.4	BU	ug/L		97	80 - 120
Selenium	0.66	J,DX BU	80.0	79.4	BU	ug/L		98	80 - 120
Zinc	2.8	J,DX BU	80.0	76.5	BU	ug/L		92	80 - 120

Lab Sample ID: 570-149529-3 MSD
Matrix: Water
Analysis Batch: 357915

Client Sample ID: Outfall002_20230822_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	76.3	BU	ug/L		95	80 - 120	1	20
Copper	2.5	BU	80.0	78.9	BU	ug/L		95	80 - 120	1	20
Lead	0.18	J,DX BU	80.0	76.7	BU	ug/L		96	80 - 120	1	20
Selenium	0.66	J,DX BU	80.0	78.8	BU	ug/L		98	80 - 120	1	20
Zinc	2.8	J,DX BU	80.0	75.4	BU	ug/L		91	80 - 120	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-357522/1-A
Matrix: Water
Analysis Batch: 357922

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 357522

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		08/23/23 16:15	08/24/23 14:21	1

Lab Sample ID: LCS 570-357522/2-A
Matrix: Water
Analysis Batch: 357922

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 357522

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury			8.00	7.32		ug/L		91	85 - 115

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 570-357522/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 357922
Prep Batch: 357522

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury			8.00	7.02		ug/L		88	85 - 115	4	10

Lab Sample ID: 570-149529-1 MS
Client Sample ID: Outfall002_20230822_Comp
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 357922
Prep Batch: 357522

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury	ND		8.00	7.93		ug/L		99	85 - 115		

Lab Sample ID: 570-149529-1 MSD
Client Sample ID: Outfall002_20230822_Comp
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 357922
Prep Batch: 357522

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		8.00	7.92		ug/L		99	85 - 115	0	10

Lab Sample ID: MB 570-357459/1-B
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 357922
Prep Batch: 357519

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		08/23/23 16:13	08/24/23 14:57	1

Lab Sample ID: LCS 570-357459/2-B
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 357922
Prep Batch: 357519

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 570-357459/3-B
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 357922
Prep Batch: 357519

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury			8.00	7.38		ug/L		92	85 - 115	5	10

Lab Sample ID: 570-149529-3 MS
Client Sample ID: Outfall002_20230822_Comp_F
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 357922
Prep Batch: 357519

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury	ND	BU	8.00	7.88	BU	ug/L		98	85 - 115		

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 570-149529-3 MSD
Client Sample ID: Outfall002_20230822_Comp_F
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 357922
Prep Batch: 357519

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND	BU	8.00	7.99	BU	ug/L		100	85 - 115	1	10

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 570-360463/5-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 360526
Prep Batch: 360463

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.075	0.029	mg/L		09/01/23 11:52	09/01/23 13:25	1

Lab Sample ID: LCS 570-360463/6-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 360526
Prep Batch: 360463

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.500	0.487		mg/L		97	90 - 110

Lab Sample ID: LCSD 570-360463/7-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 360526
Prep Batch: 360463

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.500	0.485		mg/L		97	90 - 110	0	20

Lab Sample ID: 570-149529-1 MS
Client Sample ID: Outfall002_20230822_Comp
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 360526
Prep Batch: 360463

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	ND		0.500	0.518		mg/L		104	90 - 110

Lab Sample ID: 570-149529-1 MSD
Client Sample ID: Outfall002_20230822_Comp
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 360526
Prep Batch: 360463

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	ND		0.500	0.470		mg/L		94	90 - 110	10	25

Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate

Lab Sample ID: MB 570-360391/11
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 360391

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L			08/31/23 12:41	1

Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate (Continued)

Lab Sample ID: LCS 570-360391/12
Matrix: Water
Analysis Batch: 360391

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	258		ug/L		103	90 - 110

Lab Sample ID: LCSD 570-360391/13
Matrix: Water
Analysis Batch: 360391

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	6	20

Lab Sample ID: MRL 570-360391/10
Matrix: Water
Analysis Batch: 360391

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	5.15		ug/L		103	50 - 150

Method: SM 2130B - Turbidity

Lab Sample ID: LCSSRM 570-357438/1
Matrix: Water
Analysis Batch: 357438

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		100.4	99.0 - 101.0

Lab Sample ID: LCSSRM 570-357438/2
Matrix: Water
Analysis Batch: 357438

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		101.0	99.0 - 101.0

Lab Sample ID: LCSSRM 570-357438/3
Matrix: Water
Analysis Batch: 357438

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 570-358013/1
Matrix: Water
Analysis Batch: 358013

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			08/24/23 19:37	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 570-358013/2
Matrix: Water
Analysis Batch: 358013

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	1020		mg/L		102	84 - 108

Lab Sample ID: LCSD 570-358013/3
Matrix: Water
Analysis Batch: 358013

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	1010		mg/L		101	84 - 108	2	10

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-357400/1
Matrix: Water
Analysis Batch: 357400

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			08/23/23 12:09	1

Lab Sample ID: LCS 570-357400/2
Matrix: Water
Analysis Batch: 357400

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	103		mg/L		103	77 - 116

Lab Sample ID: LCSD 570-357400/3
Matrix: Water
Analysis Batch: 357400

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	106		mg/L		106	77 - 116	3	10

Method: SM 5210B - BOD, 5-Day

Lab Sample ID: LCS 570-357298/2-B
Matrix: Water
Analysis Batch: 358799

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 357298

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	199	201		mg/L		101	84.6 - 115.4

Lab Sample ID: USB 570-358799/2
Matrix: Water
Analysis Batch: 358799

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			08/28/23 12:14	1

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 570-357448/5-A
Matrix: Water
Analysis Batch: 357553

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 357448

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.20	0.050	mg/L		08/23/23 14:11	08/23/23 16:26	1

Lab Sample ID: LCS 570-357448/6-A
Matrix: Water
Analysis Batch: 357553

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 357448

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
MBAS			0.500	0.537		mg/L		107	83 - 122		

Lab Sample ID: LCSD 570-357448/7-A
Matrix: Water
Analysis Batch: 357553

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 357448

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS			0.500	0.541		mg/L		108	83 - 122	1	10

GC/MS Semi VOA

Prep Batch: 357244

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	625	
MB 570-357244/1-A	Method Blank	Total/NA	Water	625	

Analysis Batch: 359102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	625.1 SIM	357244
MB 570-357244/1-A	Method Blank	Total/NA	Water	625.1 SIM	357244

GC Semi VOA

Prep Batch: 358077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	608	
MB 570-358077/1-A	Method Blank	Total/NA	Water	608	
LCS 570-358077/4-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-358077/5-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 359217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	608.3	358077
MB 570-358077/1-A	Method Blank	Total/NA	Water	608.3	358077
LCS 570-358077/4-A	Lab Control Sample	Total/NA	Water	608.3	358077
LCSD 570-358077/5-A	Lab Control Sample Dup	Total/NA	Water	608.3	358077

Analysis Batch: 359791

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	608.3	358077
MB 570-358077/1-A	Method Blank	Total/NA	Water	608.3	358077

HPLC/IC

Analysis Batch: 357219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	300.0	
MB 570-357219/5	Method Blank	Total/NA	Water	300.0	
LCS 570-357219/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-357219/7	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 357220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	300.0	
MB 570-357220/5	Method Blank	Total/NA	Water	300.0	
LCS 570-357220/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-357220/7	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 357668

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	300.0	
MB 570-357668/5	Method Blank	Total/NA	Water	300.0	
LCS 570-357668/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-357668/7	Lab Control Sample Dup	Total/NA	Water	300.0	

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-1

HPLC/IC

Analysis Batch: 359587

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	314.0	
MB 570-359587/7	Method Blank	Total/NA	Water	314.0	
LCS 570-359587/8	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-359587/9	Lab Control Sample Dup	Total/NA	Water	314.0	

Analysis Batch: 361054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	NO2NO3 Calc	

Metals

Analysis Batch: 356794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-3	Outfall002_20230822_Comp_F	Dissolved	Water	SM 2340B	

Prep Batch: 357293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total Recoverable	Water	200.8	
MB 570-357293/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-357293/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-357293/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-149529-1 MS	Outfall002_20230822_Comp	Total Recoverable	Water	200.8	
570-149529-1 MSD	Outfall002_20230822_Comp	Total Recoverable	Water	200.8	

Filtration Batch: 357459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-3	Outfall002_20230822_Comp_F	Dissolved	Water	Filtration	
MB 570-357459/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-357459/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-357459/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-149529-3 MS	Outfall002_20230822_Comp_F	Dissolved	Water	Filtration	
570-149529-3 MSD	Outfall002_20230822_Comp_F	Dissolved	Water	Filtration	

Prep Batch: 357519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-3	Outfall002_20230822_Comp_F	Dissolved	Water	245.1	357459
MB 570-357459/1-B	Method Blank	Dissolved	Water	245.1	357459
LCS 570-357459/2-B	Lab Control Sample	Dissolved	Water	245.1	357459
LCSD 570-357459/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	357459
570-149529-3 MS	Outfall002_20230822_Comp_F	Dissolved	Water	245.1	357459
570-149529-3 MSD	Outfall002_20230822_Comp_F	Dissolved	Water	245.1	357459

Prep Batch: 357522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	245.1	
MB 570-357522/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-357522/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-357522/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-149529-1 MS	Outfall002_20230822_Comp	Total/NA	Water	245.1	
570-149529-1 MSD	Outfall002_20230822_Comp	Total/NA	Water	245.1	

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-1

Metals

Analysis Batch: 357562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total Recoverable	Water	SM 2340B	

Filtration Batch: 357706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-3	Outfall002_20230822_Comp_F	Dissolved	Water	Filtration	
MB 570-357706/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-357706/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-357706/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-149529-3 MS	Outfall002_20230822_Comp_F	Dissolved	Water	Filtration	
570-149529-3 MSD	Outfall002_20230822_Comp_F	Dissolved	Water	Filtration	

Analysis Batch: 357915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-3	Outfall002_20230822_Comp_F	Dissolved	Water	200.8	357706
MB 570-357706/1-A	Method Blank	Dissolved	Water	200.8	357706
LCS 570-357706/2-A	Lab Control Sample	Dissolved	Water	200.8	357706
LCSD 570-357706/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	357706
570-149529-3 MS	Outfall002_20230822_Comp_F	Dissolved	Water	200.8	357706
570-149529-3 MSD	Outfall002_20230822_Comp_F	Dissolved	Water	200.8	357706

Analysis Batch: 357922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	245.1	357522
570-149529-3	Outfall002_20230822_Comp_F	Dissolved	Water	245.1	357519
MB 570-357459/1-B	Method Blank	Dissolved	Water	245.1	357519
MB 570-357522/1-A	Method Blank	Total/NA	Water	245.1	357522
LCS 570-357459/2-B	Lab Control Sample	Dissolved	Water	245.1	357519
LCS 570-357522/2-A	Lab Control Sample	Total/NA	Water	245.1	357522
LCSD 570-357459/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	357519
LCSD 570-357522/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	357522
570-149529-1 MS	Outfall002_20230822_Comp	Total/NA	Water	245.1	357522
570-149529-1 MSD	Outfall002_20230822_Comp	Total/NA	Water	245.1	357522
570-149529-3 MS	Outfall002_20230822_Comp_F	Dissolved	Water	245.1	357519
570-149529-3 MSD	Outfall002_20230822_Comp_F	Dissolved	Water	245.1	357519

Analysis Batch: 358171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total Recoverable	Water	200.8	357293
570-149529-1 MS	Outfall002_20230822_Comp	Total Recoverable	Water	200.8	357293
570-149529-1 MSD	Outfall002_20230822_Comp	Total Recoverable	Water	200.8	357293

Analysis Batch: 358172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-357293/1-A	Method Blank	Total Recoverable	Water	200.8	357293
LCS 570-357293/2-A	Lab Control Sample	Total Recoverable	Water	200.8	357293
LCSD 570-357293/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	357293

General Chemistry

Prep Batch: 357298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	BOD Prep	
LCS 570-357298/2-B	Lab Control Sample	Total/NA	Water	BOD Prep	

Analysis Batch: 357400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	SM 2540D	
MB 570-357400/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-357400/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-357400/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 357438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	SM 2130B	
LCSSRM 570-357438/1	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-357438/2	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-357438/3	Lab Control Sample	Total/NA	Water	SM 2130B	

Prep Batch: 357448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	SM 5540C	
MB 570-357448/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-357448/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-357448/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	

Analysis Batch: 357553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	SM 5540C	357448
MB 570-357448/5-A	Method Blank	Total/NA	Water	SM 5540C	357448
LCS 570-357448/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	357448
LCSD 570-357448/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	357448

Analysis Batch: 358013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	SM 2540C	
MB 570-358013/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 570-358013/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 570-358013/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

Analysis Batch: 358799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	SM 5210B	357298
USB 570-358799/2	Method Blank	Total/NA	Water	SM 5210B	
LCS 570-357298/2-B	Lab Control Sample	Total/NA	Water	SM 5210B	357298

Analysis Batch: 360391

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	Kelada 01	
MB 570-360391/11	Method Blank	Total/NA	Water	Kelada 01	
LCS 570-360391/12	Lab Control Sample	Total/NA	Water	Kelada 01	
LCSD 570-360391/13	Lab Control Sample Dup	Total/NA	Water	Kelada 01	

General Chemistry (Continued)

Analysis Batch: 360391 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 570-360391/10	Lab Control Sample	Total/NA	Water	Kelada 01	

Prep Batch: 360463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	Distill/Ammonia	
MB 570-360463/5-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 570-360463/6-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	
LCSD 570-360463/7-A	Lab Control Sample Dup	Total/NA	Water	Distill/Ammonia	
570-149529-1 MS	Outfall002_20230822_Comp	Total/NA	Water	Distill/Ammonia	
570-149529-1 MSD	Outfall002_20230822_Comp	Total/NA	Water	Distill/Ammonia	

Analysis Batch: 360526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	350.1	360463
MB 570-360463/5-A	Method Blank	Total/NA	Water	350.1	360463
LCS 570-360463/6-A	Lab Control Sample	Total/NA	Water	350.1	360463
LCSD 570-360463/7-A	Lab Control Sample Dup	Total/NA	Water	350.1	360463
570-149529-1 MS	Outfall002_20230822_Comp	Total/NA	Water	350.1	360463
570-149529-1 MSD	Outfall002_20230822_Comp	Total/NA	Water	350.1	360463

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-149529-1
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Client Sample ID: Outfall002_20230822_Comp
Lab Sample ID: 570-149529-1
Date Collected: 08/22/23 07:55
Matrix: Water
Date Received: 08/22/23 18:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			1061 mL	2 mL	357244	08/23/23 08:09	H1SH	EET CAL 4
Total/NA	Analysis	625.1 SIM		1	1 mL	1 mL	359102	08/29/23 12:46	ULLI	EET CAL 4
	Instrument ID: GCMSJJJ									
Total/NA	Prep	608			1500 mL	1 mL	358077	08/25/23 07:58	OAJ3	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	359791	08/31/23 14:16	N5Y3	EET CAL 4
	Instrument ID: GC54A									
Total/NA	Prep	608			1500 mL	1 mL	358077	08/25/23 07:58	OAJ3	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	359217	08/30/23 17:51	OM8W	EET CAL 4
	Instrument ID: GC66									
Total/NA	Analysis	300.0		5	4 mL	4 mL	357668	08/24/23 23:56	UIP1	EET CAL 4
	Instrument ID: IC15									
Total/NA	Analysis	300.0		2	4 mL	4 mL	357219	08/23/23 13:43	UIP1	EET CAL 4
	Instrument ID: IC7									
Total/NA	Analysis	300.0		2	4 mL	4 mL	357220	08/23/23 13:43	UIP1	EET CAL 4
	Instrument ID: IC7									
Total/NA	Analysis	314.0		1	4 mL	4 mL	359587	08/30/23 15:27	YO8L	EET CAL 4
	Instrument ID: IC13									
Total/NA	Analysis	NO2NO3 Calc		1			361054	09/05/23 14:39	WH6J	EET CAL 4
	Instrument ID: NOEQUIP									
Total Recoverable	Prep	200.8			50 mL	50 mL	357293	08/23/23 08:50	JP8N	EET CAL 4
Total Recoverable	Analysis	200.8		1			358171	08/25/23 10:29	Y2WS	EET CAL 4
	Instrument ID: ICPMS09									
Total/NA	Prep	245.1			25 mL	50 mL	357522	08/23/23 16:15	EV3M	EET CAL 4
Total/NA	Analysis	245.1		1			357922	08/24/23 14:42	C0YH	EET CAL 4
	Instrument ID: HG9									
Total Recoverable	Analysis	SM 2340B		1			357562	08/30/23 17:21	P1R	EET CAL 4
	Instrument ID: NOEQUIP									
Total/NA	Prep	Distill/Ammonia			5 mL	5 mL	360463	09/01/23 11:52	UXCH	EET CAL 4
Total/NA	Analysis	350.1		1	5 mL	5 mL	360526	09/01/23 13:31	UXCH	EET CAL 4
	Instrument ID: ACA2									
Total/NA	Analysis	Kelada 01		1	8 mL	8 mL	360391	08/31/23 13:25	GG0B	EET CAL 4
	Instrument ID: LACHAT01									
Total/NA	Analysis	SM 2130B		1			357438	08/23/23 14:09	ZVB7	EET CAL 4
	Instrument ID: TUR4									
Total/NA	Analysis	SM 2540C		1	100 mL	1000 mL	358013	08/24/23 19:37	ZL7L	EET CAL 4
	Instrument ID: BAL100									
Total/NA	Analysis	SM 2540D		1	200 mL	1000 mL	357400	08/23/23 12:09	UWCT	EET CAL 4
	Instrument ID: BAL71									
Total/NA	Prep	BOD Prep					357298	08/23/23 14:48	U7UR	EET CAL 4
Total/NA	Analysis	SM 5210B		1	200 mL	300 mL	358799	08/28/23 13:26	U7UR	EET CAL 4
	Instrument ID: BOD3									
Total/NA	Prep	SM 5540C			100 mL	100 mL	357448	08/23/23 14:12	TXA8	EET CAL 4
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	357553	08/23/23 16:32	TXA8	EET CAL 4
	Instrument ID: UV8									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-1

Client Sample ID: Outfall002_20230822_Comp_F

Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-3

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	357706	08/24/23 08:39	JP8N	EET CAL 4
Dissolved	Analysis	200.8		1			357915	08/24/23 14:10	Y2WS	EET CAL 4
	Instrument ID: ICPMS09									
Dissolved	Filtration	Filtration			25 mL	25 mL	357459	08/23/23 14:38	EV3M	EET CAL 4
Dissolved	Prep	245.1			25 mL	50 mL	357519	08/23/23 16:13	EV3M	EET CAL 4
Dissolved	Analysis	245.1		1			357922	08/24/23 15:12	C0YH	EET CAL 4
	Instrument ID: HG9									
Dissolved	Analysis	SM 2340B		1			356794	08/30/23 17:06	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: 570-149529-1
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	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-23

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-1

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 - Quarterly Outfall 002 - Comp

Job ID: 570-149529-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-149529-1	Outfall002_20230822_Comp	Water	08/22/23 07:55	08/22/23 18:31
570-149529-3	Outfall002_20230822_Comp_F	Water	08/22/23 07:55	08/22/23 18:31

149529

Eurofins Calscience Irvine

570-149529 Chain of Custody

CHAIN OF CUSTODY FORM

									R	R	R	R	R	R	R/EP	R	R	R	R	C					
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				Project: Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 002 Comp					ANALYSIS REQUIRED																Comments
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc. 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)					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)					
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD																	
Outfall 002	Outfall002_20230822_Comp	8/22/2023 0755	WM	500 mL Poly	3	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	6	None	120	Yes				X													
			WM	500 mL Poly	6	None	130	Yes					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	3	H_2SO_4	160	Yes								X								
			WM	1 L Glass Amber	6	None	170	Yes									X							
			WM	1 L Glass Amber	6	None	180	Yes										X						
			WM	1L Poly	1	None	185	No							X									
	Outfall002_20230822_Comp_Extra	8/22/2023 0755	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	8-22-2023 1400	H&A		8/22/23 1400
	8-22-23 1831			8/24/23 0831

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

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

2.6/2.9, 2.1, ~4, 1.9/2.2, 2.3/2.6 SCIS

2019-2020 Rainy Season
Version 5

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									ANALYSIS REQUIRED												
Eurofins Calscience Project Manager: Virendra Patel, 2841 Dow Avenue, Suite #100, Tustin, CA 92780, Tel: 714-895-5494									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	Total Dissolved Metals: (E200.8): As, Mn, Fe			Comments
ECI Project #57013187																					
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2018-22-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)																					
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD													
Outfall 002	Outfall002_20230822_Comp_F	8/22/2023 0755	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					
3			WM	1L Poly	3	None	200	Yes	X												
			WM	1 L Glass Amber	2	None	250	No						X							Chlordane, DDD, DDE, DDT, dieldrin,PCBs,toxaphene at OF001,002,011, or 018.
			WM	borosilicate vials	6	None	320	Yes					X								Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall002_20230822_Comp	8/22/2023 0755	WM	500 mL Poly	3	NaOH	220	Yes		X											
			WM	2.5 Gal Cube	3	None	225	Yes			X										Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
1			WM	1 L Glass Amber	3	None	230	Yes													

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	8.22.2023/1400	H;A	[signature]	8/22/23 1400
[signature]	8-22-23 1831		[signature]	8/24/23 1831
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
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: 570-272825.1
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 #: 570-149529-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/27/2023			
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_20230822_Comp (570-149529-1)	8/22/23	07:55 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: 8/23/23 1329	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: 570-272920.1
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 #: 570-149529-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 9/14/2023			
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	1613B/1613B_Sox_Sep_P (MOD) Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20230822_Comp (570-149529-1)	8/22/23	07:55 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall002_20230822_Comp_Extra (570-149529-2)	8/22/23	07:55 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: 8/23/23 1418	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: 570-272825.1
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 #: 570-149529-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/27/2023			
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_20230822_Comp (570-149529-1)	8/22/23	07:55 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
1	FED EX	8/23/23 1320		FED EX		
2	Relinquished by:	Date/Time:	Company	Received by: M. Pinette	Date/Time: AUG 24 2023 0900	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:

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-149529-1

Login Number: 149529
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 9/22/2023 1:21:32 PM

JOB DESCRIPTION

Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

JOB NUMBER

570-149529-2

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

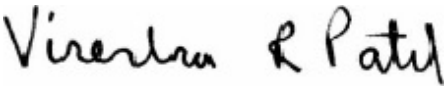
See page two for job notes and contact information.

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.

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
9/22/2023 1:21:32 PM

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-2

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: 570-149529-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-149529-2

Receipt
The samples were received on 8/22/2023 6:31 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 2.2º C, 2.4º C, 2.6º C and 2.9º C.

Receipt Exceptions

The reference method requires samples to have a pH of <2. The following samples were received with a pH of 7: Outfall002_20230822_Comp (570-149529-1), Outfall002_20230822_Comp (570-149529-1[MS]) and Outfall002_20230822_Comp (570-149529-1[MSD]). The samples were 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 DFS 1 exceeded this criteria: Outfall002_20230822_Comp (570-149529-1), (CCV 320-707510/2), (LCS 320-705588/2-A), (LCSD 320-705588/3-A) and (MB 320-705588/1-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 - Quarterly Outfall 002 - Comp

Job ID: 570-149529-2

Client Sample ID: Outfall002_20230822_Comp

Lab Sample ID: 570-149529-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.0000012	J,DX q	0.000047	0.00000080	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.0000013	J,DX q MB	0.000047	0.00000031	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.0000018	J,DX MB	0.000047	0.00000039	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000041	J,DX MB	0.000047	0.00000047	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000010	J,DX MB	0.000047	0.00000045	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000029	J,DX MB	0.000047	0.00000042	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000012	J,DX MB q	0.000047	0.00000048	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000019	J,DX MB	0.000047	0.00000045	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000013	J,DX MB	0.000047	0.00000043	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000015	J,DX MB	0.000047	0.00000043	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000025	J,DX MB	0.000047	0.00000033	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000013	J,DX MB	0.000047	0.00000052	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000020	J,DX MB	0.000047	0.00000061	ug/L	1		1613B	Total/NA
OCDD	0.00025	MB	0.000094	0.00000057	ug/L	1		1613B	Total/NA
OCDF	0.000026	J,DX MB	0.000094	0.00000084	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000012	J,DX q	0.000047	0.00000080	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000031	J,DX q MB	0.000047	0.00000035	ug/L	1		1613B	Total/NA
Total HxCDD	0.000012	J,DX MB q	0.000047	0.00000045	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000094	J,DX MB q	0.000047	0.00000045	ug/L	1		1613B	Total/NA
Total HpCDD	0.000049	J,DX MB	0.000047	0.00000033	ug/L	1		1613B	Total/NA
Total HpCDF	0.000025	J,DX MB	0.000047	0.00000057	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_20230822_Comp
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000094	0.00000063	ug/L		09/13/23 08:35	09/20/23 05:13	1
2,3,7,8-TCDF	ND		0.0000094	0.00000033	ug/L		09/13/23 08:35	09/20/23 05:13	1
1,2,3,7,8-PeCDD	**0.0000012**	**J,DX q**	0.000047	0.00000080	ug/L		09/13/23 08:35	09/20/23 05:13	1
1,2,3,7,8-PeCDF	**0.0000013**	**J,DX q MB**	0.000047	0.00000031	ug/L		09/13/23 08:35	09/20/23 05:13	1
2,3,4,7,8-PeCDF	**0.0000018**	**J,DX MB**	0.000047	0.00000039	ug/L		09/13/23 08:35	09/20/23 05:13	1
1,2,3,4,7,8-HxCDD	**0.0000041**	**J,DX MB**	0.000047	0.00000047	ug/L		09/13/23 08:35	09/20/23 05:13	1
1,2,3,6,7,8-HxCDD	**0.0000010**	**J,DX MB**	0.000047	0.00000045	ug/L		09/13/23 08:35	09/20/23 05:13	1
1,2,3,7,8,9-HxCDD	**0.0000029**	**J,DX MB**	0.000047	0.00000042	ug/L		09/13/23 08:35	09/20/23 05:13	1
1,2,3,4,7,8-HxCDF	**0.0000012**	**J,DX MB q**	0.000047	0.00000048	ug/L		09/13/23 08:35	09/20/23 05:13	1
1,2,3,6,7,8-HxCDF	**0.0000019**	**J,DX MB**	0.000047	0.00000045	ug/L		09/13/23 08:35	09/20/23 05:13	1
1,2,3,7,8,9-HxCDF	**0.0000013**	**J,DX MB**	0.000047	0.00000043	ug/L		09/13/23 08:35	09/20/23 05:13	1
2,3,4,6,7,8-HxCDF	**0.0000015**	**J,DX MB**	0.000047	0.00000043	ug/L		09/13/23 08:35	09/20/23 05:13	1
1,2,3,4,6,7,8-HpCDD	**0.000025**	**J,DX MB**	0.000047	0.00000033	ug/L		09/13/23 08:35	09/20/23 05:13	1
1,2,3,4,6,7,8-HpCDF	**0.000013**	**J,DX MB**	0.000047	0.00000052	ug/L		09/13/23 08:35	09/20/23 05:13	1
1,2,3,4,7,8,9-HpCDF	**0.0000020**	**J,DX MB**	0.000047	0.00000061	ug/L		09/13/23 08:35	09/20/23 05:13	1
OCDD	**0.00025**	**MB**	0.000094	0.00000057	ug/L		09/13/23 08:35	09/20/23 05:13	1
OCDF	**0.000026**	**J,DX MB**	0.000094	0.00000084	ug/L		09/13/23 08:35	09/20/23 05:13	1
Total TCDD	ND		0.0000094	0.00000063	ug/L		09/13/23 08:35	09/20/23 05:13	1
Total TCDF	ND		0.0000094	0.00000033	ug/L		09/13/23 08:35	09/20/23 05:13	1
Total PeCDD	**0.0000012**	**J,DX q**	0.000047	0.00000080	ug/L		09/13/23 08:35	09/20/23 05:13	1
Total PeCDF	**0.0000031**	**J,DX q MB**	0.000047	0.00000035	ug/L		09/13/23 08:35	09/20/23 05:13	1
Total HxCDD	**0.000012**	**J,DX MB q**	0.000047	0.00000045	ug/L		09/13/23 08:35	09/20/23 05:13	1
Total HxCDF	**0.0000094**	**J,DX MB q**	0.000047	0.00000045	ug/L		09/13/23 08:35	09/20/23 05:13	1
Total HpCDD	**0.000049**	**J,DX MB**	0.000047	0.00000033	ug/L		09/13/23 08:35	09/20/23 05:13	1
Total HpCDF	**0.000025**	**J,DX MB**	0.000047	0.00000057	ug/L		09/13/23 08:35	09/20/23 05:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*79*		*25 - 164*	*09/13/23 08:35*	*09/20/23 05:13*	*1*
13C-2,3,7,8-TCDF	*80*		*24 - 169*	*09/13/23 08:35*	*09/20/23 05:13*	*1*
13C-1,2,3,7,8-PeCDD	*69*		*25 - 181*	*09/13/23 08:35*	*09/20/23 05:13*	*1*

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall002_20230822_Comp
Lab Sample ID: 570-149529-1
Date Collected: 08/22/23 07:55
Matrix: Water
Date Received: 08/22/23 18:31

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	77		24 - 185	09/13/23 08:35	09/20/23 05:13	1
13C-2,3,4,7,8-PeCDF	66		21 - 178	09/13/23 08:35	09/20/23 05:13	1
13C-1,2,3,4,7,8-HxCDD	71		32 - 141	09/13/23 08:35	09/20/23 05:13	1
13C-1,2,3,6,7,8-HxCDD	72		28 - 130	09/13/23 08:35	09/20/23 05:13	1
13C-1,2,3,4,7,8-HxCDF	74		26 - 152	09/13/23 08:35	09/20/23 05:13	1
13C-1,2,3,6,7,8-HxCDF	69		26 - 123	09/13/23 08:35	09/20/23 05:13	1
13C-1,2,3,7,8,9-HxCDF	66		29 - 147	09/13/23 08:35	09/20/23 05:13	1
13C-2,3,4,6,7,8-HxCDF	74		28 - 136	09/13/23 08:35	09/20/23 05:13	1
13C-1,2,3,4,6,7,8-HpCDD	73		23 - 140	09/13/23 08:35	09/20/23 05:13	1
13C-1,2,3,4,6,7,8-HpCDF	76		28 - 143	09/13/23 08:35	09/20/23 05:13	1
13C-1,2,3,4,7,8,9-HpCDF	69		26 - 138	09/13/23 08:35	09/20/23 05:13	1
13C-OCDD	68		17 - 157	09/13/23 08:35	09/20/23 05:13	1
13C-OCDF	78		17 - 157	09/13/23 08:35	09/20/23 05:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	98		35 - 197	09/13/23 08:35	09/20/23 05:13	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-2

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)								
570-149529-1	Outfall002_20230822_Comp	98								
MB 320-705588/1-A	Method Blank	100								

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 320-705588/2-A	Lab Control Sample	95								
LCSD 320-705588/3-A	Lab Control Sample Dup	97								

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: 570-149529-2

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)
570-149529-1	Outfall002_20230822_Comp	79	80	69	77	66	71	72	74
MB 320-705588/1-A	Method Blank	78	81	71	75	69	67	68	71

		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)
570-149529-1	Outfall002_20230822_Comp	69	66	74	73	76	69	68	78
MB 320-705588/1-A	Method Blank	65	61	70	69	71	64	64	73

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 320-705588/2-A	Lab Control Sample	77	79	69	75	66	68	69	70
LCSD 320-705588/3-A	Lab Control Sample Dup	84	86	76	84	75	76	77	82

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)	OCDF (13-199)
LCS 320-705588/2-A	Lab Control Sample	66	62	71	71	72	65	66	75
LCSD 320-705588/3-A	Lab Control Sample Dup	76	71	79	77	82	72	72	83

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: 570-149529-2
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

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-705588/1-A
Matrix: Water
Analysis Batch: 707510

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 705588

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000080	ug/L		09/13/23 08:35	09/20/23 02:48	1
2,3,7,8-TCDF	ND		0.000010	0.00000042	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,7,8-PeCDD	ND		0.000050	0.0000010	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,7,8-PeCDF	0.00000184	J,DX	0.000050	0.00000037	ug/L		09/13/23 08:35	09/20/23 02:48	1
2,3,4,7,8-PeCDF	0.00000190	J,DX	0.000050	0.00000044	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,4,7,8-HxCDD	0.00000259	J,DX q	0.000050	0.00000049	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,6,7,8-HxCDD	0.00000228	J,DX	0.000050	0.00000048	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,7,8,9-HxCDD	0.00000280	J,DX	0.000050	0.00000044	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,4,7,8-HxCDF	0.00000202	J,DX	0.000050	0.00000039	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,6,7,8-HxCDF	0.00000187	J,DX	0.000050	0.00000037	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,7,8,9-HxCDF	0.00000200	J,DX	0.000050	0.00000036	ug/L		09/13/23 08:35	09/20/23 02:48	1
2,3,4,6,7,8-HxCDF	0.00000171	J,DX q	0.000050	0.00000035	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,4,6,7,8-HpCDD	0.00000323	J,DX	0.000050	0.00000018	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,4,6,7,8-HpCDF	0.00000301	J,DX	0.000050	0.00000044	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,4,7,8,9-HpCDF	0.00000228	J,DX	0.000050	0.00000053	ug/L		09/13/23 08:35	09/20/23 02:48	1
OCDD	0.00000803	J,DX	0.00010	0.00000046	ug/L		09/13/23 08:35	09/20/23 02:48	1
OCDF	0.00000499	J,DX	0.00010	0.00000090	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total TCDD	ND		0.000010	0.00000080	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total TCDF	ND		0.000010	0.00000042	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total PeCDD	ND		0.000050	0.0000010	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total PeCDF	0.00000374	J,DX	0.000050	0.00000040	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total HxCDD	0.00000767	J,DX q	0.000050	0.00000047	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total HxCDF	0.00000760	J,DX q	0.000050	0.00000037	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total HpCDD	0.00000323	J,DX	0.000050	0.00000018	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total HpCDF	0.00000528	J,DX	0.000050	0.00000049	ug/L		09/13/23 08:35	09/20/23 02:48	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*78*		*25 - 164*	*09/13/23 08:35*	*09/20/23 02:48*	*1*
13C-2,3,7,8-TCDF	*81*		*24 - 169*	*09/13/23 08:35*	*09/20/23 02:48*	*1*
13C-1,2,3,7,8-PeCDD	*71*		*25 - 181*	*09/13/23 08:35*	*09/20/23 02:48*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-705588/1-A
Matrix: Water
Analysis Batch: 707510

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 705588

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	75		24 - 185	09/13/23 08:35	09/20/23 02:48	1
13C-2,3,4,7,8-PeCDF	69		21 - 178	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,4,7,8-HxCDD	67		32 - 141	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,6,7,8-HxCDD	68		28 - 130	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,4,7,8-HxCDF	71		26 - 152	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,6,7,8-HxCDF	65		26 - 123	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,7,8,9-HxCDF	61		29 - 147	09/13/23 08:35	09/20/23 02:48	1
13C-2,3,4,6,7,8-HxCDF	70		28 - 136	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,4,6,7,8-HpCDD	69		23 - 140	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,4,6,7,8-HpCDF	71		28 - 143	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,4,7,8,9-HpCDF	64		26 - 138	09/13/23 08:35	09/20/23 02:48	1
13C-OCDD	64		17 - 157	09/13/23 08:35	09/20/23 02:48	1
13C-OCDF	73		17 - 157	09/13/23 08:35	09/20/23 02:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	100		35 - 197	09/13/23 08:35	09/20/23 02:48	1

Lab Sample ID: LCS 320-705588/2-A
Matrix: Water
Analysis Batch: 707510

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 705588

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
2,3,7,8-TCDD			0.000200	0.000198		ug/L		99	67 - 158		
2,3,7,8-TCDF			0.000200	0.000194		ug/L		97	75 - 158		
1,2,3,7,8-PeCDD			0.00100	0.000993		ug/L		99	70 - 142		
1,2,3,7,8-PeCDF			0.00100	0.000972	MB	ug/L		97	80 - 134		
2,3,4,7,8-PeCDF			0.00100	0.00107	MB	ug/L		107	68 - 160		
1,2,3,4,7,8-HxCDD			0.00100	0.000893	MB	ug/L		89	70 - 164		
1,2,3,6,7,8-HxCDD			0.00100	0.000892	MB	ug/L		89	76 - 134		
1,2,3,7,8,9-HxCDD			0.00100	0.000949	MB	ug/L		95	64 - 162		
1,2,3,4,7,8-HxCDF			0.00100	0.000925	MB	ug/L		93	72 - 134		
1,2,3,6,7,8-HxCDF			0.00100	0.000858	MB	ug/L		86	84 - 130		
1,2,3,7,8,9-HxCDF			0.00100	0.000875	MB	ug/L		88	78 - 130		
2,3,4,6,7,8-HxCDF			0.00100	0.000897	MB	ug/L		90	70 - 156		
1,2,3,4,6,7,8-HpCDD			0.00100	0.000896	MB	ug/L		90	70 - 140		
1,2,3,4,6,7,8-HpCDF			0.00100	0.000860	MB	ug/L		86	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000920	MB	ug/L		92	78 - 138		
OCDD			0.00200	0.00179	MB	ug/L		89	78 - 144		
OCDF			0.00200	0.00156	MB	ug/L		78	63 - 170		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	77		20 - 175
13C-2,3,7,8-TCDF	79		22 - 152
13C-1,2,3,7,8-PeCDD	69		21 - 227
13C-1,2,3,7,8-PeCDF	75		21 - 192
13C-2,3,4,7,8-PeCDF	66		13 - 328
13C-1,2,3,4,7,8-HxCDD	68		21 - 193

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-705588/2-A
Matrix: Water
Analysis Batch: 707510

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 705588

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,6,7,8-HxCDD	69		25 - 163
13C-1,2,3,4,7,8-HxCDF	70		19 - 202
13C-1,2,3,6,7,8-HxCDF	66		21 - 159
13C-1,2,3,7,8,9-HxCDF	62		17 - 205
13C-2,3,4,6,7,8-HxCDF	71		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	71		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	72		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	65		20 - 186
13C-OCDD	66		13 - 199
13C-OCDF	75		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	95		31 - 191

Lab Sample ID: LCSD 320-705588/3-A
Matrix: Water
Analysis Batch: 707510

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 705588

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000196		ug/L		98	67 - 158	1	50
2,3,7,8-TCDF			0.000200	0.000198		ug/L		99	75 - 158	2	50
1,2,3,7,8-PeCDD			0.00100	0.00100		ug/L		100	70 - 142	1	50
1,2,3,7,8-PeCDF			0.00100	0.000959	MB	ug/L		96	80 - 134	1	50
2,3,4,7,8-PeCDF			0.00100	0.00107	MB	ug/L		107	68 - 160	0	50
1,2,3,4,7,8-HxCDD			0.00100	0.000949	MB	ug/L		95	70 - 164	6	50
1,2,3,6,7,8-HxCDD			0.00100	0.000920	MB	ug/L		92	76 - 134	3	50
1,2,3,7,8,9-HxCDD			0.00100	0.000981	MB	ug/L		98	64 - 162	3	50
1,2,3,4,7,8-HxCDF			0.00100	0.000947	MB	ug/L		95	72 - 134	2	50
1,2,3,6,7,8-HxCDF			0.00100	0.000899	MB	ug/L		90	84 - 130	5	50
1,2,3,7,8,9-HxCDF			0.00100	0.000885	MB	ug/L		88	78 - 130	1	50
2,3,4,6,7,8-HxCDF			0.00100	0.000914	MB	ug/L		91	70 - 156	2	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.000924	MB	ug/L		92	70 - 140	3	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.000894	MB	ug/L		89	82 - 122	4	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000964	MB	ug/L		96	78 - 138	5	50
OCDD			0.00200	0.00183	MB	ug/L		92	78 - 144	2	50
OCDF			0.00200	0.00164	MB	ug/L		82	63 - 170	5	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	84		20 - 175
13C-2,3,7,8-TCDF	86		22 - 152
13C-1,2,3,7,8-PeCDD	76		21 - 227
13C-1,2,3,7,8-PeCDF	84		21 - 192
13C-2,3,4,7,8-PeCDF	75		13 - 328
13C-1,2,3,4,7,8-HxCDD	76		21 - 193
13C-1,2,3,6,7,8-HxCDD	77		25 - 163
13C-1,2,3,4,7,8-HxCDF	82		19 - 202
13C-1,2,3,6,7,8-HxCDF	76		21 - 159

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-705588/3-A
Matrix: Water
Analysis Batch: 707510

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 705588

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-1,2,3,7,8,9-HxCDF	71		17 - 205
13C-2,3,4,6,7,8-HxCDF	79		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	77		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	82		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	72		20 - 186
13C-OCDD	72		13 - 199
13C-OCDF	83		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	97		31 - 191

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-149529-2
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Specialty Organics

Prep Batch: 705588

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	1613B	
MB 320-705588/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-705588/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-705588/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 707510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	1613B	705588
MB 320-705588/1-A	Method Blank	Total/NA	Water	1613B	705588
LCS 320-705588/2-A	Lab Control Sample	Total/NA	Water	1613B	705588
LCSD 320-705588/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	705588

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-2

Client Sample ID: Outfall002_20230822_Comp
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-1
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			1061.3 mL	20.0 uL	705588	09/13/23 08:35	AS	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	707510	09/20/23 05:13	KSS	EET SAC
	Instrument ID: DFS 1									

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: 570-149529-2
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	08-11-24
Arkansas DEQ	State	88-0691	05-18-24
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-24
Florida	NELAP	E87570	06-30-24
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 (All)	NELAP	01944	06-30-24
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-24
Nevada	State	CA00044	07-31-24
New Hampshire	NELAP	2997	04-18-24
New Jersey	NELAP	CA005	06-30-24
New York	NELAP	11666	04-01-24
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-24
Texas	NELAP	T104704399-19-13	05-31-24
US Fish & Wildlife	US Federal Programs	58448	04-30-24
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442021-12	02-29-24
Virginia	NELAP	460278	03-14-24
Washington	State	C581	05-05-24
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-24
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 - Quarterly Outfall 002 - Comp

Job ID: 570-149529-2

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.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-149529-1	Outfall002_20230822_Comp	Water	08/22/23 07:55	08/22/23 18:31

149529

Eurofins Calscience Irvine

570-149529 Chain of Custody

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 Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 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: (E200.8): 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)					Comments
Outfall 002	Outfall002_20230822_Comp	8/22/2023 0755	WM	500 mL Poly	3	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	6	None	120	Yes				X											
			WM	500 mL Poly	6	None	130	Yes					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	3	H_2SO_4	160	Yes								X							
			WM	1 L Glass Amber	6	None	170	Yes									X						
			WM	1 L Glass Amber	6	None	180	Yes										X					
			WM	1L Poly	1	None	185	No							X								
	Outfall002_20230822_Comp_Extra	8/22/2023 0755	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: 8-22-2023	Company: 1400 M.A	Received By:	Date/Time: 8/22/23	1400
Relinquished By:	Date/Time: 8-22-23	Company: 1831	Received By:	Date/Time: 8/24/23	0831
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:	

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

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

2.6/2.9, 2.1, ~4, 1.9/2.2, 2.3/2.6 SCIS

2019-2020 Rainy Season
Version 5

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 Eurofins Calscience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 **ECI Project #57013187** TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2018-22-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											Comments
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	Total Dissolved Metals: (E200.8): As, Mn, Fe				
Outfall 002	Outfall002_20230822_Comp_F	8/22/2023 0755	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	3	None	200	Yes	X													
			WM	1 L Glass Amber	2	None	250	No							X							Chlordane, DDD, DDE, DDT, dieldrin,PCBs,toxaphene at OF001,002,011, or 018.
			WM	borosilicate vials	6	None	320	Yes					X									Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall002_20230822_Comp	8/22/2023 0755	WM	500 mL Poly	3	NaOH	220	Yes		X												
			WM	2.5 Gal Cube	3	None	225	Yes			X											Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	3	None	230	Yes														

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	8.22.2023/1400			8/22/23 1400
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	8-22-23 1831			8/24/23 1831
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
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: 570-272825.1
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 #: 570-149529-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/27/2023			
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#:			

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)	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_20230822_Comp (570-149529-1)	8/22/23	07:55 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
	8/23/23 1329				
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: 570-272920.1
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 #: 570-149529-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 9/14/2023			
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	1613B/1613B_Sox_Sep_P (MOD) Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20230822_Comp (570-149529-1)	8/22/23	07:55 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall002_20230822_Comp_Extra (570-149529-2)	8/22/23	07:55 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: 8/23/23 1418	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: 570-272920.1
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 #: 570-149529-2
Address: 880 Riverside Parkway	Due Date Requested: 9/14/2023			
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#:			

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:							
Outfall002_20230822_Comp (570-149529-1)	8/22/23	07:55 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L, Use Boeing glassware.
Outfall002_20230822_Comp_Extra (570-149529-2)	8/22/23	07:55 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		8/23/23 1418			08/24/23 0930	BESDE
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: 1.0°C

Ver: 06/08/2021

9/22/2023

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, Vlrendra	Carrier Tracking No(s):	COC No: 570-272920.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Vlrendra.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 #: 570-149529-2
Address: 880 Riverside Parkway	Due Date Requested: 9/14/2023			
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	1613B/1613B_Sox_Sep_P (MOD) Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note
			Preservation Code:							
Outfall002_20230822_Comp (570-149529-1)	8/22/23	07:55 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L, Use Boeing glassware.
Outfall002_20230822_Comp_Extra (570-149529-2)	8/22/23	07:55 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: 8/23/23 1418	Company	Received by:	Date/Time: 08/24/23 0930	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: 2.5°C

Ver: 06/08/2021

eurofins | Environment Testing

Sacramento
Sample Receiving Notes

Tracking # 7010 7105 9880

Job. _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal Cooler Custody Seal Temperature & corrected Temperature & other observations.
File in the job folder with the COC

Therm. ID 106 Corr Factor (+ / -) NA °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal Seal

Cooler ID _____

Temp Observed 2.5 °C Corrected 2.5 °C
From Temp Blank ☐ Sample ☒

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☒	☐
Cooler Temperature is acceptable?	☒	☐	☐
Frozen samples show signs of thaw?	☐	☐	☒

Initials: DM Date: 08/24/23

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☒	☐	☐
Samples compromised/tampered with?	☐	☒	☐
COC is complete w/o discrepancies	☒	☐	☐
Sample custody seal?	☐	☐	☒
Sample containers have legible labels?	☒	☐	☐
Sample date/times are provided?	☒	☐	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Is the Field Sampler's name on COC?	☐	☐	☒
Samples w/o discrepancies?	☒	☐	☐
Zero headspace?*	☐	☐	☒
Alkalinity has no headspace?	☐	☐	☒
Perchlorate has headspace? (Methods 314, 331 6850)	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: DM Date: 08/24/23

Notes _____

Trizma Lot #(s) _____

Ammonium
Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☒	☐	☐
NCM Filed?	☐	☐	☒
Samples received within hold time?	☐	☐	☒
Log Release checked in TALS?	☐	☐	☒

Initials DM Date 08/24/23

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: 570-272920.1
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 #: 570-149529-2
Address: 880 Riverside Parkway	Due Date Requested: 9/14/2023			
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#:			

Preservation Codes

A HCL	M Hexane		
B NaOH	N None		
C Zn Acetate	O AsNaO2		
D Nitric Acid	P Na2O4S		
E NaHSO4	Q Na2SO3		
F MeOH	R Na2S2O3		
G Amchlor	S H2SO4		
H Ascorbic Acid	T TSP Dodecahydrate		
I Ice	U Acetone		
J DI Water	V MCAA		
K EDTA	W pH 4-5		
L EDA	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:							
Outfall002_20230822_Comp (570-149529-1)	8/22/23	07:55 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L, Use Boeing glassware.
Outfall002_20230822_Comp_Extra (570-149529-2)	8/22/23	07:55 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	[signature]	8/23/23 1418		D.S. Montano	08/24/23 0930	EETSac
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: 2.8°C

Ver: 06/08/2021

eurofins | Environment Testing

Sacramento
Sample Receiving Notes

Tracking # 780107059890

Job _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal Temperature & corrected Temperature & other observations.
File in the job folder with the COC

Therm ID L06 Corr Factor (+ / -) NA °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal Seal

Cooler ID _____

Temp Observed 2.8 °C Corrected 2.8 °C
From Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials DM Date 08/24/23

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials DM Date 08/24/23

Notes _____

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials DM Date 08/24/23

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-149529-2

Login Number: 149529
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: 570-149529-2

Login Number: 149529
List Number: 3
Creator: Morazzini, Dominic S

List Source: Eurofins Sacramento
List Creation: 08/24/23 01:23 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 present with no number.
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.0, 2.5, 2.8
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 9/28/2023 3:30:02 PM

JOB DESCRIPTION

Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

JOB NUMBER

570-149529-3

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

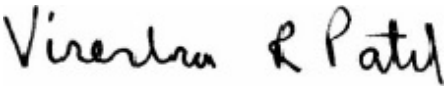
See page two for job notes and contact information.

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.

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
9/28/2023 3:30:02 PM

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-3

Qualifiers

Rad

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits
F1	MS and/or MSD recovery exceeds control limits.
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

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

Job ID: 570-149529-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-149529-3

Receipt
The samples were received on 8/22/2023 6:31 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 2.2º C, 2.4º C, 2.6º C and 2.9º C.

Receipt Exceptions

The reference method requires samples to have a pH of <2. The following samples were received with a pH of 7: Outfall002_20230822_Comp (570-149529-1), Outfall002_20230822_Comp (570-149529-1[MS]) and Outfall002_20230822_Comp (570-149529-1[MSD]). The samples were adjusted to the appropriate pH in the laboratory.

RAD
Methods 900.0, 9310: Gross Alpha and Gross Beta batch 625658
The detection goal was not met for the following sample due to a reduction of the sample size attributed to high residual mass: Outfall002_20230822_Comp (570-149529-1). Analytical results are reported with the detection limit achieved.

Methods 900.0, 9310: Gross Alpha and Gross Beta batch 625658
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_20230822_Comp (570-149529-1), Outfall002_20230822_Comp (570-149529-1[MS]), Outfall002_20230822_Comp (570-149529-1[MSD]), (LCS 160-625658/2-A), (LCSB 160-625658/3-A), (MB 160-625658/1-A), (570-149529-N-1-V MSBT) and (570-149529-N-1-W MSBTD)

Methods 900.0, 9310: Gross Alpha Beta prep batch 160-625658:

The matrix spike (MS) recoveries for preparation batch 160-625658 and analytical batch 160-627783 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits. Outfall002_20230822_Comp (570-149529-1[MS])

Methods 900.0, 9310: Gross Alpha Beta prep batch 160-625658:

The following samples have an RER/RPD result outside of the acceptance criteria for Gross Alpha. The precision is acceptable for other target analytes indicating a potential matrix interference isolated to Gross Alpha. Outfall002_20230822_Comp (570-149529-1[MSD])

Method 901.1: Gamma prep batch 160-628810
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 activity is well below the RL and MDC.

Outfall002_20230822_Comp (570-149529-1)

Method 901.1: Gamma 160-628810
Many isotopes requested by gamma spectrometry analysis do not have any gamma emissions, the gamma emissions they do have are very poor, and/or are reported by assuming secular equilibrium with a longer-lived parent (or vice-versa). For example, Th-232 (which does not have a good gamma-ray) is often reported assuming the shorter-lived Ra-228 daughter is in equilibrium with the Th-232 parent. Or, Pb-214 and/or Bi-214, daughters of potentially volatile Rn-222 in the Ra-226 decay chain, may not be in equilibrium with the parent unless sufficient time has been allowed since the break in equilibrium (e.g. 21 days in the case of Ra-226-supported ingrowth). 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

Job ID: 570-149529-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

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_20230822_Comp (570-149529-1), (570-149524-J-1-K) and (570-149524-J-1-L DU)

Method 903.0: Radium 226 batch 625460
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_20230822_Comp (570-149529-1), Outfall002_20230822_Comp (570-149529-1[MS]), Outfall002_20230822_Comp (570-149529-1[MSD]), (LCS 160-625460/2-A), (MB 160-625460/1-A), (860-55796-E-2-A) and (860-55796-F-2-A DU)

Method 904.0: Radium-228 batch 625463
The matrix spike matrix spike duplicate (MS/MSD) recoveries for were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. Outfall002_20230822_Comp (570-149529-1[MS]) and Outfall002_20230822_Comp (570-149529-1[MSD])

Method 904.0: Radium-228 batch 625463
The detection goal was not met for the following sample(s). Sample was prepped at a reduced volume due to the presence of matrix interferences: Outfall002_20230822_Comp (570-149529-1). Analytical results are reported with the detection limit achieved.

Method 904.0: Radium-228 batch 625463
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_20230822_Comp (570-149529-1), Outfall002_20230822_Comp (570-149529-1[MS]), Outfall002_20230822_Comp (570-149529-1[MSD]), (LCS 160-625463/2-A), (MB 160-625463/1-A), (860-55796-E-2-B) and (860-55796-F-2-B DU)

Method 905: Strontium-90 batch 625654
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is

Job ID: 570-149529-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
Outfall002_20230822_Comp (570-149529-1), Outfall002_20230822_Comp (570-149529-1[MS]), Outfall002_20230822_Comp (570-149529-1[MSD]), (LCS 160-625654/2-A) and (MB 160-625654/1-A)

Method 906.0:

Method 906.0: Tritium 628539
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_20230822_Comp (570-149529-1), Outfall002_20230822_Comp (570-149529-1[MS]), Outfall002_20230822_Comp (570-149529-1[MSD]), (LCS 160-628539/2-A) and (MB 160-628539/1-A)

Method A-01-R: Isotopic Uranium batch 625457
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_20230822_Comp (570-149529-1), Outfall002_20230822_Comp (570-149529-1[MS]), Outfall002_20230822_Comp (570-149529-1[MSD]), (LCS 160-625457/2-A) and (MB 160-625457/1-A)

Method ExtChrom: Uranium Prep Batch 160-625457:

Samples were prepped at a reduced aliquot due to heavy discoloration and sediment Outfall002_20230822_Comp (570-149529-1), Outfall002_20230822_Comp (570-149529-1[MS]) and Outfall002_20230822_Comp (570-149529-1[MSD]).

Method Fill_Geo-0:

Method LSC_Dist_Susp:

Method PrecSep_0:

Method PrecSep_0:

Method PrecSep-21:

Method PrecSep-21:

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: 570-149529-3
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Client Sample ID: Outfall002_20230822_Comp
Lab Sample ID: 570-149529-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-3

Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall002_20230822_Comp
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	2.09	U F G	2.17	2.18	3.00	3.46	pCi/L	08/28/23 10:36	09/12/23 15:37	1
Gross Beta	**7.37**		1.42	1.60	4.00	1.60	pCi/L	08/28/23 10:36	09/12/23 15:37	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-3

Method: EPA 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall002_20230822_Comp
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.155	U G	11.8	11.8	20.0	20.9	pCi/L	09/19/23 14:19	09/27/23 14:10	1
Potassium-40	-60.4	U	138	138		190	pCi/L	09/19/23 14:19	09/27/23 14:10	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-3

Method: EPA 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall002_20230822_Comp
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.205	U	0.275	0.276	1.00	0.462	pCi/L	08/25/23 10:06	09/18/23 20:37	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*46.4*		*30 - 110*	*08/25/23 10:06*	*09/18/23 20:37*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-3

Method: EPA 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall002_20230822_Comp
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.11	U G	1.33	1.33	1.00	2.19	pCi/L	08/25/23 10:18	09/13/23 12:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*46.4*		*30 - 110*	*08/25/23 10:18*	*09/13/23 12:05*	*1*
Y Carrier	*85.6*		*30 - 110*	*08/25/23 10:18*	*09/13/23 12:05*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-3

Method: EPA 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall002_20230822_Comp
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.640	U	0.591	0.593	3.00	0.951	pCi/L	08/28/23 10:28	09/05/23 15:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*62.4*		*30 - 110*	*08/28/23 10:28*	*09/05/23 15:54*	*1*
Y Carrier	*81.1*		*30 - 110*	*08/28/23 10:28*	*09/05/23 15:54*	*1*

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-3

Method: EPA 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall002_20230822_Comp
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	19.8	U	171	171	500	307	pCi/L	09/18/23 09:49	09/18/23 22:23	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-3

Method: DOE A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall002_20230822_Comp
Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	1.56		0.568	0.575	1.00	0.281	pCi/L	08/25/23 08:16	09/15/23 15:11	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*75.5*		*30 - 110*	*08/25/23 08:16*	*09/15/23 15:11*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-3

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)
570-149529-1	Outfall002_20230822_Comp	46.4
570-149529-1 MS	Outfall002_20230822_Comp	36.3
570-149529-1 MSD	Outfall002_20230822_Comp	40.1
LCS 160-625460/2-A	Lab Control Sample	89.2
MB 160-625460/1-A	Method Blank	100

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)
570-149529-1	Outfall002_20230822_Comp	46.4	85.6
570-149529-1 MS	Outfall002_20230822_Comp	36.3	84.1
570-149529-1 MSD	Outfall002_20230822_Comp	40.1	83.4
LCS 160-625463/2-A	Lab Control Sample	89.2	80.4
MB 160-625463/1-A	Method Blank	100	80.4

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)
570-149529-1	Outfall002_20230822_Comp	62.4	81.1
570-149529-1 MS	Outfall002_20230822_Comp	64.8	83.7
570-149529-1 MSD	Outfall002_20230822_Comp	74.1	92.7
LCS 160-625654/2-A	Lab Control Sample	80.9	96.8
MB 160-625654/1-A	Method Blank	78.6	94.2

Tracer/Carrier Legend

Sr = Sr Carrier

Y = Y Carrier

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

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

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	U-232 (30-110)
570-149529-1	Outfall002_20230822_Comp	75.5
570-149529-1 MS	Outfall002_20230822_Comp	69.2
570-149529-1 MSD	Outfall002_20230822_Comp	82.9
LCS 160-625457/2-A	Lab Control Sample	83.3

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-149529-3
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)							
Lab Sample ID	Client Sample ID	U-232 (30-110)							
MB 160-625457/1-A	Method Blank	87.1							

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-625658/1-A
Matrix: Water
Analysis Batch: 627787

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 625658

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.04019	U	0.469	0.469	3.00	0.936	pCi/L	08/28/23 10:36	09/12/23 07:54	1
Gross Beta	-0.4932	U	0.474	0.476	4.00	0.935	pCi/L	08/28/23 10:36	09/12/23 07:54	1

Lab Sample ID: LCS 160-625658/2-A
Matrix: Water
Analysis Batch: 627787

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 625658

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Gross Alpha			49.6	54.56		8.06	3.00	2.37	pCi/L	110	75 - 125		

Lab Sample ID: LCSB 160-625658/3-A
Matrix: Water
Analysis Batch: 627787

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 625658

Analyte			Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Gross Beta			72.7	72.17		7.75	4.00	0.942	pCi/L	99	75 - 125		

Lab Sample ID: 570-149529-1 MS
Matrix: Water
Analysis Batch: 627783

Client Sample ID: Outfall002_20230822_Comp
Prep Type: Total/NA
Prep Batch: 625658

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Gross Alpha	2.09	U F G	71.9	39.23	F1	7.67	3.00	4.01	pCi/L	52	60 - 140		

Lab Sample ID: 570-149529-1 MSBT
Matrix: Water
Analysis Batch: 627783

Client Sample ID: Outfall002_20230822_Comp
Prep Type: Total/NA
Prep Batch: 625658

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Gross Beta	7.37		105	112.9		12.1	4.00	1.47	pCi/L	100	60 - 140		

Lab Sample ID: 570-149529-1 MSBTD
Matrix: Water
Analysis Batch: 627783

Client Sample ID: Outfall002_20230822_Comp
Prep Type: Total/NA
Prep Batch: 625658

Analyte	Sample Result	Sample Qual	Spike Added	MSBTD Result	MSBTD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Gross Beta	7.37		105	103.2		11.1	4.00	1.32	pCi/L	91	60 - 140	0.42	1

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity (Continued)

Lab Sample ID: 570-149529-1 MSD
Matrix: Water
Analysis Batch: 627783

Client Sample ID: Outfall002_20230822_Comp
Prep Type: Total/NA
Prep Batch: 625658

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Gross Alpha	2.09	U F G	71.9	63.98	F	10.5	3.00	3.41	pCi/L	86	60 - 140	1.36	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-628810/1-A
Matrix: Water
Analysis Batch: 629849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 628810

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.1884	U	7.12	7.12	20.0	13.2	pCi/L	09/19/23 14:19	09/27/23 13:06	1
Potassium-40	-71.05	U	104	104		165	pCi/L	09/19/23 14:19	09/27/23 13:06	1

Lab Sample ID: LCS 160-628810/2-A
Matrix: Water
Analysis Batch: 629847

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 628810

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Americium-241	135000	153800		18300		418	pCi/L	114	75 - 125
Cesium-137	40400	42080		5020	20.0	107	pCi/L	104	75 - 125
Cobalt-60	16700	17520		2090		74.6	pCi/L	105	75 - 125

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-625460/1-A
Matrix: Water
Analysis Batch: 628636

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 625460

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.04639	U	0.0560	0.0562	1.00	0.135	pCi/L	08/25/23 10:06	09/18/23 20:34	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*30 - 110*	*08/25/23 10:06*	*09/18/23 20:34*	*1*

Lab Sample ID: LCS 160-625460/2-A
Matrix: Water
Analysis Batch: 628636

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 625460

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	11.38		1.20	1.00	0.143	pCi/L	100	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*89.2*		*30 - 110*

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: 570-149529-1 MS
Matrix: Water
Analysis Batch: 628632

Client Sample ID: Outfall002_20230822_Comp
Prep Type: Total/NA
Prep Batch: 625460

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	0.205	U	23.0	27.90		2.99	1.00	0.377	pCi/L	120	60 - 140

Carrier	*MS %Yield*	*MS Qualifier*	*Limits*
Ba Carrier	*36.3*		*30 - 110*

Lab Sample ID: 570-149529-1 MSD
Matrix: Water
Analysis Batch: 628632

Client Sample ID: Outfall002_20230822_Comp
Prep Type: Total/NA
Prep Batch: 625460

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-226	0.205	U	23.3	24.25		2.89	1.00	0.416	pCi/L	103	60 - 140	0.62	1

Carrier	*MSD %Yield*	*MSD Qualifier*	*Limits*
Ba Carrier	*40.1*		*30 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-625463/1-A
Matrix: Water
Analysis Batch: 627936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 625463

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.09332	U	0.282	0.282	1.00	0.506	pCi/L	08/25/23 10:18	09/13/23 11:57	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*30 - 110*	*08/25/23 10:18*	*09/13/23 11:57*	*1*
Y Carrier	*80.4*		*30 - 110*	*08/25/23 10:18*	*09/13/23 11:57*	*1*

Lab Sample ID: LCS 160-625463/2-A
Matrix: Water
Analysis Batch: 627936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 625463

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228			7.88	9.103		1.31	1.00	0.636	pCi/L	116	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*89.2*		*30 - 110*
Y Carrier	*80.4*		*30 - 110*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: 570-149529-1 MS
Matrix: Water
Analysis Batch: 627939

Client Sample ID: Outfall002_20230822_Comp
Prep Type: Total/NA
Prep Batch: 625463

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	1.11	U G	16.0	27.06	F1	4.85	1.00	3.69	pCi/L	162	60 - 140

Carrier	*MS %Yield*	*MS Qualifier*	*Limits*
Ba Carrier	*36.3*		*30 - 110*
Y Carrier	*84.1*		*30 - 110*

Lab Sample ID: 570-149529-1 MSD
Matrix: Water
Analysis Batch: 627939

Client Sample ID: Outfall002_20230822_Comp
Prep Type: Total/NA
Prep Batch: 625463

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-228	1.11	U G	16.2	28.21	F1	4.78	1.00	3.46	pCi/L	167	60 - 140	0.12	1

Carrier	*MSD %Yield*	*MSD Qualifier*	*Limits*
Ba Carrier	*40.1*		*30 - 110*
Y Carrier	*83.4*		*30 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-625654/1-A
Matrix: Water
Analysis Batch: 626552

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 625654

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.04493	U	0.173	0.173	3.00	0.305	pCi/L	08/28/23 10:28	09/05/23 15:50	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*78.6*		*30 - 110*	*08/28/23 10:28*	*09/05/23 15:50*	*1*
Y Carrier	*94.2*		*30 - 110*	*08/28/23 10:28*	*09/05/23 15:50*	*1*

Lab Sample ID: LCS 160-625654/2-A
Matrix: Water
Analysis Batch: 626552

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 625654

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Strontium-90			7.27	7.585		0.826	3.00	0.298	pCi/L	104	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*80.9*		*30 - 110*
Y Carrier	*96.8*		*30 - 110*

Method: 905 - Strontium-90 (GFPC) (Continued)

Lab Sample ID: 570-149529-1 MS
Matrix: Water
Analysis Batch: 626552

Client Sample ID: Outfall002_20230822_Comp
Prep Type: Total/NA
Prep Batch: 625654

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Strontium-90	0.640	U	14.3	18.27		2.07	3.00	0.795	pCi/L	123	60 - 140

Carrier	*MS %Yield*	*MS Qualifier*	*Limits*
Sr Carrier	*64.8*		*30 - 110*
Y Carrier	*83.7*		*30 - 110*

Lab Sample ID: 570-149529-1 MSD
Matrix: Water
Analysis Batch: 626552

Client Sample ID: Outfall002_20230822_Comp
Prep Type: Total/NA
Prep Batch: 625654

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Strontium-90	0.640	U	14.3	15.75		1.74	3.00	0.606	pCi/L	106	60 - 140	0.66	1

Carrier	*MSD %Yield*	*MSD Qualifier*	*Limits*
Sr Carrier	*74.1*		*30 - 110*
Y Carrier	*92.7*		*30 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-628539/1-A
Matrix: Water
Analysis Batch: 628990

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 628539

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-18.02	U	167	167	500	307	pCi/L	09/18/23 09:49	09/18/23 20:30	1

Lab Sample ID: LCS 160-628539/2-A
Matrix: Water
Analysis Batch: 628990

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 628539

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Tritium	2040	1656		341	500	315	pCi/L	81	75 - 125

Lab Sample ID: 570-149529-1 MS
Matrix: Water
Analysis Batch: 628990

Client Sample ID: Outfall002_20230822_Comp
Prep Type: Total/NA
Prep Batch: 628539

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Tritium	19.8	U	2040	1705		340	500	304	pCi/L	83	60 - 140

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 570-149529-1 MSD
Matrix: Water
Analysis Batch: 628990

Client Sample ID: Outfall002_20230822_Comp
Prep Type: Total/NA
Prep Batch: 628539

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Tritium	19.8	U	2040	1841		353	500	306	pCi/L	89	60 - 140	0.19	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-625457/1-A
Matrix: Water
Analysis Batch: 628196

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 625457

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.08563	U	0.1193	0.1196	1.00	0.171	pCi/L	08/25/23 08:16	09/15/23 19:09	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*87.1*		*30 - 110*	*08/25/23 08:16*	*09/15/23 19:09*	*1*

Lab Sample ID: LCS 160-625457/2-A
Matrix: Water
Analysis Batch: 628209

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 625457

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Uranium-234			12.7	12.48		1.49	1.00	0.118	pCi/L	98	75 - 125		
Uranium-238			13.0	14.19		1.64	1.00	0.103	pCi/L	109	75 - 125		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*83.3*		*30 - 110*

Lab Sample ID: 570-149529-1 MS
Matrix: Water
Analysis Batch: 628223

Client Sample ID: Outfall002_20230822_Comp
Prep Type: Total/NA
Prep Batch: 625457

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Uranium-234	0.875		25.5	28.17		3.41	1.00	0.277	pCi/L	107	60 - 140		
Uranium-238	0.635		26.1	29.82		3.55	1.00	0.277	pCi/L	112	60 - 140		

Tracer	*MS %Yield*	*MS Qualifier*	*Limits*
Uranium-232	*69.2*		*30 - 110*

Lab Sample ID: 570-149529-1 MSD
Matrix: Water
Analysis Batch: 628273

Client Sample ID: Outfall002_20230822_Comp
Prep Type: Total/NA
Prep Batch: 625457

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Uranium-234	0.875		25.5	26.42		3.12	1.00	0.238	pCi/L	100	60 - 140	0.27	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-3

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: 570-149529-1 MSD
Matrix: Water
Analysis Batch: 628273

Client Sample ID: Outfall002_20230822_Comp
Prep Type: Total/NA
Prep Batch: 625457

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Uranium-238	0.635		26.0	25.64		3.05	1.00	0.237	pCi/L	96	60 - 140	0.63	1

Tracer	*MSD %Yield*	*MSD Qualifier*	*Limits*
Uranium-232	*82.9*		*30 - 110*

Rad

Prep Batch: 625457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	ExtChrom	
MB 160-625457/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-625457/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
570-149529-1 MS	Outfall002_20230822_Comp	Total/NA	Water	ExtChrom	
570-149529-1 MSD	Outfall002_20230822_Comp	Total/NA	Water	ExtChrom	

Prep Batch: 625460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	PrecSep-21	
MB 160-625460/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-625460/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
570-149529-1 MS	Outfall002_20230822_Comp	Total/NA	Water	PrecSep-21	
570-149529-1 MSD	Outfall002_20230822_Comp	Total/NA	Water	PrecSep-21	

Prep Batch: 625463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	PrecSep_0	
MB 160-625463/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-625463/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
570-149529-1 MS	Outfall002_20230822_Comp	Total/NA	Water	PrecSep_0	
570-149529-1 MSD	Outfall002_20230822_Comp	Total/NA	Water	PrecSep_0	

Prep Batch: 625654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	PrecSep-7	
MB 160-625654/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-625654/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
570-149529-1 MS	Outfall002_20230822_Comp	Total/NA	Water	PrecSep-7	
570-149529-1 MSD	Outfall002_20230822_Comp	Total/NA	Water	PrecSep-7	

Prep Batch: 625658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	Evaporation	
MB 160-625658/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-625658/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-625658/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-149529-1 MS	Outfall002_20230822_Comp	Total/NA	Water	Evaporation	
570-149529-1 MSBT	Outfall002_20230822_Comp	Total/NA	Water	Evaporation	
570-149529-1 MSBTD	Outfall002_20230822_Comp	Total/NA	Water	Evaporation	
570-149529-1 MSD	Outfall002_20230822_Comp	Total/NA	Water	Evaporation	

Prep Batch: 628539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-628539/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-628539/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
570-149529-1 MS	Outfall002_20230822_Comp	Total/NA	Water	LSC_Dist_Susp	
570-149529-1 MSD	Outfall002_20230822_Comp	Total/NA	Water	LSC_Dist_Susp	

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-149529-3
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Rad

Prep Batch: 628810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149529-1	Outfall002_20230822_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-628810/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-628810/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Job ID: 570-149529-3

Client Sample ID: Outfall002_20230822_Comp

Date Collected: 08/22/23 07:55
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149529-1

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			138.01 mL	1.0 g	625658	08/28/23 10:36	ASG	EET SL
Total/NA	Analysis	900.0		1			627783	09/12/23 15:37	SCB	EET SL
	Instrument ID: GFPCRED									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	628810	09/19/23 14:19	SAC	EET SL
Total/NA	Analysis	901.1		1			629849	09/27/23 14:10	CAH	EET SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			506.73 mL	1.0 g	625460	08/25/23 10:06	KAC	EET SL
Total/NA	Analysis	903.0		1			628632	09/18/23 20:37	SCB	EET SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			506.73 mL	1.0 g	625463	08/25/23 10:18	KAC	EET SL
Total/NA	Analysis	904.0		1			627939	09/13/23 12:05	FLC	EET SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-7			497.49 mL	1.0 g	625654	08/28/23 10:28	KAC	EET SL
Total/NA	Analysis	905		1			626552	09/05/23 15:54	SCB	EET SL
	Instrument ID: GFPCRED									
Total/NA	Prep	LSC_Dist_Susp			100.04 mL	1.0 g	628539	09/18/23 09:49	DJP	EET SL
Total/NA	Analysis	906.0		1			628990	09/18/23 22:23	REV	EET SL
	Instrument ID: LSC3180									
Total/NA	Prep	ExtChrom			250.0 mL	1.0 mL	625457	08/25/23 08:16	MST	EET SL
Total/NA	Analysis	A-01-R		1			628215	09/15/23 15:11	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: 570-149529-3
Project/Site: Boeing NPDES SSFL - Quarterly Outfall 002 - Comp

Laboratory: Eurofins St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
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	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-24
HI - RadChem Recognition	State	n/a	06-30-24
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	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-24
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	07-31-24
North Dakota	State	R-207	06-30-24
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23 *
Texas	NELAP	T104704193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-24
Virginia	NELAP	10310	06-15-25
West Virginia DEP	State	381	10-31-23

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

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-149529-3
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: 570-149529-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-149529-1	Outfall002_20230822_Comp	Water	08/22/23 07:55	08/22/23 18:31

149529

Eurofins Calscience Irvine

570-149529 Chain of Custody

CHAIN OF CUSTODY FORM

									R	R	R	R	R	R	R/EP	R	R	R	R	C					
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				Project: Boeing-SSFL NPDES Permit 2023 Quarterly Outfall [001, 002, 011, 018] Outfall 002 Comp					ANALYSIS REQUIRED																
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.				Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)																					
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	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)					Comments
Outfall 002	Outfall002_20230822_Comp	8/22/2023 0755	WM	500 mL Poly	3	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	6	None	120	Yes				X												
			WM	500 mL Poly	6	None	130	Yes					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	3	H_2SO_4	160	Yes								X								
			WM	1 L Glass Amber	6	None	170	Yes									X							
			WM	1 L Glass Amber	6	None	180	Yes										X						
			WM	1L Poly	1	None	185	No							X									
	Outfall002_20230822_Comp_Extra	8/22/2023 0755	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	8-22-2023 1400	H&A		8/22/23 1400
	8-22-23 1831			8/24/23 0831

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

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

Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

2.6/2.9, 2.1, ~4, 1.9/2.2, 2.3/2.6 SCIS

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 Eurofins Calscience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 **ECI Project #57013187** TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2018-22-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											Comments
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	Total Dissolved Metals: (E200.8): As, Mn, Fe			
Outfall 002	Outfall002_20230822_Comp_F	8/22/2023 0755	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						
3			WM	1L Poly	3	None	200	Yes	X												
			WM	1 L Glass Amber	2	None	250	No						X							Chlordane, DDD, DDE, DDT, dieldrin,PCBs,toxaphene at OF001,002,011, or 018.
			WM	borosilicate vials	6	None	320	Yes					X								Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall002_20230822_Comp	8/22/2023 0755	WM	500 mL Poly	3	NaOH	220	Yes		X											
			WM	2.5 Gal Cube	3	None	225	Yes			X										Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
1			WM	1 L Glass Amber	3	None	230	Yes													

Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	8.22.2023/1400			8/22/23 1400
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	8-22-23 1831			8/24/23 1831
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
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: 570-272825.1
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 #: 570-149529-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/27/2023			
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#:			

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)	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_20230822_Comp (570-149529-1)	8/22/23	07:55 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
Relinquished by:	Date/Time: 8/23/23 1329	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: 570-272920.1
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 #: 570-149529-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 9/14/2023			
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	1613B/1613B_Sox_Sep_P (MOD) Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20230822_Comp (570-149529-1)	8/22/23	07:55 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall002_20230822_Comp_Extra (570-149529-2)	8/22/23	07:55 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: 8/23/23 1418	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: 570-272825.1
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 #: 570-149529-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/27/2023			
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_20230822_Comp (570-149529-1)	8/22/23	07:55 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
1	FED EX	8/23/23 1320		FED EX		
2	Relinquished by:	Date/Time:	Company	Received by: M. Pinette	Date/Time: AUG 24 2023 0900	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:

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-149529-3

Login Number: 149529
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: 570-149529-3

Login Number: 149529
List Number: 2
Creator: Pinette, Meadow L

List Source: Eurofins St. Louis
List Creation: 08/24/23 02:28 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.	N/A	
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 10/2/2023 12:48:56 PM

JOB DESCRIPTION

Boeing NPDES SSFL - Outfall 002 - Grab

JOB NUMBER

570-152593-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

myEOL

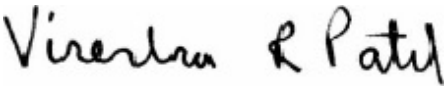
Eurofins Calscience

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



Generated
10/2/2023 12:48:56 PM

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-152593-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Glossary

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

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-152593-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Job ID: 570-152593-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-152593-1

Receipt
The samples were received on 9/14/2023 12:47 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.

Receipt Exceptions

The number of containers for the following samples did not match the information listed on the Chain-of-Custody (COC): TB-20230914 (570-152593-3). Received 2 containers, while the COC lists 3.

GC/MS VOA
Method 624.1: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: Outfall002_20230914_Grab (570-152593-1). Elevated reporting limits (RLs) are provided.

Method 624.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-364314. 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 570-363880.

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

Organic Prep
Methods 1664A, 1664B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-364196. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.
Method 1664A_P_W.

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: 570-152593-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Client Sample ID: Outfall002_20230914_Grab
Lab Sample ID: 570-152593-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	640		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: TB-20230914
Lab Sample ID: 570-152593-3

No Detections.

This Detection Summary does not include radiochemical test results.

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall002_20230914_Grab **Lab Sample ID: 570-152593-1**
Date Collected: 09/14/23 07:30 **Matrix: Water**
Date Received: 09/14/23 12:47

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		1.0	0.67	ug/L			09/15/23 18:18	2
1,2-Dichloroethane	ND		1.0	0.30	ug/L			09/15/23 18:18	2
Trichloroethene	ND		1.0	0.35	ug/L			09/15/23 18:18	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*60 - 140*		*09/15/23 18:18*	*2*
4-Bromofluorobenzene (Surr)	*95*		*60 - 140*		*09/15/23 18:18*	*2*
Dibromofluoromethane (Surr)	*99*		*60 - 140*		*09/15/23 18:18*	*2*
Toluene-d8 (Surr)	*96*		*60 - 140*		*09/15/23 18:18*	*2*

Client Sample ID: TB-20230914 **Lab Sample ID: 570-152593-3**
Date Collected: 09/14/23 07:30 **Matrix: Water**
Date Received: 09/14/23 12:47

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			09/15/23 17:11	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			09/15/23 17:11	1
Trichloroethene	ND		0.50	0.17	ug/L			09/15/23 17:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*60 - 140*		*09/15/23 17:11*	*1*
4-Bromofluorobenzene (Surr)	*94*		*60 - 140*		*09/15/23 17:11*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*		*09/15/23 17:11*	*1*
Toluene-d8 (Surr)	*97*		*60 - 140*		*09/15/23 17:11*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-152593-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

General Chemistry

Client Sample ID: Outfall002_20230914_Grab
Lab Sample ID: 570-152593-1
Date Collected: 09/14/23 07:30
Matrix: Water
Date Received: 09/14/23 12:47

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664A)	ND		0.98	0.50	mg/L		09/15/23 08:54	09/15/23 14:00	1
Specific Conductance (SM 2510B)	**640**		1.0	1.0	umhos/cm			09/29/23 22:26	1
Settleable Solids (SM 2540F)	ND		0.10	0.10	mL/L			09/14/23 22:20	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-152593-1
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)
570-152593-1	Outfall002_20230914_Grab	91	95	99	96
570-152593-3	TB-20230914	92	94	102	97
LCS 570-364314/1003	Lab Control Sample	92	95	105	99
LCSD 570-364314/4	Lab Control Sample Dup	91	95	103	94
MB 570-364314/6	Method Blank	97	92	105	95

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 570-364314/6
Matrix: Water
Analysis Batch: 364314

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			09/15/23 15:19	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			09/15/23 15:19	1
Trichloroethene	ND		0.50	0.17	ug/L			09/15/23 15:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 140*		*09/15/23 15:19*	*1*
4-Bromofluorobenzene (Surr)	*92*		*60 - 140*		*09/15/23 15:19*	*1*
Dibromofluoromethane (Surr)	*105*		*60 - 140*		*09/15/23 15:19*	*1*
Toluene-d8 (Surr)	*95*		*60 - 140*		*09/15/23 15:19*	*1*

Lab Sample ID: LCS 570-364314/1003
Matrix: Water
Analysis Batch: 364314

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	9.36		ug/L		94	50 - 150		
1,2-Dichloroethane			10.0	9.29		ug/L		93	70 - 130		
Trichloroethene			10.0	9.91		ug/L		99	65 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*60 - 140*
4-Bromofluorobenzene (Surr)	*95*		*60 - 140*
Dibromofluoromethane (Surr)	*105*		*60 - 140*
Toluene-d8 (Surr)	*99*		*60 - 140*

Lab Sample ID: LCSD 570-364314/4
Matrix: Water
Analysis Batch: 364314

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-Dichloroethene			10.0	8.34		ug/L		83	50 - 150	11	32
1,2-Dichloroethane			10.0	8.58		ug/L		86	70 - 130	8	49
Trichloroethene			10.0	9.11		ug/L		91	65 - 135	8	48

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*60 - 140*
4-Bromofluorobenzene (Surr)	*95*		*60 - 140*
Dibromofluoromethane (Surr)	*103*		*60 - 140*
Toluene-d8 (Surr)	*94*		*60 - 140*

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-364196/1-A
Matrix: Water
Analysis Batch: 364346

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 364196

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		09/15/23 08:54	09/15/23 14:00	1

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: LCS 570-364196/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 364346 **Prep Batch: 364196**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil & Grease)	40.0	31.0		mg/L		78	78 - 114

Lab Sample ID: LCSD 570-364196/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 364346 **Prep Batch: 364196**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil & Grease)	40.0	31.7		mg/L		79	78 - 114	2	18

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 570-369502/69 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 369502

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			09/29/23 20:09	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-152593-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

GC/MS VOA

Analysis Batch: 364314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152593-1	Outfall002_20230914_Grab	Total/NA	Water	624.1	
570-152593-3	TB-20230914	Total/NA	Water	624.1	
MB 570-364314/6	Method Blank	Total/NA	Water	624.1	
LCS 570-364314/1003	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-364314/4	Lab Control Sample Dup	Total/NA	Water	624.1	

General Chemistry

Analysis Batch: 363880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152593-1	Outfall002_20230914_Grab	Total/NA	Water	SM 2540F	

Prep Batch: 364196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152593-1	Outfall002_20230914_Grab	Total/NA	Water	1664A	
MB 570-364196/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-364196/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-364196/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

Analysis Batch: 364346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152593-1	Outfall002_20230914_Grab	Total/NA	Water	1664A	364196
MB 570-364196/1-A	Method Blank	Total/NA	Water	1664A	364196
LCS 570-364196/2-A	Lab Control Sample	Total/NA	Water	1664A	364196
LCSD 570-364196/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	364196

Analysis Batch: 369502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152593-1	Outfall002_20230914_Grab	Total/NA	Water	SM 2510B	
MB 570-369502/69	Method Blank	Total/NA	Water	SM 2510B	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-152593-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Client Sample ID: Outfall002_20230914_Grab
Lab Sample ID: 570-152593-1
Date Collected: 09/14/23 07:30
Matrix: Water
Date Received: 09/14/23 12:47

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	364314	09/15/23 18:18	B7TT	EET CAL 4
	Instrument ID: GCMSJJ									
Total/NA	Prep	1664A			1021 mL	1000 mL	364196	09/15/23 08:54	UWEZ	EET CAL 4
Total/NA	Analysis	1664A		1			364346	09/15/23 14:00	VB5S	EET CAL 4
	Instrument ID: NO EQUIQ									
Total/NA	Analysis	SM 2510B		1			369502	09/29/23 22:26	ZL4M	EET CAL 4
	Instrument ID: ManSciMantech									
Total/NA	Analysis	SM 2540F		1	1000 mL	1 L	363880	09/14/23 22:20	ZVB7	EET CAL 4
	Instrument ID: NOEQUIP									

Client Sample ID: TB-20230914
Lab Sample ID: 570-152593-3
Date Collected: 09/14/23 07:30
Matrix: Water
Date Received: 09/14/23 12:47

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	364314	09/15/23 17:11	B7TT	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: 570-152593-1
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	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-23

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-152593-1
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: 570-152593-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Grab

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-152593-1	Outfall002_20230914_Grab	Water	09/14/23 07:30	09/14/23 12:47
570-152593-3	TB-20230914	Water	09/14/23 07:30	09/14/23 12:47

152593

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

VLJOUVKT

R R R R

ANALYSIS REQUIRED

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 Routine Outfall [001, 002, 011, 018] Outfall 002 Grab	Field Readings: (Include units) Time of Readings: 0730 DO 8.86 mg/L pH 7.93 pH unit Temp 70.2 °C/°F	
Eurofins Calscience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 **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: 9-14-2023/0730	
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	Oil & Grease (E1664A-HEM)	VOCs - only 1,1-DCE, 1,2-DCA, TCE (E624)	Settleable Solids (E160.5 (SM2540F))	Conductivity (SM2510B / E120.1)	Comments
Outfall 002	Outfall002_20230914_Grab	9/14/2023 0730	WM	1 L Glass Amber	2	HCl	15	No	X				
			WM	40 mL VOA	3	HCl	30	No		X			
			WM	1L Poly	1	None	70	No			X		
			WM	500 mL Poly	1	None	75	No				X	
	Outfall002_20230914_Grab_Extra	9/14/2023 0730	WM	1 L Glass Amber	2	HCl	15	No	H				Hold
			WM	40 mL VOA	3	HCl	30	No		H			Hold
			WM	500 mL Poly	1	None	75	No				H	Hold
Trip Blanks	TB-20230914	9/14/2023 0730	WQ	40 mL VOA	3	HCl	30	No		X			

570-152593 Chain of Custody

Legend: R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	9-14-2023/1110	H,A	EC	9/14/23 1110
EC	9/14/23 1247			9/14/23 1247

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__

1.4/1.7 SCIS

2019-2020 Rainy Season
Version 4

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-152593-1

Login Number: 152593
List Number: 1
Creator: Ovalle, Erick

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	

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 10/2/2023 8:27:39 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Outfall 002 - Comp

JOB NUMBER

570-152959-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

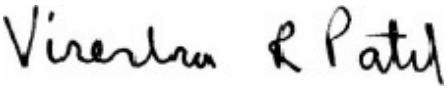
Eurofins Calscience

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



Generated
10/2/2023 8:27:39 AM

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-152959-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Qualifiers

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: 570-152959-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-152959-1

Receipt
The samples were received on 9/15/2023 6:55 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, 2.1º C and 2.4º C.

Receipt Exceptions

The Chain-of-Custody (COC) was incomplete as received. No collection times listed on the COC. Logged in per sample labels.

A Chain-of-Custody (COC) was not received with these samples 570-152959 #1 #2 Outfall002_20230915_Comp (570-152959-1) and Outfall002_20230915_Comp_Extra (570-152959-2).

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: Due to the high concentration of Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 570-364558 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 Filtration: The following samples were not filtered within 15 minutes of sample collection as required by the method: Outfall002_20230915_Comp_F (570-152959-3), Outfall002_20230915_Comp_F (570-152959-3[MS]) and Outfall002_20230915_Comp_F (570-152959-3[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_20230915_Comp_F (570-152959-3). 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 SM 5540C: Sample result concentrations for methylene blue active substances (MBAS) are calculated as LAS, mol. wt. 320.

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 570-366236. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 608.3 PCB PEST LL

Method 608: The following sample required a mercury clean-up, via EPA Method 3660A, to reduce matrix interferences caused by sulfur: Outfall002_20230915_Comp (570-152959-1). The reagent lot number used was: 2895226.
Method 608.3_Pest_LL.

Job ID: 570-152959-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

Method 625: 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 570-366035.
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.
Job ID: 570-152959-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Client Sample ID: Outfall002_20230915_Comp
Lab Sample ID: 570-152959-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	19		1.0	0.36	mg/L	1		300.0	Total/NA
Nitrate as N	0.025	J,DX	0.10	0.020	mg/L	1		300.0	Total/NA
Sulfate - DL	150		10	2.4	mg/L	10		300.0	Total/NA
Nitrate Nitrite as N	0.025	J,DX	0.10	0.020	mg/L	1		NO2NO3 Calc	Total/NA
Copper	1.0	J,DX	2.0	0.32	ug/L	1		200.8	Total Recoverable
Turbidity	1.1		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Dissolved Solids	430		10	8.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	3.2		1.4	1.1	mg/L	1		SM 2540D	Total/NA
Biochemical Oxygen Demand	5.8		2.0	1.0	mg/L	1		SM 5210B	Total/NA
MBAS	0.12	J,DX	0.20	0.050	mg/L	1		SM 5540C	Total/NA

Client Sample ID: Outfall002_20230915_Comp_F
Lab Sample ID: 570-152959-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	0.99	J,DX BU	2.0	0.32	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: Outfall002_20230915_Comp
Lab Sample ID: 570-152959-1
Date Collected: 09/15/23 08:00
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		0.94	0.13	ug/L		09/21/23 05:27	09/25/23 12:19	1
2,4-Dinitrotoluene	ND		0.19	0.11	ug/L		09/21/23 05:27	09/25/23 12:19	1
Bis(2-ethylhexyl) phthalate	ND		4.7	3.4	ug/L		09/21/23 05:27	09/25/23 12:19	1
N-Nitrosodimethylamine	ND		0.19	0.17	ug/L		09/21/23 05:27	09/25/23 12:19	1
Pentachlorophenol	ND		0.94	0.79	ug/L		09/21/23 05:27	09/25/23 12:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*72*		*31 - 120*	*09/21/23 05:27*	*09/25/23 12:19*	*1*
Phenol-d6 (Surr)	*27*		*10 - 120*	*09/21/23 05:27*	*09/25/23 12:19*	*1*
p-Terphenyl-d14 (Surr)	*91*		*45 - 120*	*09/21/23 05:27*	*09/25/23 12:19*	*1*
2,4,6-Tribromophenol	*86*		*28 - 127*	*09/21/23 05:27*	*09/25/23 12:19*	*1*
2-Fluorophenol	*43*		*17 - 120*	*09/21/23 05:27*	*09/25/23 12:19*	*1*
Nitrobenzene-d5	*72*		*27 - 120*	*09/21/23 05:27*	*09/25/23 12:19*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Method: EPA 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall002_20230915_Comp
Lab Sample ID: 570-152959-1
Date Collected: 09/15/23 08:00
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		09/21/23 12:01	09/28/23 23:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*22*		*20 - 139*	*09/21/23 12:01*	*09/28/23 23:05*	*1*
DCB Decachlorobiphenyl (Surr)	*47*		*20 - 154*	*09/21/23 12:01*	*09/28/23 23:05*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Method: EPA 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall002_20230915_Comp
Lab Sample ID: 570-152959-1
Date Collected: 09/15/23 08:00
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**19**		1.0	0.36	mg/L			09/16/23 12:16	1
Nitrite as N	ND		0.10	0.043	mg/L			09/16/23 12:16	1
Nitrate as N	**0.025**	**J,DX**	0.10	0.020	mg/L			09/16/23 12:16	1

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Client Sample ID: Outfall002_20230915_Comp
Lab Sample ID: 570-152959-1
Date Collected: 09/15/23 08:00
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**150**		10	2.4	mg/L			09/16/23 14:14	10

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Method: EPA 314.0 - Perchlorate (IC)

Client Sample ID: Outfall002_20230915_Comp
Lab Sample ID: 570-152959-1
Date Collected: 09/15/23 08:00
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			09/25/23 22:36	1

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Method: EPA NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall002_20230915_Comp
Lab Sample ID: 570-152959-1
Date Collected: 09/15/23 08:00
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.025	J,DX	0.10	0.020	mg/L			09/16/23 12:16	1

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall002_20230915_Comp
Lab Sample ID: 570-152959-1
Date Collected: 09/15/23 08:00
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		09/19/23 06:49	09/19/23 11:35	1
Copper	**1.0**	**J,DX**	2.0	0.32	ug/L		09/19/23 06:49	09/19/23 11:35	1
Lead	ND		1.0	0.12	ug/L		09/19/23 06:49	09/19/23 11:35	1
Selenium	ND		2.0	0.52	ug/L		09/19/23 06:49	09/19/23 11:35	1
Zinc	ND		20	2.8	ug/L		09/19/23 06:49	09/19/23 11:35	1

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall002_20230915_Comp_F
Lab Sample ID: 570-152959-3
Date Collected: 09/15/23 08:00
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	BU	1.0	0.13	ug/L			09/20/23 12:08	1
Copper	**0.99**	**J,DX BU**	2.0	0.32	ug/L			09/20/23 12:08	1
Lead	ND	BU	1.0	0.12	ug/L			09/20/23 12:08	1
Selenium	ND	BU	2.0	0.52	ug/L			09/20/23 12:08	1
Zinc	ND	BU	20	2.8	ug/L			09/20/23 12:08	1

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: Outfall002_20230915_Comp
Lab Sample ID: 570-152959-1
Date Collected: 09/15/23 08:00
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		09/19/23 16:24	09/20/23 15:20	1

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Method: EPA 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall002_20230915_Comp_F
Lab Sample ID: 570-152959-3
Date Collected: 09/15/23 08:00
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.20	0.12	ug/L		09/19/23 19:36	09/20/23 17:44	1

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

General Chemistry

Client Sample ID: Outfall002_20230915_Comp
Lab Sample ID: 570-152959-1
Date Collected: 09/15/23 08:00
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.075	0.029	mg/L		09/27/23 11:00	09/27/23 13:37	1
Cyanide, Total (EPA Kelada 01)	ND		5.0	2.5	ug/L			09/25/23 19:45	1
Turbidity (SM 2130B)	**1.1**		0.05	0.05	NTU			09/16/23 15:03	1
Total Dissolved Solids (SM 2540C)	**430**		10	8.7	mg/L			09/22/23 16:12	1
Total Suspended Solids (SM 2540D)	**3.2**		1.4	1.1	mg/L			09/21/23 14:41	1
Biochemical Oxygen Demand (SM 5210B)	**5.8**		2.0	1.0	mg/L		09/16/23 09:06	09/21/23 12:00	1
MBAS (SM 5540C)	**0.12**	**J,DX**	0.20	0.050	mg/L		09/16/23 11:55	09/16/23 16:25	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Job ID: 570-152959-1

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)
570-152959-1	Outfall002_20230915_Comp	72	27	91	86	43	72
LCS 570-366035/2-A	Lab Control Sample	77	40	85	85	62	75
LCSD 570-366035/3-A	Lab Control Sample Dup	79	39	83	68	50	75
MB 570-366035/1-A	Method Blank	58	26	69	54	40	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)	
		TCX1	DCB1
Lab Sample ID	Client Sample ID	(20-139)	(20-154)
570-152959-1	Outfall002_20230915_Comp	22	47

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)	
		TCX2	DCB2
Lab Sample ID	Client Sample ID	(20-139)	(20-154)
LCS 570-366236/2-A	Lab Control Sample	65	63

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)	
		TCX2	DCB1
Lab Sample ID	Client Sample ID	(20-139)	(20-154)
LCSD 570-366236/3-A	Lab Control Sample Dup	74	69
MB 570-366236/1-A	Method Blank	68	69

Surrogate Legend

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

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-366035/1-A
Matrix: Water
Analysis Batch: 367264

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 366035

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.14	ug/L		09/21/23 05:27	09/25/23 11:17	1
2,4-Dinitrotoluene	ND		0.20	0.12	ug/L		09/21/23 05:27	09/25/23 11:17	1
Bis(2-ethylhexyl) phthalate	ND		5.0	3.6	ug/L		09/21/23 05:27	09/25/23 11:17	1
N-Nitrosodimethylamine	ND		0.20	0.19	ug/L		09/21/23 05:27	09/25/23 11:17	1
Pentachlorophenol	ND		1.0	0.84	ug/L		09/21/23 05:27	09/25/23 11:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*58*		*31 - 120*	*09/21/23 05:27*	*09/25/23 11:17*	*1*
Phenol-d6 (Surr)	*26*		*10 - 120*	*09/21/23 05:27*	*09/25/23 11:17*	*1*
p-Terphenyl-d14 (Surr)	*69*		*45 - 120*	*09/21/23 05:27*	*09/25/23 11:17*	*1*
2,4,6-Tribromophenol	*54*		*28 - 127*	*09/21/23 05:27*	*09/25/23 11:17*	*1*
2-Fluorophenol	*40*		*17 - 120*	*09/21/23 05:27*	*09/25/23 11:17*	*1*
Nitrobenzene-d5	*62*		*27 - 120*	*09/21/23 05:27*	*09/25/23 11:17*	*1*

Lab Sample ID: LCS 570-366035/2-A
Matrix: Water
Analysis Batch: 367264

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 366035

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4,6-Trichlorophenol	20.0	14.3		ug/L		71	52 - 129
2,4-Dinitrotoluene	20.0	17.5		ug/L		88	48 - 127
Bis(2-ethylhexyl) phthalate	20.0	17.0		ug/L		85	29 - 137
N-Nitrosodimethylamine	20.0	11.4		ug/L		57	20 - 120
Pentachlorophenol	20.0	13.4		ug/L		67	38 - 152

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*77*		*31 - 120*
Phenol-d6 (Surr)	*40*		*10 - 120*
p-Terphenyl-d14 (Surr)	*85*		*45 - 120*
2,4,6-Tribromophenol	*85*		*28 - 127*
2-Fluorophenol	*62*		*17 - 120*
Nitrobenzene-d5	*75*		*27 - 120*

Lab Sample ID: LCSD 570-366035/3-A
Matrix: Water
Analysis Batch: 367264

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 366035

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4,6-Trichlorophenol	20.0	10.8		ug/L		54	52 - 129	28	35
2,4-Dinitrotoluene	20.0	16.2		ug/L		81	48 - 127	8	25
Bis(2-ethylhexyl) phthalate	20.0	15.8		ug/L		79	29 - 137	7	50
N-Nitrosodimethylamine	20.0	12.0		ug/L		60	20 - 120	5	21
Pentachlorophenol	20.0	8.34		ug/L		42	38 - 152	47	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*79*		*31 - 120*
Phenol-d6 (Surr)	*39*		*10 - 120*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-366035/3-A
Matrix: Water
Analysis Batch: 367264

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 366035

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
p-Terphenyl-d14 (Surr)	*83*		*45 - 120*
2,4,6-Tribromophenol	*68*		*28 - 127*
2-Fluorophenol	*50*		*17 - 120*
Nitrobenzene-d5	*75*		*27 - 120*

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-366236/1-A
Matrix: Water
Analysis Batch: 368569

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 366236

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		09/21/23 12:01	09/28/23 20:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*68*		*20 - 139*	*09/21/23 12:01*	*09/28/23 20:48*	*1*
DCB Decachlorobiphenyl (Surr)	*69*		*20 - 154*	*09/21/23 12:01*	*09/28/23 20:48*	*1*

Lab Sample ID: LCS 570-366236/2-A
Matrix: Water
Analysis Batch: 368569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 366236

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
alpha-BHC	0.0333	0.0281		ug/L		84	37 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*65*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*63*		*20 - 154*

Lab Sample ID: LCSD 570-366236/3-A
Matrix: Water
Analysis Batch: 368569

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 366236

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
alpha-BHC	0.0333	0.0333		ug/L		100	37 - 140	17	36

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*74*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*69*		*20 - 154*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-364557/5
Matrix: Water
Analysis Batch: 364557

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			09/16/23 07:53	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 570-364557/5
Matrix: Water
Analysis Batch: 364557

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.10	0.020	mg/L			09/16/23 07:53	1

Lab Sample ID: LCS 570-364557/6
Matrix: Water
Analysis Batch: 364557

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	2.59		mg/L		104	90 - 110
Nitrate as N	5.00	5.05		mg/L		101	90 - 110

Lab Sample ID: LCSD 570-364557/7
Matrix: Water
Analysis Batch: 364557

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	2.59		mg/L		104	90 - 110	0	15
Nitrate as N	5.00	5.04		mg/L		101	90 - 110	0	15

Lab Sample ID: MB 570-364558/5
Matrix: Water
Analysis Batch: 364558

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			09/16/23 07:53	1
Sulfate	ND		1.0	0.24	mg/L			09/16/23 07:53	1

Lab Sample ID: LCS 570-364558/6
Matrix: Water
Analysis Batch: 364558

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	51.6		mg/L		103	90 - 110
Sulfate	50.0	49.5		mg/L		99	90 - 110

Lab Sample ID: LCSD 570-364558/7
Matrix: Water
Analysis Batch: 364558

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	51.6		mg/L		103	90 - 110	0	15
Sulfate	50.0	49.4		mg/L		99	90 - 110	0	15

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-367441/7
Matrix: Water
Analysis Batch: 367441

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			09/25/23 18:46	1

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: LCS 570-367441/8
Matrix: Water
Analysis Batch: 367441

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	23.4		ug/L		93	85 - 115		

Lab Sample ID: LCSD 570-367441/9
Matrix: Water
Analysis Batch: 367441

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	22.8		ug/L		91	85 - 115	2	15

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 570-365233/1-A
Matrix: Water
Analysis Batch: 365376

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 365233

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		09/19/23 06:49	09/19/23 10:36	1
Copper	ND		2.0	0.32	ug/L		09/19/23 06:49	09/19/23 10:36	1
Lead	ND		1.0	0.12	ug/L		09/19/23 06:49	09/19/23 10:36	1
Selenium	ND		2.0	0.52	ug/L		09/19/23 06:49	09/19/23 10:36	1
Zinc	3.28	J,DX	20	2.8	ug/L		09/19/23 06:49	09/19/23 10:36	1

Lab Sample ID: LCS 570-365233/2-A
Matrix: Water
Analysis Batch: 365376

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 365233

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Cadmium			80.0	79.2		ug/L		99	85 - 115		
Copper			80.0	78.7		ug/L		98	85 - 115		
Lead			80.0	76.2		ug/L		95	85 - 115		
Selenium			80.0	78.1		ug/L		98	85 - 115		
Zinc			80.0	79.0		ug/L		99	85 - 115		

Lab Sample ID: LCSD 570-365233/3-A
Matrix: Water
Analysis Batch: 365376

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 365233

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium			80.0	77.6		ug/L		97	85 - 115	2	20
Copper			80.0	78.2		ug/L		98	85 - 115	1	20
Lead			80.0	75.4		ug/L		94	85 - 115	1	20
Selenium			80.0	76.5		ug/L		96	85 - 115	2	20
Zinc			80.0	79.4		ug/L		99	85 - 115	0	20

Lab Sample ID: 570-152959-1 MS
Matrix: Water
Analysis Batch: 365401

Client Sample ID: Outfall002_20230915_Comp
Prep Type: Total Recoverable
Prep Batch: 365233

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Cadmium	ND		80.0	75.5		ug/L		94	80 - 120		

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-152959-1 MS
Matrix: Water
Analysis Batch: 365401

Client Sample ID: Outfall002_20230915_Comp
Prep Type: Total Recoverable
Prep Batch: 365233

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Copper	1.0	J,DX	80.0	76.5		ug/L		94	80 - 120
Lead	ND		80.0	73.4		ug/L		92	80 - 120
Selenium	ND		80.0	75.7		ug/L		95	80 - 120
Zinc	ND		80.0	71.6		ug/L		89	80 - 120

Lab Sample ID: 570-152959-1 MSD
Matrix: Water
Analysis Batch: 365401

Client Sample ID: Outfall002_20230915_Comp
Prep Type: Total Recoverable
Prep Batch: 365233

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	ND		80.0	75.3		ug/L		94	80 - 120	0	20
Copper	1.0	J,DX	80.0	78.3		ug/L		97	80 - 120	2	20
Lead	ND		80.0	73.8		ug/L		92	80 - 120	1	20
Selenium	ND		80.0	76.6		ug/L		96	80 - 120	1	20
Zinc	ND		80.0	72.3		ug/L		90	80 - 120	1	20

Lab Sample ID: MB 570-365740/1-A
Matrix: Water
Analysis Batch: 365857

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			09/20/23 11:54	1
Copper	ND		2.0	0.32	ug/L			09/20/23 11:54	1
Lead	ND		1.0	0.12	ug/L			09/20/23 11:54	1
Selenium	ND		2.0	0.52	ug/L			09/20/23 11:54	1
Zinc	ND		20	2.8	ug/L			09/20/23 11:54	1

Lab Sample ID: LCS 570-365740/2-A
Matrix: Water
Analysis Batch: 365857

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	80.0	74.2		ug/L		93	85 - 115
Copper	80.0	74.5		ug/L		93	85 - 115
Lead	80.0	72.2		ug/L		90	85 - 115
Selenium	80.0	74.8		ug/L		93	85 - 115
Zinc	80.0	71.2		ug/L		89	85 - 115

Lab Sample ID: LCSD 570-365740/3-A
Matrix: Water
Analysis Batch: 365857

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	77.5		ug/L		97	85 - 115	4	20
Copper	80.0	77.0		ug/L		96	85 - 115	3	20
Lead	80.0	74.0		ug/L		93	85 - 115	3	20
Selenium	80.0	77.4		ug/L		97	85 - 115	3	20
Zinc	80.0	74.7		ug/L		93	85 - 115	5	20

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-152959-3 MS — **Client Sample ID: Outfall002_20230915_Comp_F**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 365857

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Cadmium	ND	BU	80.0	69.5	BU	ug/L		87	80 - 120		
Copper	0.99	J,DX BU	80.0	70.5	BU	ug/L		87	80 - 120		
Lead	ND	BU	80.0	67.6	BU	ug/L		84	80 - 120		
Selenium	ND	BU	80.0	76.5	BU	ug/L		96	80 - 120		
Zinc	ND	BU	80.0	68.1	BU	ug/L		85	80 - 120		

Lab Sample ID: 570-152959-3 MSD — **Client Sample ID: Outfall002_20230915_Comp_F**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 365857

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	ND	BU	80.0	69.0	BU	ug/L		86	80 - 120	1	20
Copper	0.99	J,DX BU	80.0	69.9	BU	ug/L		86	80 - 120	1	20
Lead	ND	BU	80.0	66.2	BU	ug/L		83	80 - 120	2	20
Selenium	ND	BU	80.0	74.0	BU	ug/L		93	80 - 120	3	20
Zinc	ND	BU	80.0	66.0	BU	ug/L		82	80 - 120	3	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-365495/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 365874 — **Prep Batch: 365495**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		09/19/23 16:24	09/20/23 15:09	1

Lab Sample ID: LCS 570-365495/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 365874 — **Prep Batch: 365495**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury			8.00	7.79		ug/L		97	85 - 115		

Lab Sample ID: LCSD 570-365495/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 365874 — **Prep Batch: 365495**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury			8.00	7.70		ug/L		96	85 - 115	1	10

Lab Sample ID: 570-152959-1 MS — **Client Sample ID: Outfall002_20230915_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 365874 — **Prep Batch: 365495**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury	ND		8.00	7.87		ug/L		98	85 - 115		

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 570-152959-1 MSD — **Client Sample ID: Outfall002_20230915_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 365874 — **Prep Batch: 365495**

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	3	10

Lab Sample ID: MB 570-365587/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 365874 — **Prep Batch: 365588**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		09/19/23 19:36	09/20/23 17:32	1

Lab Sample ID: LCS 570-365587/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 365874 — **Prep Batch: 365588**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	7.71		ug/L		96	85 - 115

Lab Sample ID: LCSD 570-365587/3-B — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 365874 — **Prep Batch: 365588**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	7.86		ug/L		98	85 - 115	2	10

Lab Sample ID: 570-152959-3 MS — **Client Sample ID: Outfall002_20230915_Comp_F**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 365874 — **Prep Batch: 365588**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND	BU	8.00	8.00	BU	ug/L		100	85 - 115

Lab Sample ID: 570-152959-3 MSD — **Client Sample ID: Outfall002_20230915_Comp_F**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 365874 — **Prep Batch: 365588**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND	BU	8.00	7.98	BU	ug/L		100	85 - 115	0	10

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 570-368214/5-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 368219 — **Prep Batch: 368214**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.075	0.029	mg/L		09/27/23 11:00	09/27/23 13:22	1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 570-368214/6-A
Matrix: Water
Analysis Batch: 368219

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 368214

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.500	0.494		mg/L		99	90 - 110

Lab Sample ID: LCSD 570-368214/7-A
Matrix: Water
Analysis Batch: 368219

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 368214

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.500	0.489		mg/L		98	90 - 110	1	20

Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate

Lab Sample ID: MB 570-367633/11
Matrix: Water
Analysis Batch: 367633

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			09/25/23 13:54	1

Lab Sample ID: MB 570-367633/44
Matrix: Water
Analysis Batch: 367633

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			09/25/23 18:10	1

Lab Sample ID: LCS 570-367633/12
Matrix: Water
Analysis Batch: 367633

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	261		ug/L		105	90 - 110

Lab Sample ID: LCS 570-367633/45
Matrix: Water
Analysis Batch: 367633

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	231		ug/L		92	90 - 110

Lab Sample ID: LCSD 570-367633/13
Matrix: Water
Analysis Batch: 367633

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	248		ug/L		99	90 - 110	5	20

Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate (Continued)

Lab Sample ID: LCSD 570-367633/46
Matrix: Water
Analysis Batch: 367633

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	240		ug/L		96	90 - 110	4	20

Lab Sample ID: MRL 570-367633/10
Matrix: Water
Analysis Batch: 367633

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	4.98	J,DX	ug/L		100	50 - 150

Lab Sample ID: MRL 570-367633/47
Matrix: Water
Analysis Batch: 367633

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	4.68	J,DX	ug/L		94	50 - 150

Method: SM 2130B - Turbidity

Lab Sample ID: LCSSRM 570-364661/1
Matrix: Water
Analysis Batch: 364661

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		99.0	99.0 - 101.0

Lab Sample ID: LCSSRM 570-364661/2
Matrix: Water
Analysis Batch: 364661

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		101.0	99.0 - 101.0

Lab Sample ID: LCSSRM 570-364661/3
Matrix: Water
Analysis Batch: 364661

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 570-366757/1
Matrix: Water
Analysis Batch: 366757

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			09/22/23 16:12	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 570-366757/2
Matrix: Water
Analysis Batch: 366757

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	938		mg/L		94	84 - 108

Lab Sample ID: LCSD 570-366757/3
Matrix: Water
Analysis Batch: 366757

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	940		mg/L		94	84 - 108	0	10

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-366302/1
Matrix: Water
Analysis Batch: 366302

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			09/21/23 14:41	1

Lab Sample ID: LCS 570-366302/2
Matrix: Water
Analysis Batch: 366302

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	116		mg/L		116	77 - 116

Lab Sample ID: LCSD 570-366302/3
Matrix: Water
Analysis Batch: 366302

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	105		mg/L		105	77 - 116	10	10

Method: SM 5210B - BOD, 5-Day

Lab Sample ID: LCS 570-364617/2-A
Matrix: Water
Analysis Batch: 366239

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 364617

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	199	183		mg/L		92	84.6 - 115.4

Lab Sample ID: USB 570-366239/2
Matrix: Water
Analysis Batch: 366239

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			09/21/23 10:01	1

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 570-364660/5-A
Matrix: Water
Analysis Batch: 364691

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 364660

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.20	0.050	mg/L		09/16/23 11:55	09/16/23 16:20	1

Lab Sample ID: LCS 570-364660/6-A
Matrix: Water
Analysis Batch: 364691

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 364660

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
MBAS			0.500	0.496		mg/L		99	83 - 122		

Lab Sample ID: LCSD 570-364660/7-A
Matrix: Water
Analysis Batch: 364691

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 364660

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS			0.500	0.493		mg/L		99	83 - 122	1	10

Lab Sample ID: 570-152959-1 MS
Matrix: Water
Analysis Batch: 364691

Client Sample ID: Outfall002_20230915_Comp
Prep Type: Total/NA
Prep Batch: 364660

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
MBAS	0.12	J,DX	0.500	0.635		mg/L		103	64 - 141		

Lab Sample ID: 570-152959-1 MSD
Matrix: Water
Analysis Batch: 364691

Client Sample ID: Outfall002_20230915_Comp
Prep Type: Total/NA
Prep Batch: 364660

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS	0.12	J,DX	0.500	0.651		mg/L		106	64 - 141	2	10

GC/MS Semi VOA

Prep Batch: 366035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	625	
MB 570-366035/1-A	Method Blank	Total/NA	Water	625	
LCS 570-366035/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-366035/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 367264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	625.1 SIM	366035
MB 570-366035/1-A	Method Blank	Total/NA	Water	625.1 SIM	366035
LCS 570-366035/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	366035
LCSD 570-366035/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	366035

GC Semi VOA

Prep Batch: 366236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	608	
MB 570-366236/1-A	Method Blank	Total/NA	Water	608	
LCS 570-366236/2-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-366236/3-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 368569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	608.3	366236
MB 570-366236/1-A	Method Blank	Total/NA	Water	608.3	366236
LCS 570-366236/2-A	Lab Control Sample	Total/NA	Water	608.3	366236
LCSD 570-366236/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	366236

HPLC/IC

Analysis Batch: 364557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	300.0	
MB 570-364557/5	Method Blank	Total/NA	Water	300.0	
LCS 570-364557/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-364557/7	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 364558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	300.0	
570-152959-1 - DL	Outfall002_20230915_Comp	Total/NA	Water	300.0	
MB 570-364558/5	Method Blank	Total/NA	Water	300.0	
LCS 570-364558/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-364558/7	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 365387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	NO2NO3 Calc	

Analysis Batch: 367441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	314.0	

HPLC/IC (Continued)

Analysis Batch: 367441 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-367441/7	Method Blank	Total/NA	Water	314.0	
LCS 570-367441/8	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-367441/9	Lab Control Sample Dup	Total/NA	Water	314.0	

Metals

Prep Batch: 365233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total Recoverable	Water	200.8	
MB 570-365233/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-365233/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-365233/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-152959-1 MS	Outfall002_20230915_Comp	Total Recoverable	Water	200.8	
570-152959-1 MSD	Outfall002_20230915_Comp	Total Recoverable	Water	200.8	

Analysis Batch: 365376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-365233/1-A	Method Blank	Total Recoverable	Water	200.8	365233
LCS 570-365233/2-A	Lab Control Sample	Total Recoverable	Water	200.8	365233
LCSD 570-365233/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	365233

Analysis Batch: 365401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total Recoverable	Water	200.8	365233
570-152959-1 MS	Outfall002_20230915_Comp	Total Recoverable	Water	200.8	365233
570-152959-1 MSD	Outfall002_20230915_Comp	Total Recoverable	Water	200.8	365233

Prep Batch: 365495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	245.1	
MB 570-365495/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-365495/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-365495/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-152959-1 MS	Outfall002_20230915_Comp	Total/NA	Water	245.1	
570-152959-1 MSD	Outfall002_20230915_Comp	Total/NA	Water	245.1	

Filtration Batch: 365587

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-3	Outfall002_20230915_Comp_F	Dissolved	Water	Filtration	
MB 570-365587/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-365587/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-365587/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-152959-3 MS	Outfall002_20230915_Comp_F	Dissolved	Water	Filtration	
570-152959-3 MSD	Outfall002_20230915_Comp_F	Dissolved	Water	Filtration	

Prep Batch: 365588

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-3	Outfall002_20230915_Comp_F	Dissolved	Water	245.1	365587
MB 570-365587/1-B	Method Blank	Dissolved	Water	245.1	365587
LCS 570-365587/2-B	Lab Control Sample	Dissolved	Water	245.1	365587
LCSD 570-365587/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	365587

Metals (Continued)

Prep Batch: 365588 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-3 MS	Outfall002_20230915_Comp_F	Dissolved	Water	245.1	365587
570-152959-3 MSD	Outfall002_20230915_Comp_F	Dissolved	Water	245.1	365587

Filtration Batch: 365740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-3	Outfall002_20230915_Comp_F	Dissolved	Water	Filtration	
MB 570-365740/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-365740/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-365740/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-152959-3 MS	Outfall002_20230915_Comp_F	Dissolved	Water	Filtration	
570-152959-3 MSD	Outfall002_20230915_Comp_F	Dissolved	Water	Filtration	

Analysis Batch: 365857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-3	Outfall002_20230915_Comp_F	Dissolved	Water	200.8	365740
MB 570-365740/1-A	Method Blank	Dissolved	Water	200.8	365740
LCS 570-365740/2-A	Lab Control Sample	Dissolved	Water	200.8	365740
LCSD 570-365740/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	365740
570-152959-3 MS	Outfall002_20230915_Comp_F	Dissolved	Water	200.8	365740
570-152959-3 MSD	Outfall002_20230915_Comp_F	Dissolved	Water	200.8	365740

Analysis Batch: 365874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	245.1	365495
570-152959-3	Outfall002_20230915_Comp_F	Dissolved	Water	245.1	365588
MB 570-365495/1-A	Method Blank	Total/NA	Water	245.1	365495
MB 570-365587/1-B	Method Blank	Dissolved	Water	245.1	365588
LCS 570-365495/2-A	Lab Control Sample	Total/NA	Water	245.1	365495
LCS 570-365587/2-B	Lab Control Sample	Dissolved	Water	245.1	365588
LCSD 570-365495/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	365495
LCSD 570-365587/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	365588
570-152959-1 MS	Outfall002_20230915_Comp	Total/NA	Water	245.1	365495
570-152959-1 MSD	Outfall002_20230915_Comp	Total/NA	Water	245.1	365495
570-152959-3 MS	Outfall002_20230915_Comp_F	Dissolved	Water	245.1	365588
570-152959-3 MSD	Outfall002_20230915_Comp_F	Dissolved	Water	245.1	365588

General Chemistry

Prep Batch: 364617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	BOD Prep	
LCS 570-364617/2-A	Lab Control Sample	Total/NA	Water	BOD Prep	

Prep Batch: 364660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	SM 5540C	
MB 570-364660/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-364660/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-364660/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	
570-152959-1 MS	Outfall002_20230915_Comp	Total/NA	Water	SM 5540C	
570-152959-1 MSD	Outfall002_20230915_Comp	Total/NA	Water	SM 5540C	

General Chemistry

Analysis Batch: 364661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	SM 2130B	
LCSSRM 570-364661/1	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-364661/2	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-364661/3	Lab Control Sample	Total/NA	Water	SM 2130B	

Analysis Batch: 364691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	SM 5540C	364660
MB 570-364660/5-A	Method Blank	Total/NA	Water	SM 5540C	364660
LCS 570-364660/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	364660
LCSD 570-364660/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	364660
570-152959-1 MS	Outfall002_20230915_Comp	Total/NA	Water	SM 5540C	364660
570-152959-1 MSD	Outfall002_20230915_Comp	Total/NA	Water	SM 5540C	364660

Analysis Batch: 366239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	SM 5210B	364617
USB 570-366239/2	Method Blank	Total/NA	Water	SM 5210B	
LCS 570-364617/2-A	Lab Control Sample	Total/NA	Water	SM 5210B	364617

Analysis Batch: 366302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	SM 2540D	
MB 570-366302/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-366302/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-366302/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 366757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	SM 2540C	
MB 570-366757/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 570-366757/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 570-366757/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

Analysis Batch: 367633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	Kelada 01	
MB 570-367633/11	Method Blank	Total/NA	Water	Kelada 01	
MB 570-367633/44	Method Blank	Total/NA	Water	Kelada 01	
LCS 570-367633/12	Lab Control Sample	Total/NA	Water	Kelada 01	
LCS 570-367633/45	Lab Control Sample	Total/NA	Water	Kelada 01	
LCSD 570-367633/13	Lab Control Sample Dup	Total/NA	Water	Kelada 01	
LCSD 570-367633/46	Lab Control Sample Dup	Total/NA	Water	Kelada 01	
MRL 570-367633/10	Lab Control Sample	Total/NA	Water	Kelada 01	
MRL 570-367633/47	Lab Control Sample	Total/NA	Water	Kelada 01	

Prep Batch: 368214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	Distill/Ammonia	
MB 570-368214/5-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 570-368214/6-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	

General Chemistry (Continued)

Prep Batch: 368214 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 570-368214/7-A	Lab Control Sample Dup	Total/NA	Water	Distill/Ammonia	

Analysis Batch: 368219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	350.1	368214
MB 570-368214/5-A	Method Blank	Total/NA	Water	350.1	368214
LCS 570-368214/6-A	Lab Control Sample	Total/NA	Water	350.1	368214
LCSD 570-368214/7-A	Lab Control Sample Dup	Total/NA	Water	350.1	368214

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Client Sample ID: Outfall002_20230915_Comp
Lab Sample ID: 570-152959-1
Date Collected: 09/15/23 08:00
Matrix: Water
Date Received: 09/15/23 18:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			1065.1 mL	2 mL	366035	09/21/23 05:27	H1SH	EET CAL 4
Total/NA	Analysis	625.1 SIM		1	1 mL	1 mL	367264	09/25/23 12:19	ULLI	EET CAL 4
	Instrument ID: GCMSJJJ									
Total/NA	Prep	608			1500 mL	1 mL	366236	09/21/23 12:01	H1SH	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	368569	09/28/23 23:05	N5Y3	EET CAL 4
	Instrument ID: GC54A									
Total/NA	Analysis	300.0		1	4 mL	4 mL	364557	09/16/23 12:16	UIP1	EET CAL 4
	Instrument ID: IC15									
Total/NA	Analysis	300.0		1	4 mL	4 mL	364558	09/16/23 12:16	UIP1	EET CAL 4
	Instrument ID: IC15									
Total/NA	Analysis	300.0	DL	10	4 mL	4 mL	364558	09/16/23 14:14	UIP1	EET CAL 4
	Instrument ID: IC15									
Total/NA	Analysis	314.0		1	4 mL	4 mL	367441	09/25/23 22:36	YO8L	EET CAL 4
	Instrument ID: IC13									
Total/NA	Analysis	NO2NO3 Calc		1			365387	09/16/23 12:16	WH6J	EET CAL 4
	Instrument ID: NOEQUIP									
Total Recoverable	Prep	200.8			50 mL	50 mL	365233	09/19/23 06:49	JP8N	EET CAL 4
Total Recoverable	Analysis	200.8		1			365401	09/19/23 11:35	Y2WS	EET CAL 4
	Instrument ID: ICPMS09									
Total/NA	Prep	245.1			25 mL	50 mL	365495	09/19/23 16:24	EV3M	EET CAL 4
Total/NA	Analysis	245.1		1			365874	09/20/23 15:20	C0YH	EET CAL 4
	Instrument ID: HG7									
Total/NA	Prep	Distill/Ammonia			5 mL	5 mL	368214	09/27/23 11:00	UXCH	EET CAL 4
Total/NA	Analysis	350.1		1	5 mL	5 mL	368219	09/27/23 13:37	UXCH	EET CAL 4
	Instrument ID: ACA2									
Total/NA	Analysis	Kelada 01		1	8 mL	8 mL	367633	09/25/23 19:45	GG0B	EET CAL 4
	Instrument ID: LACHAT01									
Total/NA	Analysis	SM 2130B		1			364661	09/16/23 15:03	ZVB7	EET CAL 4
	Instrument ID: TUR4									
Total/NA	Analysis	SM 2540C		1	100 mL	1000 mL	366757	09/22/23 16:12	ZL7L	EET CAL 4
	Instrument ID: BAL100									
Total/NA	Analysis	SM 2540D		1	725 mL	1000 mL	366302	09/21/23 14:41	JB	EET CAL 4
	Instrument ID: BAL71									
Total/NA	Prep	BOD Prep					364617	09/16/23 09:06	TN8Z	EET CAL 4
Total/NA	Analysis	SM 5210B		1	300 mL	300 mL	366239	09/21/23 12:00	U7UR	EET CAL 4
	Instrument ID: BOD3									
Total/NA	Prep	SM 5540C			100 mL	100 mL	364660	09/16/23 11:55	ZVB7	EET CAL 4
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	364691	09/16/23 16:25	ZVB7	EET CAL 4
	Instrument ID: UV8									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Client Sample ID: Outfall002_20230915_Comp_F
Lab Sample ID: 570-152959-3

Date Collected: 09/15/23 08:00
Matrix: Water
Date Received: 09/15/23 18:55

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	365740	09/20/23 09:29	JP8N	EET CAL 4
Dissolved	Analysis	200.8		1			365857	09/20/23 12:08	Y2WS	EET CAL 4
	Instrument ID: ICPMS09									
Dissolved	Filtration	Filtration			25 mL	25 mL	365587	09/19/23 19:33	EV3M	EET CAL 4
Dissolved	Prep	245.1			25 mL	50 mL	365588	09/19/23 19:36	EV3M	EET CAL 4
Dissolved	Analysis	245.1		1			365874	09/20/23 17:44	C0YH	EET CAL 4
	Instrument ID: HG7									

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: 570-152959-1
Project/Site: Boeing NPDES SSFL - 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	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-23

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-1
Project/Site: Boeing NPDES SSFL - 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
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.
Job ID: 570-152959-1
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-152959-1	Outfall002_20230915_Comp	Water	09/15/23 08:00	09/15/23 18:55
570-152959-3	Outfall002_20230915_Comp_F	Water	09/15/23 08:00	09/15/23 18:55

H4MW

oc: 570
152959

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-152959 Chain of Custody

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 Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 **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	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-, SO_4, 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	(1) Outfall002_20230915_Comp	9/15/2023	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 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										
	(2) Outfall002_20230915_Comp_Extra	9/15/2023	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:
Mark Dominick	9.15.2023/ 1100		[signature] EC	9/15/23 1100
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	9/15/23	1855	[signature] EC	9-15-23 18:55
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__

1.4/1.5 2.0/2.1 2.3/2.4 scr2

2019-2020 Rainy Season
Version 4

152959

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

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

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
Routine 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: (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)	(C)	Comments
Outfall 002	(3) Outfall002_20230915_Comp_F	9/15/2023	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.
	(1) Outfall002_20230915_Comp	9/15/2023	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]	9-15-2023 / 1100	H&A	[signature] EC	9/18/23 1100
[signature] EC	9/15/23 1855		[signature] EC	9-15-23 18:55

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

10/2/2023

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: 570-288954.1
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 #: 570-152959-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 10/20/2023			
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 - 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:												
Outfall002_20230915_Comp (570-152959-1)	9/15/23	08:00 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: 9/19/23 1320	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: 570-289057.1
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 #: 570-152959-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 10/9/2023			
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 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	1613B/1613B_Sox_Sep_P (MOD) Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20230915_Comp (570-152959-1)	9/15/23	08:00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall002_20230915_Comp_Extra (570-152959-2)	9/15/23	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*	***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
[signature]	9/19/23 1319				
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: 570-152959-1

Login Number: 152959
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	Refer to Job Narrative for details.
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 9/28/2023 3:10:36 PM

JOB DESCRIPTION

Boeing NPDES SSFL - Outfall 002 - Comp

JOB NUMBER

570-152959-2

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

myEOL

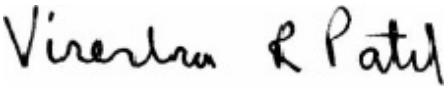
Eurofins Calscience

Job Notes

This report 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
9/28/2023 3:10:36 PM

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-152959-2
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

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

Job ID: 570-152959-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-152959-2

Receipt
The samples were received on 9/15/2023 6:55 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, 2.1º C and 2.4º C.

Receipt Exceptions

The Chain-of-Custody (COC) was incomplete as received. No collection times listed on the COC. Logged in per sample labels.

A Chain-of-Custody (COC) was not received with these samples 570-152959 #1 #2 Outfall002_20230915_Comp (570-152959-1) and Outfall002_20230915_Comp_Extra (570-152959-2).

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument DFS 1 exceeded this criteria: Outfall002_20230915_Comp (570-152959-1), (CCV 320-709187/2), (LCS 320-708569/2-A), (LCSD 320-708569/3-A) and (MB 320-708569/1-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: 570-152959-2
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Client Sample ID: Outfall002_20230915_Comp
Lab Sample ID: 570-152959-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000025	J,DX MB	0.000050	0.0000011	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000040	J,DX MB	0.000050	0.00000031	ug/L	1		1613B	Total/NA
OCDD	0.000024	J,DX MB	0.000099	0.0000010	ug/L	1		1613B	Total/NA
OCDF	0.0000019	J,DX MB q	0.000099	0.00000071	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000025	J,DX MB	0.000050	0.0000011	ug/L	1		1613B	Total/NA
Total HpCDD	0.0000090	J,DX MB q	0.000050	0.00000031	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-2
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall002_20230915_Comp
Lab Sample ID: 570-152959-1
Date Collected: 09/15/23 08:00
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000099	0.00000085	ug/L		09/25/23 08:02	09/27/23 21:35	1
2,3,7,8-TCDF	ND		0.0000099	0.00000056	ug/L		09/25/23 08:02	09/27/23 21:35	1
1,2,3,7,8-PeCDD	ND		0.000050	0.0000012	ug/L		09/25/23 08:02	09/27/23 21:35	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000065	ug/L		09/25/23 08:02	09/27/23 21:35	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000082	ug/L		09/25/23 08:02	09/27/23 21:35	1
1,2,3,4,7,8-HxCDD	**0.0000025**	**J,DX MB**	0.000050	0.0000011	ug/L		09/25/23 08:02	09/27/23 21:35	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.0000012	ug/L		09/25/23 08:02	09/27/23 21:35	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.0000011	ug/L		09/25/23 08:02	09/27/23 21:35	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.00000066	ug/L		09/25/23 08:02	09/27/23 21:35	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.00000062	ug/L		09/25/23 08:02	09/27/23 21:35	1
1,2,3,7,8,9-HxCDF	ND		0.000050	0.00000062	ug/L		09/25/23 08:02	09/27/23 21:35	1
2,3,4,6,7,8-HxCDF	ND		0.000050	0.00000060	ug/L		09/25/23 08:02	09/27/23 21:35	1
1,2,3,4,6,7,8-HpCDD	**0.0000040**	**J,DX MB**	0.000050	0.00000031	ug/L		09/25/23 08:02	09/27/23 21:35	1
1,2,3,4,6,7,8-HpCDF	ND		0.000050	0.00000062	ug/L		09/25/23 08:02	09/27/23 21:35	1
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.00000064	ug/L		09/25/23 08:02	09/27/23 21:35	1
OCDD	**0.000024**	**J,DX MB**	0.000099	0.0000010	ug/L		09/25/23 08:02	09/27/23 21:35	1
OCDF	**0.0000019**	**J,DX MB q**	0.000099	0.00000071	ug/L		09/25/23 08:02	09/27/23 21:35	1
Total TCDD	ND		0.0000099	0.00000085	ug/L		09/25/23 08:02	09/27/23 21:35	1
Total TCDF	ND		0.0000099	0.00000056	ug/L		09/25/23 08:02	09/27/23 21:35	1
Total PeCDD	ND		0.000050	0.0000012	ug/L		09/25/23 08:02	09/27/23 21:35	1
Total PeCDF	ND		0.000050	0.00000082	ug/L		09/25/23 08:02	09/27/23 21:35	1
Total HxCDD	**0.0000025**	**J,DX MB**	0.000050	0.0000011	ug/L		09/25/23 08:02	09/27/23 21:35	1
Total HxCDF	ND		0.000050	0.00000066	ug/L		09/25/23 08:02	09/27/23 21:35	1
Total HpCDD	**0.0000090**	**J,DX MB q**	0.000050	0.00000031	ug/L		09/25/23 08:02	09/27/23 21:35	1
Total HpCDF	ND		0.000050	0.00000064	ug/L		09/25/23 08:02	09/27/23 21:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*79*		*25 - 164*	*09/25/23 08:02*	*09/27/23 21:35*	*1*
13C-2,3,7,8-TCDF	*75*		*24 - 169*	*09/25/23 08:02*	*09/27/23 21:35*	*1*
13C-1,2,3,7,8-PeCDD	*95*		*25 - 181*	*09/25/23 08:02*	*09/27/23 21:35*	*1*
13C-1,2,3,7,8-PeCDF	*84*		*24 - 185*	*09/25/23 08:02*	*09/27/23 21:35*	*1*
13C-2,3,4,7,8-PeCDF	*77*		*21 - 178*	*09/25/23 08:02*	*09/27/23 21:35*	*1*
13C-1,2,3,4,7,8-HxCDD	*82*		*32 - 141*	*09/25/23 08:02*	*09/27/23 21:35*	*1*
13C-1,2,3,6,7,8-HxCDD	*84*		*28 - 130*	*09/25/23 08:02*	*09/27/23 21:35*	*1*
13C-1,2,3,4,7,8-HxCDF	*83*		*26 - 152*	*09/25/23 08:02*	*09/27/23 21:35*	*1*
13C-1,2,3,6,7,8-HxCDF	*78*		*26 - 123*	*09/25/23 08:02*	*09/27/23 21:35*	*1*
13C-1,2,3,7,8,9-HxCDF	*71*		*29 - 147*	*09/25/23 08:02*	*09/27/23 21:35*	*1*

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall002_20230915_Comp
Lab Sample ID: 570-152959-1
Date Collected: 09/15/23 08:00
Matrix: Water
Date Received: 09/15/23 18:55

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,6,7,8-HxCDF	81		28 - 136	09/25/23 08:02	09/27/23 21:35	1
13C-1,2,3,4,6,7,8-HpCDD	92		23 - 140	09/25/23 08:02	09/27/23 21:35	1
13C-1,2,3,4,6,7,8-HpCDF	92		28 - 143	09/25/23 08:02	09/27/23 21:35	1
13C-1,2,3,4,7,8,9-HpCDF	93		26 - 138	09/25/23 08:02	09/27/23 21:35	1
13C-OCDD	97		17 - 157	09/25/23 08:02	09/27/23 21:35	1
13C-OCDF	112		17 - 157	09/25/23 08:02	09/27/23 21:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	89		35 - 197	09/25/23 08:02	09/27/23 21:35	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-2
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	37TCDD (35-197)							
570-152959-1	Outfall002_20230915_Comp	89							
MB 320-708569/1-A	Method Blank	84							

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 320-708569/2-A	Lab Control Sample	86							
LCSD 320-708569/3-A	Lab Control Sample Dup	92							

Surrogate Legend
37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc. Job ID: 570-152959-2
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-152959-1	Outfall002_20230915_Comp	79	75	95	84	77	82	84	83
MB 320-708569/1-A	Method Blank	68	67	85	77	70	78	74	80

		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)
570-152959-1	Outfall002_20230915_Comp	78	71	81	92	92	93	97	112
MB 320-708569/1-A	Method Blank	74	64	77	76	77	75	74	85

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 320-708569/2-A	Lab Control Sample	72	67	86	76	69	78	75	78
LCSD 320-708569/3-A	Lab Control Sample Dup	76	72	93	81	75	83	81	85

		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 320-708569/2-A	Lab Control Sample	76	66	80	79	81	79	77	90
LCSD 320-708569/3-A	Lab Control Sample Dup	78	69	82	86	85	88	87	100

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: 570-152959-2
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

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 320-708569/1-A
Matrix: Water
Analysis Batch: 709187

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 708569

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000093	ug/L		09/25/23 08:02	09/27/23 18:23	1
2,3,7,8-TCDF	ND		0.000010	0.00000069	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,7,8-PeCDD	ND		0.000050	0.0000014	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000059	ug/L		09/25/23 08:02	09/27/23 18:23	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000074	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,4,7,8-HxCDD	0.00000294	J,DX q	0.000050	0.00000098	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,6,7,8-HxCDD	0.00000219	J,DX	0.000050	0.0000010	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,7,8,9-HxCDD	0.00000329	J,DX	0.000050	0.00000093	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,4,7,8-HxCDF	0.00000185	J,DX q	0.000050	0.00000067	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,6,7,8-HxCDF	0.00000160	J,DX	0.000050	0.00000064	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,7,8,9-HxCDF	0.00000159	J,DX	0.000050	0.00000067	ug/L		09/25/23 08:02	09/27/23 18:23	1
2,3,4,6,7,8-HxCDF	0.00000164	J,DX	0.000050	0.00000061	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,4,6,7,8-HpCDD	0.00000458	J,DX	0.000050	0.00000035	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,4,6,7,8-HpCDF	0.00000281	J,DX	0.000050	0.00000052	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,4,7,8,9-HpCDF	0.00000287	J,DX	0.000050	0.00000057	ug/L		09/25/23 08:02	09/27/23 18:23	1
OCDD	0.0000212	J,DX	0.00010	0.0000011	ug/L		09/25/23 08:02	09/27/23 18:23	1
OCDF	0.00000475	J,DX	0.00010	0.00000079	ug/L		09/25/23 08:02	09/27/23 18:23	1
Total TCDD	ND		0.000010	0.00000093	ug/L		09/25/23 08:02	09/27/23 18:23	1
Total TCDF	ND		0.000010	0.00000069	ug/L		09/25/23 08:02	09/27/23 18:23	1
Total PeCDD	ND		0.000050	0.0000014	ug/L		09/25/23 08:02	09/27/23 18:23	1
Total PeCDF	ND		0.000050	0.00000074	ug/L		09/25/23 08:02	09/27/23 18:23	1
Total HxCDD	0.00000842	J,DX q	0.000050	0.00000098	ug/L		09/25/23 08:02	09/27/23 18:23	1
Total HxCDF	0.00000792	J,DX q	0.000050	0.00000065	ug/L		09/25/23 08:02	09/27/23 18:23	1
Total HpCDD	0.00000966	J,DX	0.000050	0.00000035	ug/L		09/25/23 08:02	09/27/23 18:23	1
Total HpCDF	0.00000568	J,DX	0.000050	0.00000055	ug/L		09/25/23 08:02	09/27/23 18:23	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*68*		*25 - 164*	*09/25/23 08:02*	*09/27/23 18:23*	*1*
13C-2,3,7,8-TCDF	*67*		*24 - 169*	*09/25/23 08:02*	*09/27/23 18:23*	*1*
13C-1,2,3,7,8-PeCDD	*85*		*25 - 181*	*09/25/23 08:02*	*09/27/23 18:23*	*1*
13C-1,2,3,7,8-PeCDF	*77*		*24 - 185*	*09/25/23 08:02*	*09/27/23 18:23*	*1*
13C-2,3,4,7,8-PeCDF	*70*		*21 - 178*	*09/25/23 08:02*	*09/27/23 18:23*	*1*
13C-1,2,3,4,7,8-HxCDD	*78*		*32 - 141*	*09/25/23 08:02*	*09/27/23 18:23*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-708569/1-A
Matrix: Water
Analysis Batch: 709187

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 708569

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDD	74		28 - 130	09/25/23 08:02	09/27/23 18:23	1
13C-1,2,3,4,7,8-HxCDF	80		26 - 152	09/25/23 08:02	09/27/23 18:23	1
13C-1,2,3,6,7,8-HxCDF	74		26 - 123	09/25/23 08:02	09/27/23 18:23	1
13C-1,2,3,7,8,9-HxCDF	64		29 - 147	09/25/23 08:02	09/27/23 18:23	1
13C-2,3,4,6,7,8-HxCDF	77		28 - 136	09/25/23 08:02	09/27/23 18:23	1
13C-1,2,3,4,6,7,8-HpCDD	76		23 - 140	09/25/23 08:02	09/27/23 18:23	1
13C-1,2,3,4,6,7,8-HpCDF	77		28 - 143	09/25/23 08:02	09/27/23 18:23	1
13C-1,2,3,4,7,8,9-HpCDF	75		26 - 138	09/25/23 08:02	09/27/23 18:23	1
13C-OCDD	74		17 - 157	09/25/23 08:02	09/27/23 18:23	1
13C-OCDF	85		17 - 157	09/25/23 08:02	09/27/23 18:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	84		35 - 197	09/25/23 08:02	09/27/23 18:23	1

Lab Sample ID: LCS 320-708569/2-A
Matrix: Water
Analysis Batch: 709187

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 708569

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,3,7,8-TCDD	0.000200	0.000176		ug/L		88	67 - 158
2,3,7,8-TCDF	0.000200	0.000171		ug/L		86	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.000849		ug/L		85	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.000881		ug/L		88	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000972		ug/L		97	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000886		ug/L		89	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000924		ug/L		92	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000905		ug/L		91	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000919		ug/L		92	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000837		ug/L		84	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.000847		ug/L		85	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000856		ug/L		86	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000903		ug/L		90	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000895		ug/L		89	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000923		ug/L		92	78 - 138
OCDD	0.00200	0.00174		ug/L		87	78 - 144
OCDF	0.00200	0.00146		ug/L		73	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	72		20 - 175
13C-2,3,7,8-TCDF	67		22 - 152
13C-1,2,3,7,8-PeCDD	86		21 - 227
13C-1,2,3,7,8-PeCDF	76		21 - 192
13C-2,3,4,7,8-PeCDF	69		13 - 328
13C-1,2,3,4,7,8-HxCDD	78		21 - 193
13C-1,2,3,6,7,8-HxCDD	75		25 - 163
13C-1,2,3,4,7,8-HxCDF	78		19 - 202
13C-1,2,3,6,7,8-HxCDF	76		21 - 159
13C-1,2,3,7,8,9-HxCDF	66		17 - 205

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-708569/2-A
Matrix: Water
Analysis Batch: 709187

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 708569

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,4,6,7,8-HxCDF	80		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	79		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	81		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	79		20 - 186
13C-OCDD	77		13 - 199
13C-OCDF	90		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	86		31 - 191

Lab Sample ID: LCSD 320-708569/3-A
Matrix: Water
Analysis Batch: 709187

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 708569

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000188		ug/L		94	67 - 158	7	50
2,3,7,8-TCDF			0.000200	0.000178		ug/L		89	75 - 158	4	50
1,2,3,7,8-PeCDD			0.00100	0.000845		ug/L		84	70 - 142	0	50
1,2,3,7,8-PeCDF			0.00100	0.000910		ug/L		91	80 - 134	3	50
2,3,4,7,8-PeCDF			0.00100	0.000981		ug/L		98	68 - 160	1	50
1,2,3,4,7,8-HxCDD			0.00100	0.000909		ug/L		91	70 - 164	3	50
1,2,3,6,7,8-HxCDD			0.00100	0.000915		ug/L		92	76 - 134	1	50
1,2,3,7,8,9-HxCDD			0.00100	0.000885		ug/L		89	64 - 162	2	50
1,2,3,4,7,8-HxCDF			0.00100	0.000905		ug/L		91	72 - 134	2	50
1,2,3,6,7,8-HxCDF			0.00100	0.000847		ug/L		85	84 - 130	1	50
1,2,3,7,8,9-HxCDF			0.00100	0.000834		ug/L		83	78 - 130	2	50
2,3,4,6,7,8-HxCDF			0.00100	0.000850		ug/L		85	70 - 156	1	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.000903		ug/L		90	70 - 140	0	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.000921		ug/L		92	82 - 122	3	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000912		ug/L		91	78 - 138	1	50
OCDD			0.00200	0.00175		ug/L		88	78 - 144	1	50
OCDF			0.00200	0.00149		ug/L		75	63 - 170	2	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	76		20 - 175
13C-2,3,7,8-TCDF	72		22 - 152
13C-1,2,3,7,8-PeCDD	93		21 - 227
13C-1,2,3,7,8-PeCDF	81		21 - 192
13C-2,3,4,7,8-PeCDF	75		13 - 328
13C-1,2,3,4,7,8-HxCDD	83		21 - 193
13C-1,2,3,6,7,8-HxCDD	81		25 - 163
13C-1,2,3,4,7,8-HxCDF	85		19 - 202
13C-1,2,3,6,7,8-HxCDF	78		21 - 159
13C-1,2,3,7,8,9-HxCDF	69		17 - 205
13C-2,3,4,6,7,8-HxCDF	82		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	86		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	85		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	88		20 - 186

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-708569/3-A
Matrix: Water
Analysis Batch: 709187

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 708569

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-OCDD	87		13 - 199
13C-OCDF	100		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	92		31 - 191

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-2
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Specialty Organics

Prep Batch: 708569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	1613B	
MB 320-708569/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-708569/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-708569/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 709187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	1613B	708569
MB 320-708569/1-A	Method Blank	Total/NA	Water	1613B	708569
LCS 320-708569/2-A	Lab Control Sample	Total/NA	Water	1613B	708569
LCSD 320-708569/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	708569

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-2
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Client Sample ID: Outfall002_20230915_Comp
Lab Sample ID: 570-152959-1
Date Collected: 09/15/23 08:00
Matrix: Water
Date Received: 09/15/23 18:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			1007.8 mL	20.0 uL	708569	09/25/23 08:02	GSH	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	709187	09/27/23 21:35	KSS	EET SAC
	Instrument ID: DFS 1									

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: 570-152959-2
Project/Site: Boeing NPDES SSFL - 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	08-11-24
Arkansas DEQ	State	88-0691	05-18-24
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-24
Florida	NELAP	E87570	06-30-24
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 (All)	NELAP	01944	06-30-24
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-24
Nevada	State	CA00044	07-31-24
New Hampshire	NELAP	2997	04-18-24
New Jersey	NELAP	CA005	06-30-24
New York	NELAP	11666	04-01-24
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-24
Texas	NELAP	T104704399-19-13	05-31-24
US Fish & Wildlife	US Federal Programs	58448	04-30-24
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442021-12	02-29-24
Virginia	NELAP	460278	03-14-24
Washington	State	C581	05-05-24
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-24
Wyoming	State Program	8TMS-L	01-28-19 *

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

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-2
Project/Site: Boeing NPDES SSFL - 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.
Job ID: 570-152959-2
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-152959-1	Outfall002_20230915_Comp	Water	09/15/23 08:00	09/15/23 18:55

H4MW

oc: 570
152959

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-152959 Chain of Custody

									R	R	R	R	R	R	R	R	R	R	C			
Client Name/Address: Haley & Aldrich, 5333 Mission Center Rd Suite 300, San Diego, CA 92108									ANALYSIS REQUIRED													
Eurofins Calscience Project Manager: Virendra Patel, 2841 Dow Avenue, Suite #100, Tustin, CA 92780, Tel: 714-895-5494, ECI Project #57013187									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-, SO_4, 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
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 Routine 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)																						
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD														
Outfall 002	(1) Outfall002_20230915_Comp	9/15/2023	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 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							
	(2) Outfall002_20230915_Comp_Extra	9/15/2023	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:
Mark Dominick	9.15.2023/ 1100		[signature] EC	9/15/23 1100
[signature]	9/15/23	1855	[signature] EC	9-15-23 18:55

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__

1.4/1.5 2.0/2.1 2.3/2.4 scr2

2019-2020 Rainy Season
Version 4

152959

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 Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 **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	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 (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	(3) Outfall002_20230915_Comp_F	9/15/2023	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.
	(1) Outfall002_20230915_Comp	9/15/2023	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:
Mark Dominick	9/15-2023	1100 H:A	EC	9/18/23 1130
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
EC	9/15/23	1855	EC	9-15-23 18:55
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
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: 570-288954.1
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 #: 570-152959-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 10/20/2023			
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 - 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:												
Outfall002_20230915_Comp (570-152959-1)	9/15/23	08:00 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: 9/19/23 1320	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: 570-289057.1
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 #: 570-152959-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 10/9/2023			
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 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	1613B/1613B_Sox_Sep_P (MOD) Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20230915_Comp (570-152959-1)	9/15/23	08:00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall002_20230915_Comp_Extra (570-152959-2)	9/15/23	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*	***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: 9/19/23 1319	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: 570-152959-2

Login Number: 152959
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	Refer to Job Narrative for details.
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: 570-152959-2

Login Number: 152959
List Number: 3
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 09/20/23 01:55 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	2.1c
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.	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 10/24/2023 9:00:23 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Outfall 002 - Comp

JOB NUMBER

570-152959-3

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

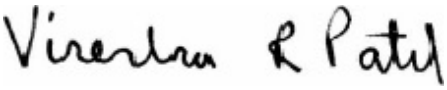
myEOL

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



Generated
10/24/2023 9:00:23 AM

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-3
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Qualifiers

Rad

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

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

Job ID: 570-152959-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-152959-3

Receipt
The samples were received on 9/15/2023 6:55 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, 2.1º C and 2.4º C.

Receipt Exceptions

The Chain-of-Custody (COC) was incomplete as received. No collection times listed on the COC. Logged in per sample labels.

A Chain-of-Custody (COC) was not received with these samples 570-152959 #1 #2 Outfall002_20230915_Comp (570-152959-1) and Outfall002_20230915_Comp_Extra (570-152959-2).

RAD
Methods 900.0, 9310: Gross Alpha and Gross Beta batch 629210
The detection goal was not met for the following samples due to a reduction of the sample size attributed to high residual mass: Outfall002_20230915_Comp (570-152959-1) and (570-152959-R-1-E DU). Analytical results are reported with the detection limit achieved.

Methods 900.0, 9310: Gross Alpha and Gross Beta batch 629210
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_20230915_Comp (570-152959-1), (LCS 160-629210/2-A), (LCSB 160-629210/3-A), (MB 160-629210/1-A), (570-152959-R-1-E DU), (570-152959-R-1-C MS) and (570-152959-R-1-D MSBT)

Methods 900.0, 9310: Gross Alpha Beta prep batch 160-629210:

The matrix spike (MS) recoveries for preparation batch 160-629210 and analytical batch 160-629618 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits. (570-152959-R-1-C MS)

Method 901.1: Gamma 160-630692
Many isotopes requested by gamma spectrometry analysis do not have any gamma emissions, the gamma emissions they do have are very poor, and/or are reported by assuming secular equilibrium with a longer-lived parent (or vice-versa). For example, Th-232 (which does not have a good gamma-ray) is often reported assuming the shorter-lived Ra-228 daughter is in equilibrium with the Th-232 parent. Or, Pb-214 and/or Bi-214, daughters of potentially volatile Rn-222 in the Ra-226 decay chain, may not be in equilibrium with the parent unless sufficient time has been allowed since the break in equilibrium (e.g. 21 days in the case of Ra-226-supported ingrowth). 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

Job ID: 570-152959-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

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_20230915_Comp (570-152959-1) and (570-152959-R-1-K DU)

Methods 903.0, 9315: Radium-226 batch 629716
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_20230915_Comp (570-152959-1), (LCS 160-629716/2-A), (MB 160-629716/1-A), (280-181639-D-1-A) and (280-181639-C-1-A DU)

Methods 904.0, 9320: Radium-228 batch 629719
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_20230915_Comp (570-152959-1), (LCS 160-629719/2-A), (MB 160-629719/1-A), (280-181639-D-1-B) and (280-181639-C-1-B DU)

Methods 905, SR-03-RC: Strontium-90 batch 630518
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_20230915_Comp (570-152959-1), (LCS 160-630518/2-A), (MB 160-630518/1-A), (380-64739-AO-1-A) and (380-64739-AS-1-A DU)

Method 906.0: Tritium 631354
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_20230915_Comp (570-152959-1), (LCS 160-631354/2-A), (MB 160-631354/1-A), (380-63434-D-2-B), (380-63434-D-2-C MS), (380-63938-N-1-A) and (380-63938-N-1-C DU)

Methods A-01-R, U-02-RC: Isotopic Uranium batch 629901
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_20230915_Comp (570-152959-1), (LCS 160-629901/2-A), (MB 160-629901/1-A), (160-51569-A-1-A) and (160-51569-A-1-B DU)

Method ExtChrom: Uranium Prep Batch 160-629901:

The following samples were diluted due to sample matrix.
Outfall002_20230915_Comp (570-152959-1)

Job ID: 570-152959-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Method PrecSep_0:

Method PrecSep-21:

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: 570-152959-3
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Client Sample ID: Outfall002_20230915_Comp
Lab Sample ID: 570-152959-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-3
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall002_20230915_Comp
Date Collected: 09/15/23 08:00
Date Received: 09/15/23 18:55

Lab Sample ID: 570-152959-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	3.34	G	2.30	2.33	3.00	3.28	pCi/L	09/22/23 09:23	09/26/23 18:23	1
Gross Beta	5.34		1.56	1.65	4.00	2.02	pCi/L	09/22/23 09:23	09/26/23 18:23	1

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-3
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Method: EPA 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall002_20230915_Comp
Date Collected: 09/15/23 08:00
Date Received: 09/15/23 18:55

Lab Sample ID: 570-152959-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	3.20	U	9.98	9.99	20.0	12.5	pCi/L	10/04/23 13:13	10/11/23 06:28	1
Potassium-40	2.84	U	146	146		190	pCi/L	10/04/23 13:13	10/11/23 06:28	1

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-3
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Method: EPA 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall002_20230915_Comp
Date Collected: 09/15/23 08:00
Date Received: 09/15/23 18:55

Lab Sample ID: 570-152959-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.172	U	0.183	0.183	1.00	0.291	pCi/L	09/27/23 10:52	10/20/23 14:16	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*53.3*		*30 - 110*	*09/27/23 10:52*	*10/20/23 14:16*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-3
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Method: EPA 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall002_20230915_Comp
Date Collected: 09/15/23 08:00
Date Received: 09/15/23 18:55

Lab Sample ID: 570-152959-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.809	U	0.650	0.654	1.00	0.995	pCi/L	09/27/23 11:00	10/16/23 12:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*53.3*		*30 - 110*	*09/27/23 11:00*	*10/16/23 12:04*	*1*
Y Carrier	*87.9*		*30 - 110*	*09/27/23 11:00*	*10/16/23 12:04*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-3
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Method: EPA 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall002_20230915_Comp
Date Collected: 09/15/23 08:00
Date Received: 09/15/23 18:55

Lab Sample ID: 570-152959-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.352	U	0.281	0.283	3.00	0.444	pCi/L	10/03/23 10:29	10/11/23 16:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*73.4*		*30 - 110*	*10/03/23 10:29*	*10/11/23 16:56*	*1*
Y Carrier	*93.5*		*30 - 110*	*10/03/23 10:29*	*10/11/23 16:56*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-3
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Method: EPA 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall002_20230915_Comp
Date Collected: 09/15/23 08:00
Date Received: 09/15/23 18:55

Lab Sample ID: 570-152959-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	102	U	161	161	500	273	pCi/L	10/10/23 11:11	10/11/23 19:31	1

Method: DOE A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall002_20230915_Comp **Lab Sample ID: 570-152959-1**
Date Collected: 09/15/23 08:00 **Matrix: Water**
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.772		0.377	0.380	1.00	0.259	pCi/L	09/28/23 10:43	10/04/23 08:26	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*63.6*		*30 - 110*	*09/28/23 10:43*	*10/04/23 08:26*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-3
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
570-152959-1	Outfall002_20230915_Comp	53.3
LCS 160-629716/2-A	Lab Control Sample	98.5
MB 160-629716/1-A	Method Blank	99.0

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)
570-152959-1	Outfall002_20230915_Comp	53.3	87.9
LCS 160-629719/2-A	Lab Control Sample	98.5	83.0
MB 160-629719/1-A	Method Blank	99.0	83.4

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)
570-152959-1	Outfall002_20230915_Comp	73.4	93.5
LCS 160-630518/2-A	Lab Control Sample	83.2	92.3
MB 160-630518/1-A	Method Blank	83.5	93.1

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)
570-152959-1	Outfall002_20230915_Comp	63.6
LCS 160-629901/2-A	Lab Control Sample	68.8
MB 160-629901/1-A	Method Blank	69.7

Tracer/Carrier Legend
U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-629210/1-A
Matrix: Water
Analysis Batch: 629620

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 629210

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.6017	U	0.669	0.673	3.00	1.09	pCi/L	09/22/23 09:23	09/26/23 17:34	1
Gross Beta	-0.1316	U	0.505	0.505	4.00	0.908	pCi/L	09/22/23 09:23	09/26/23 17:34	1

Lab Sample ID: LCS 160-629210/2-A
Matrix: Water
Analysis Batch: 629620

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 629210

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Alpha	49.6	45.09		6.79	3.00	2.00	pCi/L	91	75 - 125

Lab Sample ID: LCSB 160-629210/3-A
Matrix: Water
Analysis Batch: 629620

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 629210

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Beta	72.6	65.41		7.06	4.00	0.887	pCi/L	90	75 - 125

Lab Sample ID: 570-152959-1 MS
Matrix: Water
Analysis Batch: 629618

Client Sample ID: Outfall002_20230915_Comp
Prep Type: Total/NA
Prep Batch: 629210

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Alpha	3.34	G	92.7	50.28	F1	8.94	3.00	3.89	pCi/L	51	60 - 140

Lab Sample ID: 570-152959-1 MSBT
Matrix: Water
Analysis Batch: 629618

Client Sample ID: Outfall002_20230915_Comp
Prep Type: Total/NA
Prep Batch: 629210

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Beta	5.34		136	138.4		14.8	4.00	1.51	pCi/L	98	60 - 140

Lab Sample ID: 570-152959-1 DU
Matrix: Water
Analysis Batch: 629618

Client Sample ID: Outfall002_20230915_Comp
Prep Type: Total/NA
Prep Batch: 629210

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	3.34	G	0.8290	U G	2.20	3.00	3.96	pCi/L	0.56	1
Gross Beta	5.34		3.703		1.39	4.00	1.83	pCi/L	0.54	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-630692/1-A
Matrix: Water
Analysis Batch: 631987

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 630692

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-6.218	U	12.4	12.4	20.0	15.0	pCi/L	10/04/23 13:13	10/16/23 15:03	1
Potassium-40	-19.63	U	112	113		165	pCi/L	10/04/23 13:13	10/16/23 15:03	1

Lab Sample ID: LCS 160-630692/2-A
Matrix: Water
Analysis Batch: 632469

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 630692

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Americium-241	135000	149400		17800		482	pCi/L	111	75 - 125
Cesium-137	40300	39590		4730	20.0	147	pCi/L	98	75 - 125
Cobalt-60	16600	16500		1980		82.8	pCi/L	100	75 - 125

Lab Sample ID: 570-152959-1 DU
Matrix: Water
Analysis Batch: 631988

Client Sample ID: Outfall002_20230915_Comp
Prep Type: Total/NA
Prep Batch: 630692

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Cesium-137	3.20	U	7.334	U	13.9	20.0	17.2	pCi/L	0.17	1
Potassium-40	2.84	U	-4.594	U	178		258	pCi/L	0.02	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-629716/1-A
Matrix: Water
Analysis Batch: 632731

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 629716

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04011	U	0.0802	0.0803	1.00	0.143	pCi/L	09/27/23 10:52	10/20/23 14:07	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.0*		*30 - 110*	*09/27/23 10:52*	*10/20/23 14:07*	*1*

Lab Sample ID: LCS 160-629716/2-A
Matrix: Water
Analysis Batch: 632839

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 629716

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	10.12		1.10	1.00	0.138	pCi/L	89	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*98.5*		*30 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-629719/1-A
Matrix: Water
Analysis Batch: 632004

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 629719

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.5916		0.348	0.352	1.00	0.506	pCi/L	09/27/23 11:00	10/16/23 11:56	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.0*		*30 - 110*	*09/27/23 11:00*	*10/16/23 11:56*	*1*
Y Carrier	*83.4*		*30 - 110*	*09/27/23 11:00*	*10/16/23 11:56*	*1*

Lab Sample ID: LCS 160-629719/2-A
Matrix: Water
Analysis Batch: 632004

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 629719

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			7.79	8.578		1.17	1.00	0.444	pCi/L	110	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*98.5*		*30 - 110*
Y Carrier	*83.0*		*30 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-630518/1-A
Matrix: Water
Analysis Batch: 631444

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 630518

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.1620	U	0.202	0.202	3.00	0.334	pCi/L	10/03/23 10:29	10/11/23 16:53	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*83.5*		*30 - 110*	*10/03/23 10:29*	*10/11/23 16:53*	*1*
Y Carrier	*93.1*		*30 - 110*	*10/03/23 10:29*	*10/11/23 16:53*	*1*

Lab Sample ID: LCS 160-630518/2-A
Matrix: Water
Analysis Batch: 631444

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 630518

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Strontium-90			7.25	7.819		0.850	3.00	0.317	pCi/L	108	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*83.2*		*30 - 110*
Y Carrier	*92.3*		*30 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-631354/1-A
Matrix: Water
Analysis Batch: 631800

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 631354

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	182.9	U	171	172	500	275	pCi/L	10/10/23 11:11	10/11/23 15:00	1

Lab Sample ID: LCS 160-631354/2-A
Matrix: Water
Analysis Batch: 631800

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 631354

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Tritium			2030	2120		373	500	269	pCi/L	104	75 - 125		

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-629901/1-A
Matrix: Water
Analysis Batch: 630589

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 629901

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.04465	U	0.09332	0.09338	1.00	0.154	pCi/L	09/28/23 10:43	10/04/23 13:10	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*69.7*		*30 - 110*	*09/28/23 10:43*	*10/04/23 13:10*	*1*

Lab Sample ID: LCS 160-629901/2-A
Matrix: Water
Analysis Batch: 631657

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 629901

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Uranium-234			12.7	14.60		1.66	1.00	0.143	pCi/L	115	75 - 125		
Uranium-238			13.0	13.73		1.58	1.00	0.103	pCi/L	105	75 - 125		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*68.8*		*30 - 110*

Rad

Prep Batch: 629210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	Evaporation	
MB 160-629210/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-629210/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-629210/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-152959-1 MS	Outfall002_20230915_Comp	Total/NA	Water	Evaporation	
570-152959-1 MSBT	Outfall002_20230915_Comp	Total/NA	Water	Evaporation	
570-152959-1 DU	Outfall002_20230915_Comp	Total/NA	Water	Evaporation	

Prep Batch: 629716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	PrecSep-21	
MB 160-629716/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-629716/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 629719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	PrecSep_0	
MB 160-629719/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-629719/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 629901

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	ExtChrom	
MB 160-629901/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-629901/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	

Prep Batch: 630518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	PrecSep-7	
MB 160-630518/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-630518/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	

Prep Batch: 630692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-630692/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-630692/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-152959-1 DU	Outfall002_20230915_Comp	Total/NA	Water	Fill_Geo-0	

Prep Batch: 631354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152959-1	Outfall002_20230915_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-631354/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-631354/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-3
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Client Sample ID: Outfall002_20230915_Comp
Lab Sample ID: 570-152959-1
Date Collected: 09/15/23 08:00
Matrix: Water
Date Received: 09/15/23 18:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			107.01 mL	1.0 g	629210	09/22/23 09:23	MST	EET SL
Total/NA	Analysis	900.0		1			629618	09/26/23 18:23	FLC	EET SL
	Instrument ID: GFPCRED									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	630692	10/04/23 13:13	SAC	EET SL
Total/NA	Analysis	901.1		1			631553	10/11/23 06:28	CAH	EET SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			749.89 mL	1.0 g	629716	09/27/23 10:52	KAC	EET SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	632841	10/20/23 14:16	FLC	EET SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			749.89 mL	1.0 g	629719	09/27/23 11:00	KAC	EET SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	632123	10/16/23 12:04	FLC	EET SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-7			761.18 mL	1.0 g	630518	10/03/23 10:29	KAC	EET SL
Total/NA	Analysis	905		1			631441	10/11/23 16:56	FLC	EET SL
	Instrument ID: GFPCRED									
Total/NA	Prep	LSC_Dist_Susp			96.68 mL	1.0 g	631354	10/10/23 11:11	SEH	EET SL
Total/NA	Analysis	906.0		1			631800	10/11/23 19:31	REV	EET SL
	Instrument ID: LSC3180									
Total/NA	Prep	ExtChrom			255.05 mL	1.0 mL	629901	09/28/23 10:43	LKP	EET SL
Total/NA	Analysis	A-01-R		1			630645	10/04/23 08:26	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: 570-152959-3
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Laboratory: Eurofins St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
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	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	10-22-23
HI - RadChem Recognition	State	n/a	06-30-24
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	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-24
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	07-31-24
North Dakota	State	R-207	06-30-24
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-24
Texas	NELAP	T104704193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-24
Virginia	NELAP	10310	06-15-25
Washington	State	C592	08-30-24
West Virginia DEP	State	381	10-31-23

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

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-152959-3
Project/Site: Boeing NPDES SSFL - 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.
Job ID: 570-152959-3
Project/Site: Boeing NPDES SSFL - Outfall 002 - Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-152959-1	Outfall002_20230915_Comp	Water	09/15/23 08:00	09/15/23 18:55

H4MW

oc: 570
152959

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-152959 Chain of Custody

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 Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 **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: (E200.8): Zn (E200.8): Cu, Pb, Cd, Se	R TCDD (and all congeners) (E1613B)	R BOD5 (20 degrees C) (E405.1(SM5210B_BODCalc))	R Surfactants (MBAS) (SM5540C/E425.1)	R Cl-, SO_4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	R Turbidity, TDS (SM2540C/E180.1)	R TSS (160.2 (SM2540D))	R Ammonia-N (350.2)	R alpha-BHC (E608)	R 2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	R Total Recoverable Metals: Mercury (E245.1)	C		Comments
Outfall 002	(1) Outfall002_20230915_Comp	9/15/2023	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 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							
	(2) Outfall002_20230915_Comp_Extra	9/15/2023	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:
Mark Dominick	9.15.2023 / 1100		[signature] EC	9/15/23 1103
[signature]	9/15/23	1855	[signature] EC	9-15-23 18:55

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__

1.4/1.5 2.0/2.1 2.3/2.4 scr2

2019-2020 Rainy Season
Version 4

152959

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 Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 **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	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 (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	(3) Outfall002_20230915_Comp_F	9/15/2023	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.
	(1) Outfall002_20230915_Comp	9/15/2023	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:
Mark Dominick	9/15-2023	1100 H:A	EC	9/18/23 1130
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
EC	9/15/23	1855	EC	9-15-23 18:55
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
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: 570-288954.1
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 #: 570-152959-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 10/20/2023			
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 - 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:												
Outfall002_20230915_Comp (570-152959-1)	9/15/23	08:00 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: 9/19/23 1320	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: 570-289057.1
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 #: 570-152959-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 10/9/2023			
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 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	1613B/1613B_Sox_Sep_P (MOD) Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20230915_Comp (570-152959-1)	9/15/23	08:00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall002_20230915_Comp_Extra (570-152959-2)	9/15/23	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*	***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
[signature]	9/19/23 1319				
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: 570-288954.1
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 #: 570-152959-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 10/20/2023			
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 - 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:												
Outfall002_20230915_Comp (570-152959-1)	9/15/23	08:00 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	***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	Fedex	9/19/23 1320		Fedex		
2	Relinquished by:	Date/Time:	Company	Received by: M. Pinette	Date/Time: SEP 20 2023 0850	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 06/08/2021

10/24/2023

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-152959-3

Login Number: 152959
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	Refer to Job Narrative for details.
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: 570-152959-3

Login Number: 152959
List Number: 2
Creator: Pinette, Meadow L

List Source: Eurofins St. Louis
List Creation: 09/20/23 01:39 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.	N/A	
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 8/23/2023 6:55:33 PM

JOB DESCRIPTION

Boeing NPDES SSFL - Semi-Annual Outfall 009 - Grab

JOB NUMBER

570-149401-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

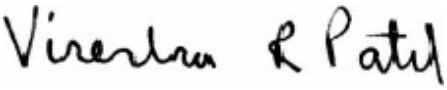
See page two for job notes and contact information.

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.

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
8/23/2023 6:55:33 PM

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-149401-1
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Grab

Glossary

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

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-149401-1
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Gra

Job ID: 570-149401-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-149401-1

Comments
No additional comments.

Receipt
The samples were received on 8/21/2023 4:46 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 2.7º C.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Methods 1664A, 1664B: 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 570-357395.
Method: 1664.

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

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-149401-1
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Grab

Client Sample ID: Outfall009_2020821_Grab
Lab Sample ID: 570-149401-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-149401-1
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Grab

General Chemistry

Client Sample ID: Outfall009_2020821_Grab
Lab Sample ID: 570-149401-1
Date Collected: 08/21/23 08:50
Matrix: Water
Date Received: 08/21/23 16:46

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664A)	ND		0.98	0.50	mg/L		08/23/23 11:59	08/23/23 13:24	1

QC Sample Results

Client: Haley & Aldrich, Inc.
Job ID: 570-149401-1
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Grab

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-357395/1-A
Matrix: Water
Analysis Batch: 357425

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 357395

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		08/23/23 11:59	08/23/23 13:24	1

Lab Sample ID: LCS 570-357395/2-A
Matrix: Water
Analysis Batch: 357425

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 357395

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HEM (Oil & Grease)			40.0	31.7		mg/L		79	78 - 114		

Lab Sample ID: LCSD 570-357395/3-A
Matrix: Water
Analysis Batch: 357425

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 357395

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil & Grease)			40.0	31.7		mg/L		79	78 - 114	0	18

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-149401-1
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Grab

General Chemistry

Prep Batch: 357395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149401-1	Outfall009_2020821_Grab	Total/NA	Water	1664A	
MB 570-357395/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-357395/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-357395/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

Analysis Batch: 357425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149401-1	Outfall009_2020821_Grab	Total/NA	Water	1664A	357395
MB 570-357395/1-A	Method Blank	Total/NA	Water	1664A	357395
LCS 570-357395/2-A	Lab Control Sample	Total/NA	Water	1664A	357395
LCSD 570-357395/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	357395

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-149401-1
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Grab

Client Sample ID: Outfall009_2020821_Grab
Lab Sample ID: 570-149401-1
Date Collected: 08/21/23 08:50
Matrix: Water
Date Received: 08/21/23 16:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664A			1016 mL	1000 mL	357395	08/23/23 11:59	RY4P	EET CAL 4
Total/NA	Analysis	1664A		1			357425	08/23/23 13:24	VB5S	EET CAL 4
	Instrument ID: NO EQUIQ									

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: 570-149401-1
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Grab

Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
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: 570-149401-1
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Grab

Method	Method Description	Protocol	Laboratory
1664A	HEM and SGT-HEM	1664A	EET CAL 4
1664A	HEM and SGT-HEM (Aqueous)	1664A	EET CAL 4

Protocol References:

1664A = EPA-821-98-002

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 - Semi-Annual Outfall 009 - Grab

Job ID: 570-149401-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-149401-1	Outfall009_2020821_Grab	Water	08/21/23 08:50	08/21/23 16:46

149401

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

VLJOVKT

R

Client Name/Address: Haley & Aldrich, Inc. 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2023 Semiannual Outfall [003-007, 009, 010] Outfall 009 Grab
Eurofins Calscience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 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	Oil & Grease (E1664A-HEM)										Comments
Outfall 009	Outfall009_20230821_Grab	8/21/2023 / 0850	WM	1 L Glass Amber	2	HCl	15	No	X										
	Outfall009_20230821_Grab_Extra	8/21/2023 / 0850	WM	1 L Glass Amber	2	HCl	15	No	H										Hold

ANALYSIS REQUIRED

Field Readings	Meter serial #
Field Readings: (Include units)	
Time of Readings: 0945	
pH 8.01 pH unit	
Temp 64.1 °F	
Field readings QC	
Checked by:	
Date/Time: 8-21-2023 / 0945	

570-149401 Chain of Custody

Legend: R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	8-21-2023 / 1240	H&A	TC	8/21/23 / 1240
	8-21-23 / 1646			8/21/23 1646

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

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

Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

2.6/2.7 SC12

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-149401-1

Login Number: 149401
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

1 2 3 4 5 6 7 8 9 10 11 12 13 14

ANALYTICAL REPORT

PREPARED FOR

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

Generated 9/12/2023 10:26:05 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

JOB NUMBER

570-149524-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

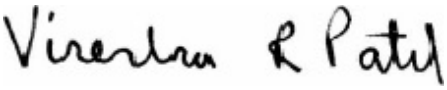
myEOL

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



Generated
9/12/2023 10:26:05 AM

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-149524-1
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

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

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: 570-149524-1
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Cor

Job ID: 570-149524-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-149524-1

Comments
No additional comments.

Receipt
The samples were received on 8/22/2023 6:31 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.1º C and 2.5º C.

Receipt Exceptions

The reference method requires samples to have a pH of <2. The following sample was received with a pH of 7: Outfall009_20230822_Comp (570-149524-1). The samples were adjusted to the appropriate pH in the laboratory.

HPLC/IC
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: Outfall009_20230822_Comp_F (570-149524-2), Outfall009_20230822_Comp_F (570-149524-2[MS]) and Outfall009_20230822_Comp_F (570-149524-2[MSD]). The sample(s) 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: Outfall009_20230822_Comp_F (570-149524-2), Outfall009_20230822_Comp_F (570-149524-2[MS]) and Outfall009_20230822_Comp_F (570-149524-2[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 Kelada 01: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 570-358787 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.

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 - Semi-Annual Outfall 009 - Comp

Job ID: 570-149524-1

Client Sample ID: Outfall009_20230822_Comp — Lab Sample ID: 570-149524-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3.8		2.0	0.72	mg/L	2		300.0	Total/NA
Sulfate	4.9		2.0	0.47	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	0.91		0.10	0.020	mg/L	1		NO2NO3 Calc	Total/NA
Antimony	1.1	J,DX	2.0	0.36	ug/L	1		200.8	Total Recoverable
Copper	5.5		2.0	0.32	ug/L	1		200.8	Total Recoverable
Lead	12		1.0	0.12	ug/L	1		200.8	Total Recoverable
Nickel	2.7		2.0	0.17	ug/L	1		200.8	Total Recoverable
Selenium	0.67	J,DX	2.0	0.52	ug/L	1		200.8	Total Recoverable
Zinc	17	J,DX	20	2.8	ug/L	1		200.8	Total Recoverable
Total Dissolved Solids	96		10	8.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	18		3.3	2.8	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Outfall009_20230822_Comp_F — Lab Sample ID: 570-149524-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	1.8	J,DX BU	2.0	0.36	ug/L	1		200.8	Dissolved
Copper	4.2	BU	2.0	0.32	ug/L	1		200.8	Dissolved
Lead	2.8	BU	1.0	0.12	ug/L	1		200.8	Dissolved
Nickel	1.6	J,DX BU	2.0	0.17	ug/L	1		200.8	Dissolved
Zinc	9.5	J,DX BU	20	2.8	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Job ID: 570-149524-1

Method: EPA 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall009_20230822_Comp
Date Collected: 08/22/23 08:35
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149524-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.8		2.0	0.72	mg/L			08/23/23 13:09	2
Sulfate	4.9		2.0	0.47	mg/L			08/23/23 13:09	2

Client: Haley & Aldrich, Inc.
Job ID: 570-149524-1
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Method: EPA 314.0 - Perchlorate (IC)

Client Sample ID: Outfall009_20230822_Comp
Lab Sample ID: 570-149524-1
Date Collected: 08/22/23 08:35
Matrix: Water
Date Received: 08/22/23 18:31

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			08/30/23 14:46	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Job ID: 570-149524-1
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Method: EPA NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall009_20230822_Comp
Lab Sample ID: 570-149524-1
Date Collected: 08/22/23 08:35
Matrix: Water
Date Received: 08/22/23 18:31

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.91		0.10	0.020	mg/L			09/05/23 14:39	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Job ID: 570-149524-1

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall009_20230822_Comp
Date Collected: 08/22/23 08:35
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149524-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**1.1**	**J,DX**	2.0	0.36	ug/L		08/23/23 08:50	08/25/23 11:05	1
Cadmium	ND		1.0	0.13	ug/L		08/23/23 08:50	08/25/23 11:05	1
Copper	**5.5**		2.0	0.32	ug/L		08/23/23 08:50	08/25/23 11:05	1
Lead	**12**		1.0	0.12	ug/L		08/23/23 08:50	08/25/23 11:05	1
Nickel	**2.7**		2.0	0.17	ug/L		08/23/23 08:50	08/25/23 11:05	1
Selenium	**0.67**	**J,DX**	2.0	0.52	ug/L		08/23/23 08:50	08/25/23 11:05	1
Silver	ND		1.0	0.23	ug/L		08/23/23 08:50	08/25/23 11:05	1
Thallium	ND		1.0	0.11	ug/L		08/23/23 08:50	08/25/23 11:05	1
Zinc	**17**	**J,DX**	20	2.8	ug/L		08/23/23 08:50	08/25/23 11:05	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Job ID: 570-149524-1

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall009_20230822_Comp_F
Date Collected: 08/22/23 08:35
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149524-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**1.8**	**J,DX BU**	2.0	0.36	ug/L			08/24/23 14:17	1
Cadmium	ND	BU	1.0	0.13	ug/L			08/24/23 14:17	1
Copper	**4.2**	**BU**	2.0	0.32	ug/L			08/24/23 14:17	1
Lead	**2.8**	**BU**	1.0	0.12	ug/L			08/24/23 14:17	1
Nickel	**1.6**	**J,DX BU**	2.0	0.17	ug/L			08/24/23 14:17	1
Selenium	ND	BU	2.0	0.52	ug/L			08/24/23 14:17	1
Silver	ND	BU	1.0	0.23	ug/L			08/24/23 14:17	1
Thallium	ND	BU	1.0	0.11	ug/L			08/24/23 14:17	1
Zinc	**9.5**	**J,DX BU**	20	2.8	ug/L			08/24/23 14:17	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Job ID: 570-149524-1

Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: Outfall009_20230822_Comp
Date Collected: 08/22/23 08:35
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149524-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		08/23/23 16:15	08/24/23 14:27	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Job ID: 570-149524-1

Method: EPA 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall009_20230822_Comp_F
Date Collected: 08/22/23 08:35
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149524-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.20	0.12	ug/L		08/23/23 16:13	08/24/23 15:07	1

Client: Haley & Aldrich, Inc.
Job ID: 570-149524-1
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

General Chemistry

Client Sample ID: Outfall009_20230822_Comp
Lab Sample ID: 570-149524-1
Date Collected: 08/22/23 08:35
Matrix: Water
Date Received: 08/22/23 18:31

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (EPA Kelada 01)	ND		5.0	2.5	ug/L			08/28/23 13:17	1
Total Dissolved Solids (SM 2540C)	**96**		10	8.7	mg/L			08/24/23 19:37	1
Total Suspended Solids (SM 2540D)	**18**		3.3	2.8	mg/L			08/23/23 12:09	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-357219/5
Matrix: Water
Analysis Batch: 357219

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			08/23/23 08:05	1
Sulfate	ND		1.0	0.24	mg/L			08/23/23 08:05	1

Lab Sample ID: LCS 570-357219/6
Matrix: Water
Analysis Batch: 357219

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	53.1		mg/L		106	90 - 110
Sulfate	50.0	49.7		mg/L		99	90 - 110

Lab Sample ID: LCSD 570-357219/7
Matrix: Water
Analysis Batch: 357219

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	53.0		mg/L		106	90 - 110	0	15
Sulfate	50.0	49.7		mg/L		99	90 - 110	0	15

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-359587/7
Matrix: Water
Analysis Batch: 359587

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			08/30/23 13:37	1

Lab Sample ID: LCS 570-359587/8
Matrix: Water
Analysis Batch: 359587

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	23.5		ug/L		94	85 - 115

Lab Sample ID: LCSD 570-359587/9
Matrix: Water
Analysis Batch: 359587

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	25.0	23.3		ug/L		93	85 - 115	1	15

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 570-357293/1-A
Matrix: Water
Analysis Batch: 358172

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 357293

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.36	ug/L		08/23/23 08:50	08/25/23 10:54	1
Cadmium	ND		1.0	0.13	ug/L		08/23/23 08:50	08/25/23 10:54	1
Copper	ND		2.0	0.32	ug/L		08/23/23 08:50	08/25/23 10:54	1
Lead	ND		1.0	0.12	ug/L		08/23/23 08:50	08/25/23 10:54	1
Nickel	ND		2.0	0.17	ug/L		08/23/23 08:50	08/25/23 10:54	1
Selenium	ND		2.0	0.52	ug/L		08/23/23 08:50	08/25/23 10:54	1
Silver	ND		1.0	0.23	ug/L		08/23/23 08:50	08/25/23 10:54	1
Thallium	ND		1.0	0.11	ug/L		08/23/23 08:50	08/25/23 10:54	1
Zinc	ND		20	2.8	ug/L		08/23/23 08:50	08/25/23 10:54	1

Lab Sample ID: LCS 570-357293/2-A
Matrix: Water
Analysis Batch: 358172

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 357293

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	80.0	79.5		ug/L		99	85 - 115
Cadmium	80.0	78.2		ug/L		98	85 - 115
Copper	80.0	80.7		ug/L		101	85 - 115
Lead	80.0	78.0		ug/L		97	85 - 115
Nickel	80.0	80.7		ug/L		101	85 - 115
Selenium	80.0	78.0		ug/L		98	85 - 115
Silver	80.0	79.3		ug/L		99	85 - 115
Thallium	80.0	77.2		ug/L		97	85 - 115
Zinc	80.0	79.4		ug/L		99	85 - 115

Lab Sample ID: LCSD 570-357293/3-A
Matrix: Water
Analysis Batch: 358172

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 357293

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	80.0	82.7		ug/L		103	85 - 115	4	20
Cadmium	80.0	80.3		ug/L		100	85 - 115	3	20
Copper	80.0	82.5		ug/L		103	85 - 115	2	20
Lead	80.0	80.4		ug/L		100	85 - 115	3	20
Nickel	80.0	81.1		ug/L		101	85 - 115	1	20
Selenium	80.0	78.7		ug/L		98	85 - 115	1	20
Silver	80.0	81.8		ug/L		102	85 - 115	3	20
Thallium	80.0	79.8		ug/L		100	85 - 115	3	20
Zinc	80.0	79.8		ug/L		100	85 - 115	1	20

Lab Sample ID: 570-149524-1 MS
Matrix: Water
Analysis Batch: 358172

Client Sample ID: Outfall009_20230822_Comp
Prep Type: Total Recoverable
Prep Batch: 357293

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	1.1	J,DX	80.0	82.5		ug/L		102	80 - 120
Cadmium	ND		80.0	80.9		ug/L		101	80 - 120
Copper	5.5		80.0	89.5		ug/L		105	80 - 120

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-149524-1 MS
Matrix: Water
Analysis Batch: 358172

Client Sample ID: Outfall009_20230822_Comp
Prep Type: Total Recoverable
Prep Batch: 357293

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	12		80.0	91.4		ug/L		99	80 - 120
Nickel	2.7		80.0	83.8		ug/L		101	80 - 120
Selenium	0.67	J,DX	80.0	77.9		ug/L		97	80 - 120
Silver	ND		80.0	81.6		ug/L		102	80 - 120
Thallium	ND		80.0	78.5		ug/L		98	80 - 120
Zinc	17	J,DX	80.0	98.3		ug/L		102	80 - 120

Lab Sample ID: 570-149524-1 MSD
Matrix: Water
Analysis Batch: 358172

Client Sample ID: Outfall009_20230822_Comp
Prep Type: Total Recoverable
Prep Batch: 357293

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	1.1	J,DX	80.0	81.7		ug/L		101	80 - 120	1	20
Cadmium	ND		80.0	80.1		ug/L		100	80 - 120	1	20
Copper	5.5		80.0	87.5		ug/L		102	80 - 120	2	20
Lead	12		80.0	90.6		ug/L		98	80 - 120	1	20
Nickel	2.7		80.0	82.6		ug/L		100	80 - 120	1	20
Selenium	0.67	J,DX	80.0	77.5		ug/L		96	80 - 120	1	20
Silver	ND		80.0	81.4		ug/L		102	80 - 120	0	20
Thallium	ND		80.0	78.3		ug/L		98	80 - 120	0	20
Zinc	17	J,DX	80.0	96.6		ug/L		99	80 - 120	2	20

Lab Sample ID: MB 570-357706/1-A
Matrix: Water
Analysis Batch: 357915

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.36	ug/L			08/24/23 14:03	1
Cadmium	ND		1.0	0.13	ug/L			08/24/23 14:03	1
Copper	ND		2.0	0.32	ug/L			08/24/23 14:03	1
Lead	ND		1.0	0.12	ug/L			08/24/23 14:03	1
Nickel	ND		2.0	0.17	ug/L			08/24/23 14:03	1
Selenium	ND		2.0	0.52	ug/L			08/24/23 14:03	1
Silver	ND		1.0	0.23	ug/L			08/24/23 14:03	1
Thallium	ND		1.0	0.11	ug/L			08/24/23 14:03	1
Zinc	ND		20	2.8	ug/L			08/24/23 14:03	1

Lab Sample ID: LCS 570-357706/2-A
Matrix: Water
Analysis Batch: 357915

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	80.0	75.8		ug/L		95	85 - 115
Cadmium	80.0	75.8		ug/L		95	85 - 115
Copper	80.0	76.3		ug/L		95	85 - 115
Lead	80.0	76.6		ug/L		96	85 - 115
Nickel	80.0	76.6		ug/L		96	85 - 115
Selenium	80.0	73.4		ug/L		92	85 - 115

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 570-357706/2-A
Matrix: Water
Analysis Batch: 357915

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Silver	80.0	75.7		ug/L		95	85 - 115
Thallium	80.0	78.4		ug/L		98	85 - 115
Zinc	80.0	74.2		ug/L		93	85 - 115

Lab Sample ID: LCSD 570-357706/3-A
Matrix: Water
Analysis Batch: 357915

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
Antimony	80.0	78.0		ug/L		98	85 - 115	3	20
Cadmium	80.0	76.1		ug/L		95	85 - 115	0	20
Copper	80.0	77.7		ug/L		97	85 - 115	2	20
Lead	80.0	78.3		ug/L		98	85 - 115	2	20
Nickel	80.0	77.7		ug/L		97	85 - 115	1	20
Selenium	80.0	74.9		ug/L		94	85 - 115	2	20
Silver	80.0	76.3		ug/L		95	85 - 115	1	20
Thallium	80.0	79.5		ug/L		99	85 - 115	1	20
Zinc	80.0	75.9		ug/L		95	85 - 115	2	20

Lab Sample ID: 570-149524-2 MS
Matrix: Water
Analysis Batch: 357915

Client Sample ID: Outfall009_20230822_Comp_F
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	1.8	J,DX BU	80.0	77.6	BU	ug/L		95	80 - 120
Cadmium	ND	BU	80.0	76.1	BU	ug/L		95	80 - 120
Copper	4.2	BU	80.0	81.5	BU	ug/L		97	80 - 120
Lead	2.8	BU	80.0	79.0	BU	ug/L		95	80 - 120
Nickel	1.6	J,DX BU	80.0	77.7	BU	ug/L		95	80 - 120
Selenium	ND	BU	80.0	75.1	BU	ug/L		94	80 - 120
Silver	ND	BU	80.0	76.0	BU	ug/L		95	80 - 120
Thallium	ND	BU	80.0	77.3	BU	ug/L		97	80 - 120
Zinc	9.5	J,DX BU	80.0	84.2	BU	ug/L		93	80 - 120

Lab Sample ID: 570-149524-2 MSD
Matrix: Water
Analysis Batch: 357915

Client Sample ID: Outfall009_20230822_Comp_F
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	1.8	J,DX BU	80.0	76.7	BU	ug/L		94	80 - 120	1	20
Cadmium	ND	BU	80.0	74.1	BU	ug/L		93	80 - 120	3	20
Copper	4.2	BU	80.0	80.1	BU	ug/L		95	80 - 120	2	20
Lead	2.8	BU	80.0	79.0	BU	ug/L		95	80 - 120	0	20
Nickel	1.6	J,DX BU	80.0	76.4	BU	ug/L		93	80 - 120	2	20
Selenium	ND	BU	80.0	75.1	BU	ug/L		94	80 - 120	0	20
Silver	ND	BU	80.0	73.6	BU	ug/L		92	80 - 120	3	20
Thallium	ND	BU	80.0	76.9	BU	ug/L		96	80 - 120	1	20
Zinc	9.5	J,DX BU	80.0	82.4	BU	ug/L		91	80 - 120	2	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-357522/1-A
Matrix: Water
Analysis Batch: 357922
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 357522

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		08/23/23 16:15	08/24/23 14:21	1

Lab Sample ID: LCS 570-357522/2-A
Matrix: Water
Analysis Batch: 357922
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 357522

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	7.32		ug/L		91	85 - 115

Lab Sample ID: LCSD 570-357522/3-A
Matrix: Water
Analysis Batch: 357922
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 357522

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	7.02		ug/L		88	85 - 115	4	10

Lab Sample ID: 570-149524-1 MS
Matrix: Water
Analysis Batch: 357922
Client Sample ID: Outfall009_20230822_Comp
Prep Type: Total/NA
Prep Batch: 357522

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		8.00	7.94		ug/L		99	85 - 115

Lab Sample ID: 570-149524-1 MSD
Matrix: Water
Analysis Batch: 357922
Client Sample ID: Outfall009_20230822_Comp
Prep Type: Total/NA
Prep Batch: 357522

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		8.00	7.97		ug/L		100	85 - 115	0	10

Lab Sample ID: MB 570-357459/1-B
Matrix: Water
Analysis Batch: 357922
Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 357519

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		08/23/23 16:13	08/24/23 14:57	1

Lab Sample ID: LCS 570-357459/2-B
Matrix: Water
Analysis Batch: 357922
Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 357519

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	7.73		ug/L		97	85 - 115

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 570-357459/3-B
Matrix: Water
Analysis Batch: 357922
Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 357519

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury			8.00	7.38		ug/L		92	85 - 115	5	10

Lab Sample ID: 570-149524-2 MS
Matrix: Water
Analysis Batch: 357922
Client Sample ID: Outfall009_20230822_Comp_F
Prep Type: Dissolved
Prep Batch: 357519

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury	ND	BU	8.00	7.94	BU	ug/L		99	85 - 115		

Lab Sample ID: 570-149524-2 MSD
Matrix: Water
Analysis Batch: 357922
Client Sample ID: Outfall009_20230822_Comp_F
Prep Type: Dissolved
Prep Batch: 357519

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND	BU	8.00	7.92	BU	ug/L		99	85 - 115	0	10

Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate

Lab Sample ID: MB 570-358787/11
Matrix: Water
Analysis Batch: 358787
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			08/28/23 12:19	1

Lab Sample ID: LCS 570-358787/12
Matrix: Water
Analysis Batch: 358787
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	241		ug/L		96	90 - 110		

Lab Sample ID: LCSD 570-358787/13
Matrix: Water
Analysis Batch: 358787
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	250		ug/L		100	90 - 110	4	20

Lab Sample ID: MRL 570-358787/10
Matrix: Water
Analysis Batch: 358787
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	5.62		ug/L		113	50 - 150		

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 570-358013/1
Matrix: Water
Analysis Batch: 358013

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			08/24/23 19:37	1

Lab Sample ID: LCS 570-358013/2
Matrix: Water
Analysis Batch: 358013

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	1020		mg/L		102	84 - 108

Lab Sample ID: LCSD 570-358013/3
Matrix: Water
Analysis Batch: 358013

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	1010		mg/L		101	84 - 108	2	10

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-357400/1
Matrix: Water
Analysis Batch: 357400

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			08/23/23 12:09	1

Lab Sample ID: LCS 570-357400/2
Matrix: Water
Analysis Batch: 357400

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	103		mg/L		103	77 - 116

Lab Sample ID: LCSD 570-357400/3
Matrix: Water
Analysis Batch: 357400

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	106		mg/L		106	77 - 116	3	10

HPLC/IC

Analysis Batch: 357219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-1	Outfall009_20230822_Comp	Total/NA	Water	300.0	
MB 570-357219/5	Method Blank	Total/NA	Water	300.0	
LCS 570-357219/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-357219/7	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 359587

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-1	Outfall009_20230822_Comp	Total/NA	Water	314.0	
MB 570-359587/7	Method Blank	Total/NA	Water	314.0	
LCS 570-359587/8	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-359587/9	Lab Control Sample Dup	Total/NA	Water	314.0	

Analysis Batch: 361054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-1	Outfall009_20230822_Comp	Total/NA	Water	NO2NO3 Calc	

Metals

Prep Batch: 357293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-1	Outfall009_20230822_Comp	Total Recoverable	Water	200.8	
MB 570-357293/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-357293/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-357293/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-149524-1 MS	Outfall009_20230822_Comp	Total Recoverable	Water	200.8	
570-149524-1 MSD	Outfall009_20230822_Comp	Total Recoverable	Water	200.8	

Filtration Batch: 357459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-2	Outfall009_20230822_Comp_F	Dissolved	Water	Filtration	
MB 570-357459/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-357459/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-357459/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-149524-2 MS	Outfall009_20230822_Comp_F	Dissolved	Water	Filtration	
570-149524-2 MSD	Outfall009_20230822_Comp_F	Dissolved	Water	Filtration	

Prep Batch: 357519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-2	Outfall009_20230822_Comp_F	Dissolved	Water	245.1	357459
MB 570-357459/1-B	Method Blank	Dissolved	Water	245.1	357459
LCS 570-357459/2-B	Lab Control Sample	Dissolved	Water	245.1	357459
LCSD 570-357459/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	357459
570-149524-2 MS	Outfall009_20230822_Comp_F	Dissolved	Water	245.1	357459
570-149524-2 MSD	Outfall009_20230822_Comp_F	Dissolved	Water	245.1	357459

Prep Batch: 357522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-1	Outfall009_20230822_Comp	Total/NA	Water	245.1	
MB 570-357522/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-357522/2-A	Lab Control Sample	Total/NA	Water	245.1	

Metals (Continued)

Prep Batch: 357522 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 570-357522/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-149524-1 MS	Outfall009_20230822_Comp	Total/NA	Water	245.1	
570-149524-1 MSD	Outfall009_20230822_Comp	Total/NA	Water	245.1	

Filtration Batch: 357706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-2	Outfall009_20230822_Comp_F	Dissolved	Water	Filtration	
MB 570-357706/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-357706/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-357706/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-149524-2 MS	Outfall009_20230822_Comp_F	Dissolved	Water	Filtration	
570-149524-2 MSD	Outfall009_20230822_Comp_F	Dissolved	Water	Filtration	

Analysis Batch: 357915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-2	Outfall009_20230822_Comp_F	Dissolved	Water	200.8	357706
MB 570-357706/1-A	Method Blank	Dissolved	Water	200.8	357706
LCS 570-357706/2-A	Lab Control Sample	Dissolved	Water	200.8	357706
LCSD 570-357706/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	357706
570-149524-2 MS	Outfall009_20230822_Comp_F	Dissolved	Water	200.8	357706
570-149524-2 MSD	Outfall009_20230822_Comp_F	Dissolved	Water	200.8	357706

Analysis Batch: 357922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-1	Outfall009_20230822_Comp	Total/NA	Water	245.1	357522
570-149524-2	Outfall009_20230822_Comp_F	Dissolved	Water	245.1	357519
MB 570-357459/1-B	Method Blank	Dissolved	Water	245.1	357519
MB 570-357522/1-A	Method Blank	Total/NA	Water	245.1	357522
LCS 570-357459/2-B	Lab Control Sample	Dissolved	Water	245.1	357519
LCS 570-357522/2-A	Lab Control Sample	Total/NA	Water	245.1	357522
LCSD 570-357459/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	357519
LCSD 570-357522/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	357522
570-149524-1 MS	Outfall009_20230822_Comp	Total/NA	Water	245.1	357522
570-149524-1 MSD	Outfall009_20230822_Comp	Total/NA	Water	245.1	357522
570-149524-2 MS	Outfall009_20230822_Comp_F	Dissolved	Water	245.1	357519
570-149524-2 MSD	Outfall009_20230822_Comp_F	Dissolved	Water	245.1	357519

Analysis Batch: 358172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-1	Outfall009_20230822_Comp	Total Recoverable	Water	200.8	357293
MB 570-357293/1-A	Method Blank	Total Recoverable	Water	200.8	357293
LCS 570-357293/2-A	Lab Control Sample	Total Recoverable	Water	200.8	357293
LCSD 570-357293/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	357293
570-149524-1 MS	Outfall009_20230822_Comp	Total Recoverable	Water	200.8	357293
570-149524-1 MSD	Outfall009_20230822_Comp	Total Recoverable	Water	200.8	357293

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Job ID: 570-149524-1

General Chemistry

Analysis Batch: 357400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-1	Outfall009_20230822_Comp	Total/NA	Water	SM 2540D	
MB 570-357400/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-357400/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-357400/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 358013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-1	Outfall009_20230822_Comp	Total/NA	Water	SM 2540C	
MB 570-358013/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 570-358013/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 570-358013/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

Analysis Batch: 358787

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-1	Outfall009_20230822_Comp	Total/NA	Water	Kelada 01	
MB 570-358787/11	Method Blank	Total/NA	Water	Kelada 01	
LCS 570-358787/12	Lab Control Sample	Total/NA	Water	Kelada 01	
LCSD 570-358787/13	Lab Control Sample Dup	Total/NA	Water	Kelada 01	
MRL 570-358787/10	Lab Control Sample	Total/NA	Water	Kelada 01	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-149524-1
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Client Sample ID: Outfall009_20230822_Comp
Lab Sample ID: 570-149524-1
Date Collected: 08/22/23 08:35
Matrix: Water
Date Received: 08/22/23 18:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	4 mL	4 mL	357219	08/23/23 13:09	UIP1	EET CAL 4
	Instrument ID: IC7									
Total/NA	Analysis	314.0		1	4 mL	4 mL	359587	08/30/23 14:46	YO8L	EET CAL 4
	Instrument ID: IC13									
Total/NA	Analysis	NO2NO3 Calc		1			361054	09/05/23 14:39	WH6J	EET CAL 4
	Instrument ID: NOEQUIP									
Total Recoverable	Prep	200.8			50 mL	50 mL	357293	08/23/23 08:50	JP8N	EET CAL 4
Total Recoverable	Analysis	200.8		1			358172	08/25/23 11:05	Y2WS	EET CAL 4
	Instrument ID: ICPMS10									
Total/NA	Prep	245.1			25 mL	50 mL	357522	08/23/23 16:15	EV3M	EET CAL 4
Total/NA	Analysis	245.1		1			357922	08/24/23 14:27	C0YH	EET CAL 4
	Instrument ID: HG9									
Total/NA	Analysis	Kelada 01		1	8 mL	8 mL	358787	08/28/23 13:17	GG0B	EET CAL 4
	Instrument ID: LACHAT01									
Total/NA	Analysis	SM 2540C		1	100 mL	1000 mL	358013	08/24/23 19:37	ZL7L	EET CAL 4
	Instrument ID: BAL100									
Total/NA	Analysis	SM 2540D		1	300 mL	1000 mL	357400	08/23/23 12:09	UWCT	EET CAL 4
	Instrument ID: BAL71									

Client Sample ID: Outfall009_20230822_Comp_F
Lab Sample ID: 570-149524-2
Date Collected: 08/22/23 08:35
Matrix: Water
Date Received: 08/22/23 18:31

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	357706	08/24/23 08:39	JP8N	EET CAL 4
Dissolved	Analysis	200.8		1			357915	08/24/23 14:17	Y2WS	EET CAL 4
	Instrument ID: ICPMS09									
Dissolved	Filtration	Filtration			25 mL	25 mL	357459	08/23/23 14:38	EV3M	EET CAL 4
Dissolved	Prep	245.1			25 mL	50 mL	357519	08/23/23 16:13	EV3M	EET CAL 4
Dissolved	Analysis	245.1		1			357922	08/24/23 15:07	C0YH	EET CAL 4
	Instrument ID: HG9									

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: 570-149524-1
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-23

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-149524-1
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Method	Method Description	Protocol	Laboratory
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
Kelada 01	Cyanide, Total, Acid Dissociable and Thiocyanate	EPA	EET CAL 4
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CAL 4
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CAL 4
200.8	Preparation, Total Recoverable Metals	EPA	EET CAL 4
245.1	Preparation, Mercury	EPA	EET CAL 4
Filtration	Sample Filtration	None	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 - Semi-Annual Outfall 009 - Comp

Job ID: 570-149524-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-149524-1	Outfall009_20230822_Comp	Water	08/22/23 08:35	08/22/23 18:31
570-149524-2	Outfall009_20230822_Comp_F	Water	08/22/23 08:35	08/22/23 18:31

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address: Haley & Aldrich, Inc. 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2023 Semiannual Outfall [003-007, 009, 010] Outfall 009 Comp
Eurofins Calscience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 **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: (E200.8): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl (R)	TCDD (and all congeners) (E1613B) (R)	Cl⁻, SO_4, NO_3+NO_2-N, Perchlorate (E300) (S/R)	TDS (SM2540C/E160.1) (R)	Total Dissolved Metals: (E200.8): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl (R)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1) (R)	Cyanide (SM4500-CN-E / E335.2) (R)	(R)	Total Recoverable Metals: Mercury (E245.1) (R)	Total Dissolved Metals: Mercury (E245.1) (R)	TSS (160.2 (SM2540D)) (EP)		Comments
Outfall 009	Outfall009_20230822_Comp	8/22/2023 0935	WM	500 mL Poly	1	HNO_3	95	Yes	X								X				
			WM	1 L Glass Amber	2	None	110	No		X											
1			WM	500 mL Poly	2	None	140	No			X										48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	155	No				X									
			WM	500 mL Poly	1	NaOH	220	No							X						
			WM	2.5 Gal Cube	1	None	225	No						X							Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No													
			WM	1 L Poly	1	None	185	No											X		
2	Outfall009_20230822_Comp_F	8/22/2023 0935	WM	1 L Poly	1	None	205	Yes					X								Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No										X			Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall009_20230822_Comp_Extra	8/22/2023 0835	WM	1 L Glass Amber	2	None	110	No		H											Hold
3			WM	500 mL Poly	2	None	145	No			H										Hold

Legend: EP=Expert Panel, R=Routine, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	8-22-2023/1400	H&A	[signature] EC	8/22/23 1400
[signature] EC	8-22-23 1831		[signature]	8/22/23 1831

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___

1.8/2.1, 2.2/2.5 5c/5

ACD

570-149524 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: 570-272825.1
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 #: 570-149524-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/27/2023			
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 - Sem-Annual Outfall 009 - 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)	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:												
Outfall009_20230822_Comp (570-149524-1)	8/22/23	08:35 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	*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: 8/23/23 1329	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: 570-272920.1
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 #: 570-149524-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 9/14/2023			
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 - Sem-Annual Outfall 009 - 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:							
Outfall009_20230822_Comp (570-149524-1)	8/22/23	08:35 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall009_20230822_Comp_Extra (570-149524-3)	8/22/23	08:35 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.

Note: Since laboratory accreditations are subject to change, Eurofins 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:	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: 570-149524-1

Login Number: 149524
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

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

ANALYTICAL REPORT

PREPARED FOR

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

Generated 9/22/2023 1:05:47 PM

JOB DESCRIPTION

Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

JOB NUMBER

570-149524-2

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

myEOL

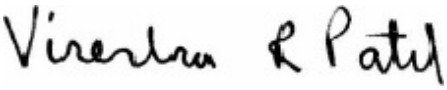
Eurofins Calscience

Job Notes

This report 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
9/22/2023 1:05:47 PM

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Job ID: 570-149524-2

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: 570-149524-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-149524-2

Receipt
The samples were received on 8/22/2023 6:31 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.1º C and 2.5º C.

Receipt Exceptions

The reference method requires samples to have a pH of <2. The following sample was received with a pH of 7: Outfall009_20230822_Comp (570-149524-1). The samples were 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 DFS 1 exceeded this criteria: Outfall009_20230822_Comp (570-149524-1), (CCV 320-707510/2), (LCS 320-705588/2-A), (LCSD 320-705588/3-A) and (MB 320-705588/1-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: 570-149524-2
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Client Sample ID: Outfall009_20230822_Comp
Lab Sample ID: 570-149524-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000023	J,DX MB	0.000047	0.00000040	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.00000089	J,DX q MB	0.000047	0.00000037	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000016	J,DX q MB	0.000047	0.00000035	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.00000057	J,DX MB	0.000047	0.00000029	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.00000065	J,DX MB	0.000047	0.00000027	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000017	J,DX MB	0.000047	0.00000022	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000046	J,DX MB	0.000047	0.00000039	ug/L	1		1613B	Total/NA
OCDD	0.00016	MB	0.000094	0.00000061	ug/L	1		1613B	Total/NA
OCDF	0.000011	J,DX MB	0.000094	0.00000070	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000078	J,DX q MB	0.000047	0.00000037	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000023	J,DX q MB	0.000047	0.00000027	ug/L	1		1613B	Total/NA
Total HpCDD	0.000042	J,DX MB	0.000047	0.00000022	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000095	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: Outfall009_20230822_Comp
Date Collected: 08/22/23 08:35
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149524-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000094	0.00000066	ug/L		09/13/23 08:35	09/20/23 06:01	1
2,3,7,8-TCDF	ND		0.0000094	0.00000033	ug/L		09/13/23 08:35	09/20/23 06:01	1
1,2,3,7,8-PeCDD	ND		0.000047	0.00000067	ug/L		09/13/23 08:35	09/20/23 06:01	1
1,2,3,7,8-PeCDF	ND		0.000047	0.00000024	ug/L		09/13/23 08:35	09/20/23 06:01	1
2,3,4,7,8-PeCDF	ND		0.000047	0.00000032	ug/L		09/13/23 08:35	09/20/23 06:01	1
1,2,3,4,7,8-HxCDD	**0.0000023**	**J,DX MB**	0.000047	0.00000040	ug/L		09/13/23 08:35	09/20/23 06:01	1
1,2,3,6,7,8-HxCDD	**0.00000089**	**J,DX q MB**	0.000047	0.00000037	ug/L		09/13/23 08:35	09/20/23 06:01	1
1,2,3,7,8,9-HxCDD	**0.0000016**	**J,DX q MB**	0.000047	0.00000035	ug/L		09/13/23 08:35	09/20/23 06:01	1
1,2,3,4,7,8-HxCDF	**0.00000057**	**J,DX MB**	0.000047	0.00000029	ug/L		09/13/23 08:35	09/20/23 06:01	1
1,2,3,6,7,8-HxCDF	**0.00000065**	**J,DX MB**	0.000047	0.00000027	ug/L		09/13/23 08:35	09/20/23 06:01	1
1,2,3,7,8,9-HxCDF	ND		0.000047	0.00000026	ug/L		09/13/23 08:35	09/20/23 06:01	1
2,3,4,6,7,8-HxCDF	ND		0.000047	0.00000025	ug/L		09/13/23 08:35	09/20/23 06:01	1
1,2,3,4,6,7,8-HpCDD	**0.000017**	**J,DX MB**	0.000047	0.00000022	ug/L		09/13/23 08:35	09/20/23 06:01	1
1,2,3,4,6,7,8-HpCDF	**0.0000046**	**J,DX MB**	0.000047	0.00000039	ug/L		09/13/23 08:35	09/20/23 06:01	1
1,2,3,4,7,8,9-HpCDF	ND		0.000047	0.00000045	ug/L		09/13/23 08:35	09/20/23 06:01	1
OCDD	**0.00016**	**MB**	0.000094	0.00000061	ug/L		09/13/23 08:35	09/20/23 06:01	1
OCDF	**0.000011**	**J,DX MB**	0.000094	0.00000070	ug/L		09/13/23 08:35	09/20/23 06:01	1
Total TCDD	ND		0.0000094	0.00000066	ug/L		09/13/23 08:35	09/20/23 06:01	1
Total TCDF	ND		0.0000094	0.00000033	ug/L		09/13/23 08:35	09/20/23 06:01	1
Total PeCDD	ND		0.000047	0.00000067	ug/L		09/13/23 08:35	09/20/23 06:01	1
Total PeCDF	ND		0.000047	0.00000032	ug/L		09/13/23 08:35	09/20/23 06:01	1
Total HxCDD	**0.0000078**	**J,DX q MB**	0.000047	0.00000037	ug/L		09/13/23 08:35	09/20/23 06:01	1
Total HxCDF	**0.0000023**	**J,DX q MB**	0.000047	0.00000027	ug/L		09/13/23 08:35	09/20/23 06:01	1
Total HpCDD	**0.000042**	**J,DX MB**	0.000047	0.00000022	ug/L		09/13/23 08:35	09/20/23 06:01	1
Total HpCDF	**0.0000095**	**J,DX MB**	0.000047	0.00000042	ug/L		09/13/23 08:35	09/20/23 06:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*78*		*25 - 164*	*09/13/23 08:35*	*09/20/23 06:01*	*1*
13C-2,3,7,8-TCDF	*79*		*24 - 169*	*09/13/23 08:35*	*09/20/23 06:01*	*1*
13C-1,2,3,7,8-PeCDD	*70*		*25 - 181*	*09/13/23 08:35*	*09/20/23 06:01*	*1*

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall009_20230822_Comp
Date Collected: 08/22/23 08:35
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149524-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	76		24 - 185	09/13/23 08:35	09/20/23 06:01	1
13C-2,3,4,7,8-PeCDF	68		21 - 178	09/13/23 08:35	09/20/23 06:01	1
13C-1,2,3,4,7,8-HxCDD	71		32 - 141	09/13/23 08:35	09/20/23 06:01	1
13C-1,2,3,6,7,8-HxCDD	71		28 - 130	09/13/23 08:35	09/20/23 06:01	1
13C-1,2,3,4,7,8-HxCDF	73		26 - 152	09/13/23 08:35	09/20/23 06:01	1
13C-1,2,3,6,7,8-HxCDF	69		26 - 123	09/13/23 08:35	09/20/23 06:01	1
13C-1,2,3,7,8,9-HxCDF	64		29 - 147	09/13/23 08:35	09/20/23 06:01	1
13C-2,3,4,6,7,8-HxCDF	74		28 - 136	09/13/23 08:35	09/20/23 06:01	1
13C-1,2,3,4,6,7,8-HpCDD	71		23 - 140	09/13/23 08:35	09/20/23 06:01	1
13C-1,2,3,4,6,7,8-HpCDF	75		28 - 143	09/13/23 08:35	09/20/23 06:01	1
13C-1,2,3,4,7,8,9-HpCDF	67		26 - 138	09/13/23 08:35	09/20/23 06:01	1
13C-OCDD	66		17 - 157	09/13/23 08:35	09/20/23 06:01	1
13C-OCDF	76		17 - 157	09/13/23 08:35	09/20/23 06:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	95		35 - 197	09/13/23 08:35	09/20/23 06:01	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Job ID: 570-149524-2

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)								
570-149524-1	Outfall009_20230822_Comp	95								
MB 320-705588/1-A	Method Blank	100								

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 320-705588/2-A	Lab Control Sample	95								
LCSD 320-705588/3-A	Lab Control Sample Dup	97								

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Job ID: 570-149524-2

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)
570-149524-1	Outfall009_20230822_Comp	78	79	70	76	68	71	71	73
MB 320-705588/1-A	Method Blank	78	81	71	75	69	67	68	71

		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)
570-149524-1	Outfall009_20230822_Comp	69	64	74	71	75	67	66	76
MB 320-705588/1-A	Method Blank	65	61	70	69	71	64	64	73

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 320-705588/2-A	Lab Control Sample	77	79	69	75	66	68	69	70
LCSD 320-705588/3-A	Lab Control Sample Dup	84	86	76	84	75	76	77	82

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)	OCDF (13-199)
LCS 320-705588/2-A	Lab Control Sample	66	62	71	71	72	65	66	75
LCSD 320-705588/3-A	Lab Control Sample Dup	76	71	79	77	82	72	72	83

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: 570-149524-2
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD
OCDF = 13C-OCDF

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Job ID: 570-149524-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-705588/1-A
Matrix: Water
Analysis Batch: 707510

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 705588

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000080	ug/L		09/13/23 08:35	09/20/23 02:48	1
2,3,7,8-TCDF	ND		0.000010	0.00000042	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,7,8-PeCDD	ND		0.000050	0.0000010	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,7,8-PeCDF	0.00000184	J,DX	0.000050	0.00000037	ug/L		09/13/23 08:35	09/20/23 02:48	1
2,3,4,7,8-PeCDF	0.00000190	J,DX	0.000050	0.00000044	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,4,7,8-HxCDD	0.00000259	J,DX q	0.000050	0.00000049	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,6,7,8-HxCDD	0.00000228	J,DX	0.000050	0.00000048	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,7,8,9-HxCDD	0.00000280	J,DX	0.000050	0.00000044	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,4,7,8-HxCDF	0.00000202	J,DX	0.000050	0.00000039	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,6,7,8-HxCDF	0.00000187	J,DX	0.000050	0.00000037	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,7,8,9-HxCDF	0.00000200	J,DX	0.000050	0.00000036	ug/L		09/13/23 08:35	09/20/23 02:48	1
2,3,4,6,7,8-HxCDF	0.00000171	J,DX q	0.000050	0.00000035	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,4,6,7,8-HpCDD	0.00000323	J,DX	0.000050	0.00000018	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,4,6,7,8-HpCDF	0.00000301	J,DX	0.000050	0.00000044	ug/L		09/13/23 08:35	09/20/23 02:48	1
1,2,3,4,7,8,9-HpCDF	0.00000228	J,DX	0.000050	0.00000053	ug/L		09/13/23 08:35	09/20/23 02:48	1
OCDD	0.00000803	J,DX	0.00010	0.00000046	ug/L		09/13/23 08:35	09/20/23 02:48	1
OCDF	0.00000499	J,DX	0.00010	0.00000090	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total TCDD	ND		0.000010	0.00000080	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total TCDF	ND		0.000010	0.00000042	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total PeCDD	ND		0.000050	0.0000010	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total PeCDF	0.00000374	J,DX	0.000050	0.00000040	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total HxCDD	0.00000767	J,DX q	0.000050	0.00000047	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total HxCDF	0.00000760	J,DX q	0.000050	0.00000037	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total HpCDD	0.00000323	J,DX	0.000050	0.00000018	ug/L		09/13/23 08:35	09/20/23 02:48	1
Total HpCDF	0.00000528	J,DX	0.000050	0.00000049	ug/L		09/13/23 08:35	09/20/23 02:48	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*78*		*25 - 164*	*09/13/23 08:35*	*09/20/23 02:48*	*1*
13C-2,3,7,8-TCDF	*81*		*24 - 169*	*09/13/23 08:35*	*09/20/23 02:48*	*1*
13C-1,2,3,7,8-PeCDD	*71*		*25 - 181*	*09/13/23 08:35*	*09/20/23 02:48*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-705588/1-A
Matrix: Water
Analysis Batch: 707510

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 705588

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	75		24 - 185	09/13/23 08:35	09/20/23 02:48	1
13C-2,3,4,7,8-PeCDF	69		21 - 178	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,4,7,8-HxCDD	67		32 - 141	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,6,7,8-HxCDD	68		28 - 130	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,4,7,8-HxCDF	71		26 - 152	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,6,7,8-HxCDF	65		26 - 123	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,7,8,9-HxCDF	61		29 - 147	09/13/23 08:35	09/20/23 02:48	1
13C-2,3,4,6,7,8-HxCDF	70		28 - 136	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,4,6,7,8-HpCDD	69		23 - 140	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,4,6,7,8-HpCDF	71		28 - 143	09/13/23 08:35	09/20/23 02:48	1
13C-1,2,3,4,7,8,9-HpCDF	64		26 - 138	09/13/23 08:35	09/20/23 02:48	1
13C-OCDD	64		17 - 157	09/13/23 08:35	09/20/23 02:48	1
13C-OCDF	73		17 - 157	09/13/23 08:35	09/20/23 02:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	100		35 - 197	09/13/23 08:35	09/20/23 02:48	1

Lab Sample ID: LCS 320-705588/2-A
Matrix: Water
Analysis Batch: 707510

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 705588

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
2,3,7,8-TCDD			0.000200	0.000198		ug/L		99	67 - 158		
2,3,7,8-TCDF			0.000200	0.000194		ug/L		97	75 - 158		
1,2,3,7,8-PeCDD			0.00100	0.000993		ug/L		99	70 - 142		
1,2,3,7,8-PeCDF			0.00100	0.000972		ug/L		97	80 - 134		
2,3,4,7,8-PeCDF			0.00100	0.00107		ug/L		107	68 - 160		
1,2,3,4,7,8-HxCDD			0.00100	0.000893	MB	ug/L		89	70 - 164		
1,2,3,6,7,8-HxCDD			0.00100	0.000892	MB	ug/L		89	76 - 134		
1,2,3,7,8,9-HxCDD			0.00100	0.000949	MB	ug/L		95	64 - 162		
1,2,3,4,7,8-HxCDF			0.00100	0.000925	MB	ug/L		93	72 - 134		
1,2,3,6,7,8-HxCDF			0.00100	0.000858	MB	ug/L		86	84 - 130		
1,2,3,7,8,9-HxCDF			0.00100	0.000875		ug/L		88	78 - 130		
2,3,4,6,7,8-HxCDF			0.00100	0.000897		ug/L		90	70 - 156		
1,2,3,4,6,7,8-HpCDD			0.00100	0.000896	MB	ug/L		90	70 - 140		
1,2,3,4,6,7,8-HpCDF			0.00100	0.000860	MB	ug/L		86	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000920		ug/L		92	78 - 138		
OCDD			0.00200	0.00179	MB	ug/L		89	78 - 144		
OCDF			0.00200	0.00156	MB	ug/L		78	63 - 170		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	77		20 - 175
13C-2,3,7,8-TCDF	79		22 - 152
13C-1,2,3,7,8-PeCDD	69		21 - 227
13C-1,2,3,7,8-PeCDF	75		21 - 192
13C-2,3,4,7,8-PeCDF	66		13 - 328
13C-1,2,3,4,7,8-HxCDD	68		21 - 193

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-705588/2-A
Matrix: Water
Analysis Batch: 707510

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 705588

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,6,7,8-HxCDD	69		25 - 163
13C-1,2,3,4,7,8-HxCDF	70		19 - 202
13C-1,2,3,6,7,8-HxCDF	66		21 - 159
13C-1,2,3,7,8,9-HxCDF	62		17 - 205
13C-2,3,4,6,7,8-HxCDF	71		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	71		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	72		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	65		20 - 186
13C-OCDD	66		13 - 199
13C-OCDF	75		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	95		31 - 191

Lab Sample ID: LCSD 320-705588/3-A
Matrix: Water
Analysis Batch: 707510

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 705588

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000196		ug/L		98	67 - 158	1	50
2,3,7,8-TCDF			0.000200	0.000198		ug/L		99	75 - 158	2	50
1,2,3,7,8-PeCDD			0.00100	0.00100		ug/L		100	70 - 142	1	50
1,2,3,7,8-PeCDF			0.00100	0.000959		ug/L		96	80 - 134	1	50
2,3,4,7,8-PeCDF			0.00100	0.00107		ug/L		107	68 - 160	0	50
1,2,3,4,7,8-HxCDD			0.00100	0.000949	MB	ug/L		95	70 - 164	6	50
1,2,3,6,7,8-HxCDD			0.00100	0.000920	MB	ug/L		92	76 - 134	3	50
1,2,3,7,8,9-HxCDD			0.00100	0.000981	MB	ug/L		98	64 - 162	3	50
1,2,3,4,7,8-HxCDF			0.00100	0.000947	MB	ug/L		95	72 - 134	2	50
1,2,3,6,7,8-HxCDF			0.00100	0.000899	MB	ug/L		90	84 - 130	5	50
1,2,3,7,8,9-HxCDF			0.00100	0.000885		ug/L		88	78 - 130	1	50
2,3,4,6,7,8-HxCDF			0.00100	0.000914		ug/L		91	70 - 156	2	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.000924	MB	ug/L		92	70 - 140	3	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.000894	MB	ug/L		89	82 - 122	4	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000964		ug/L		96	78 - 138	5	50
OCDD			0.00200	0.00183	MB	ug/L		92	78 - 144	2	50
OCDF			0.00200	0.00164	MB	ug/L		82	63 - 170	5	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	84		20 - 175
13C-2,3,7,8-TCDF	86		22 - 152
13C-1,2,3,7,8-PeCDD	76		21 - 227
13C-1,2,3,7,8-PeCDF	84		21 - 192
13C-2,3,4,7,8-PeCDF	75		13 - 328
13C-1,2,3,4,7,8-HxCDD	76		21 - 193
13C-1,2,3,6,7,8-HxCDD	77		25 - 163
13C-1,2,3,4,7,8-HxCDF	82		19 - 202
13C-1,2,3,6,7,8-HxCDF	76		21 - 159

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-705588/3-A
Matrix: Water
Analysis Batch: 707510

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 705588

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-1,2,3,7,8,9-HxCDF	71		17 - 205
13C-2,3,4,6,7,8-HxCDF	79		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	77		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	82		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	72		20 - 186
13C-OCDD	72		13 - 199
13C-OCDF	83		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	97		31 - 191

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-149524-2
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Specialty Organics

Prep Batch: 705588

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-1	Outfall009_20230822_Comp	Total/NA	Water	1613B	
MB 320-705588/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-705588/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-705588/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 707510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-1	Outfall009_20230822_Comp	Total/NA	Water	1613B	705588
MB 320-705588/1-A	Method Blank	Total/NA	Water	1613B	705588
LCS 320-705588/2-A	Lab Control Sample	Total/NA	Water	1613B	705588
LCSD 320-705588/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	705588

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-149524-2
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Client Sample ID: Outfall009_20230822_Comp
Lab Sample ID: 570-149524-1

Date Collected: 08/22/23 08:35
Matrix: Water
Date Received: 08/22/23 18:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			1060.8 mL	20.0 uL	705588	09/13/23 08:35	AS	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	707510	09/20/23 06:01	KSS	EET SAC
	Instrument ID: DFS 1									

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: 570-149524-2
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Laboratory: Eurofins Sacramento

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-24
Arkansas DEQ	State	88-0691	05-18-24
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-24
Florida	NELAP	E87570	06-30-24
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 (All)	NELAP	01944	06-30-24
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-24
Nevada	State	CA00044	07-31-24
New Hampshire	NELAP	2997	04-18-24
New Jersey	NELAP	CA005	06-30-24
New York	NELAP	11666	04-01-24
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-24
Texas	NELAP	T104704399-19-13	05-31-24
US Fish & Wildlife	US Federal Programs	58448	04-30-24
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442021-12	02-29-24
Virginia	NELAP	460278	03-14-24
Washington	State	C581	05-05-24
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-24
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 - Semi-Annual Outfall 009 - Comp

Job ID: 570-149524-2

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.
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Job ID: 570-149524-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-149524-1	Outfall009_20230822_Comp	Water	08/22/23 08:35	08/22/23 18:31

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:	ANALYSIS REQUIRED
Haley & Aldrich, Inc. 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2023 Semiannual Outfall [003-007, 009, 010] Outfall 009 Comp	
Eurofins Calscience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 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	R	S/R	R	R	R	R	R	R	R	EP		
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.8): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	Cl, SO_4, NO_3+NO_2-N, Perchlorate (E300)	TDS (SM2540C/E160.1)	Total Dissolved Metals: (E200.8): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	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)	Cyanide (SM4500-CN-E / E335.2)		Total Recoverable Metals: Mercury (E245.1)	Total Dissolved Metals: Mercury (E245.1)	TSS (160.2 (SM2540D))		Comments
Outfall 009	Outfall009_20230822_Comp	8/22/2023 0935	WM	500 mL Poly	1	HNO_3	95	Yes	X												
			WM	1 L Glass Amber	2	None	110	No		X											
1			WM	500 mL Poly	2	None	140	No			X										48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	155	No				X									
			WM	500 mL Poly	1	NaOH	220	No								X					
			WM	2.5 Gal Cube	1	None	225	No													Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No						X							
			WM	1 L Poly	1	None	185	No											X		
2	Outfall009_20230822_Comp_F	8/22/2023 0935	WM	1 L Poly	1	None	205	Yes					X								Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No										X			Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
3	Outfall009_20230822_Comp_Extra	8/22/2023 0835	WM	1 L Glass Amber	2	None	110	No		H											Hold
			WM	500 mL Poly	2	None	145	No			H										Hold

Legend: EP=Expert Panel, R=Routine, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	8-22-2023/1400	H&A	[signature] EC	8/22/23 1400
[signature] EC	8-22-23 1831		[signature]	8/22/23 1831

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___

1.8/2.1, 2.2/2.5 5C/5

ACD

570-149524 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: 570-272825.1
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 #: 570-149524-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/27/2023			
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 - Sem-Annual Outfall 009 - 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)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Diet_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:												
Outfall009_20230822_Comp (570-149524-1)	8/22/23	08:35 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	*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
	8/23/23 1329				
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: 570-272920.1
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 #: 570-149524-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 9/14/2023			
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 - Sem-Annual Outfall 009 - 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:							
Outfall009_20230822_Comp (570-149524-1)	8/22/23	08:35 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall009_20230822_Comp_Extra (570-149524-3)	8/22/23	08:35 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.

Note: Since laboratory accreditations are subject to change, Eurofins 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:	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: 570-272920.1
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 #: 570-149524-2
Address: 880 Riverside Parkway	Due Date Requested: 9/14/2023			
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 Sem-Annual Outfall 009 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:							
Outfall009_20230822_Comp (570-149524-1)	8/22/23	08:35 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L, Use Boeing glassware.
Outfall009_20230822_Comp_Extra (570-149524-3)	8/22/23	08:35 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L, Use Boeing glassware.

Note: Since laboratory accreditations are subject to change, Eurofins 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
	8/23/23 1418			08/24/23 0930	EETSac
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: 1.8°C

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: 570-272920.1
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 #: 570-149524-2
Address: 880 Riverside Parkway	Due Date Requested: 9/14/2023			
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 Sem-Annual Outfall 009 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:							
Outfall009_20230822_Comp (570-149524-1)	8/22/23	08:35 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L, Use Boeing glassware.
Outfall009_20230822_Comp_Extra (570-149524-3)	8/22/23	08:35 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L, Use Boeing glassware.

Note: Since laboratory accreditations are subject to change, Eurofins 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]	8/23/23 1415		[signature]	08/24/23 0930	EEC
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: 2.5°C

Ver: 06/08/2021

eurofins | Environment Testing

Sacramento
Sample Receiving Notes

Tracking # 780710598880

Job _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC

Therm ID L06 Corr Factor (+ / -) NA °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal Seal

Cooler ID _____

Temp Observed 2.5 °C Corrected 2.5 °C
From Temp Blank ☐ Sample ☒

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☒	☐
Cooler Temperature is acceptable?	☒	☐	☐
Frozen samples show signs of thaw?	☐	☐	☒

Initials: DM Date 08/24/23

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☒	☐	☐
Samples compromised/tampered with?	☐	☒	☐
COC is complete w/o discrepancies	☒	☐	☐
Sample custody seal?	☐	☐	☒
Sample containers have legible labels?	☒	☐	☐
Sample date/times are provided?	☒	☐	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Is the Field Sampler's name on COC?	☐	☐	☒
Samples w/o discrepancies?	☒	☐	☐
Zero headspace?*	☐	☐	☒
Alkalinity has no headspace?	☐	☐	☒
Perchlorate has headspace? (Methods 314, 331 6850)	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials. DM Date 08/24/23

Notes _____

Trizma Lot #(s) _____

Ammonium
Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☒	☐	☐
NCM Filed?	☐	☐	☒
Samples received within hold time?	☐	☐	☒
Log Release checked in TALS?	☐	☐	☒

Initials. DM Date. 08/24/23

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-149524-2

Login Number: 149524
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: 570-149524-2

Login Number: 149524
List Number: 3
Creator: Morazzini, Dominic S

List Source: Eurofins Sacramento
List Creation: 08/24/23 01:23 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 present with no number.
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.0, 2.5
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 9/28/2023 3:22:59 PM

JOB DESCRIPTION

Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

JOB NUMBER

570-149524-3

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

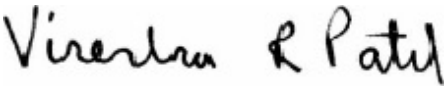
myEOL

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



Generated
9/28/2023 3:22:59 PM

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Job ID: 570-149524-3

Qualifiers

Rad

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

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

Job ID: 570-149524-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-149524-3

Receipt
The samples were received on 8/22/2023 6:31 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.1º C and 2.5º C.

Receipt Exceptions

The reference method requires samples to have a pH of <2. The following sample was received with a pH of 7: Outfall009_20230822_Comp (570-149524-1). The samples were adjusted to the appropriate pH in the laboratory.

RAD
Methods 900.0, 9310: Gross Alpha and Gross Beta batch 625658
The detection goal was not met for the following sample due to a reduction of the sample size attributed to high residual mass: (570-149529-R-1-J). Analytical results are reported with the detection limit achieved.

Methods 900.0, 9310: Gross Alpha and Gross Beta batch 625658
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
Outfall009_20230822_Comp (570-149524-1), (LCS 160-625658/2-A), (LCSB 160-625658/3-A), (MB 160-625658/1-A), (570-149529-R-1-J), (570-149529-N-1-T MS), (570-149529-N-1-V MSBT), (570-149529-N-1-W MSBTD) and (570-149529-N-1-U MSD)

Methods 900.0, 9310: Gross Alpha Beta prep batch 160-625658:

The matrix spike (MS) recoveries for preparation batch 160-625658 and analytical batch 160-627783 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits. (570-149529-N-1-T MS)

Methods 900.0, 9310: Gross Alpha Beta prep batch 160-625658:

The following samples have an RER/RPD result outside of the acceptance criteria for Gross Alpha. The precision is acceptable for other target analytes indicating a potential matrix interference isolated to Gross Alpha. (570-149529-N-1-U MSD)

Method 901.1: Gamma 160-628810
Many isotopes requested by gamma spectrometry analysis do not have any gamma emissions, the gamma emissions they do have are very poor, and/or are reported by assuming secular equilibrium with a longer-lived parent (or vice-versa). For example, Th-232 (which does not have a good gamma-ray) is often reported assuming the shorter-lived Ra-228 daughter is in equilibrium with the Th-232 parent. Or, Pb-214 and/or Bi-214, daughters of potentially volatile Rn-222 in the Ra-226 decay chain, may not be in equilibrium with the parent unless sufficient time has been allowed since the break in equilibrium (e.g. 21 days in the case of Ra-226-supported ingrowth). 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

Job ID: 570-149524-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall009_20230822_Comp (570-149524-1) and (570-149524-J-1-L DU)

Method 903.0: Radium 226 batch 625460
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
Outfall009_20230822_Comp (570-149524-1), (LCS 160-625460/2-A), (MB 160-625460/1-A), (860-55796-E-2-A), (860-55796-F-2-A DU), (570-149529-R-1-F), (570-149529-N-1-K MS) and (570-149529-N-1-L MSD)

Method 904.0: Radium-228 batch 625463
The matrix spike matrix spike duplicate (MS/MSD) recoveries for were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. (570-149529-N-1-N MS) and (570-149529-N-1-O MSD)

Method 904.0: Radium-228 batch 625463
The detection goal was not met for the following sample(s). Samples were prepped at a reduced volume due to the presence of matrix interferences: Outfall009_20230822_Comp (570-149524-1) and (570-149529-R-1-G). Analytical results are reported with the detection limit achieved.

Method 904.0: Radium-228 batch 625463
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
Outfall009_20230822_Comp (570-149524-1), (LCS 160-625463/2-A), (MB 160-625463/1-A), (860-55796-E-2-B), (860-55796-F-2-B DU), (570-149529-R-1-G), (570-149529-N-1-N MS) and (570-149529-N-1-O MSD)

Method 905: Strontium-90 batch 625654
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
Outfall009_20230822_Comp (570-149524-1), (LCS 160-625654/2-A), (MB 160-625654/1-A), (570-149529-R-1-I), (570-149529-N-1-R MS) and (570-149529-N-1-S MSD)

Method 906.0:

Method 906.0: Tritium 628539
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is

Job ID: 570-149524-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

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. Outfall009_20230822_Comp (570-149524-1), (LCS 160-628539/2-A), (MB 160-628539/1-A), (570-149529-Q-1-A), (570-149529-M-1-F MS) and (570-149529-M-1-G MSD)

Method A-01-R: Isotopic Uranium batch 625457
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
Outfall009_20230822_Comp (570-149524-1), (LCS 160-625457/2-A), (MB 160-625457/1-A), (570-149529-R-1-H), (570-149529-N-1-P MS) and (570-149529-N-1-Q MSD)

Method ExtChrom: Uranium Prep Batch 160-625457:

Sample was prepped at a reduced aliquot due to heavy discoloration and sediment Outfall009_20230822_Comp (570-149524-1).

Method Fill_Geo-0:

Method PrecSep_0:

Method PrecSep-21:

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: 570-149524-3
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Client Sample ID: Outfall009_20230822_Comp
Lab Sample ID: 570-149524-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Job ID: 570-149524-3

Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall009_20230822_Comp
Date Collected: 08/22/23 08:35
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149524-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.619	U F	0.778	0.782	3.00	1.29	pCi/L	08/28/23 10:36	09/12/23 15:35	1
Gross Beta	**3.19**		0.728	0.794	4.00	0.785	pCi/L	08/28/23 10:36	09/12/23 15:35	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Job ID: 570-149524-3

Method: EPA 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall009_20230822_Comp
Date Collected: 08/22/23 08:35
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149524-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.565	U	8.54	8.54	20.0	15.5	pCi/L	09/19/23 14:19	09/27/23 10:27	1
Potassium-40	-20.5	U	143	143		190	pCi/L	09/19/23 14:19	09/27/23 10:27	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Job ID: 570-149524-3

Method: EPA 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall009_20230822_Comp
Date Collected: 08/22/23 08:35
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149524-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.188	U	0.191	0.192	1.00	0.296	pCi/L	08/25/23 10:06	09/18/23 20:38	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*39.8*		*30 - 110*	*08/25/23 10:06*	*09/18/23 20:38*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Job ID: 570-149524-3

Method: EPA 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall009_20230822_Comp
Date Collected: 08/22/23 08:35
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149524-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.820	U G	1.00	1.01	1.00	2.08	pCi/L	08/25/23 10:18	09/13/23 12:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*39.8*		*30 - 110*	*08/25/23 10:18*	*09/13/23 12:05*	*1*
Y Carrier	*78.1*		*30 - 110*	*08/25/23 10:18*	*09/13/23 12:05*	*1*

Method: EPA 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall009_20230822_Comp
Date Collected: 08/22/23 08:35
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149524-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.399	U	0.583	0.584	3.00	0.978	pCi/L	08/28/23 10:28	09/05/23 15:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*59.7*		*30 - 110*	*08/28/23 10:28*	*09/05/23 15:53*	*1*
Y Carrier	*84.5*		*30 - 110*	*08/28/23 10:28*	*09/05/23 15:53*	*1*

Client Sample Results

Client: Haley & Aldrich, Inc.
Job ID: 570-149524-3
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Method: EPA 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall009_20230822_Comp
Lab Sample ID: 570-149524-1
Date Collected: 08/22/23 08:35
Matrix: Water
Date Received: 08/22/23 18:31

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-136	U	152	152	500	306	pCi/L	09/18/23 09:49	09/18/23 21:38	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Job ID: 570-149524-3

Method: DOE A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall009_20230822_Comp
Date Collected: 08/22/23 08:35
Date Received: 08/22/23 18:31

Lab Sample ID: 570-149524-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.507		0.366	0.368	1.00	0.370	pCi/L	08/25/23 08:16	09/15/23 15:11	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*65.5*		*30 - 110*	*08/25/23 08:16*	*09/15/23 15:11*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-149524-3
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Method: 903.0 - Radium-226 (GFPC)

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

		Percent Yield (Acceptance Limits)										
		Ba										
Lab Sample ID	Client Sample ID	(30-110)										
570-149524-1	Outfall009_20230822_Comp	39.8										
LCS 160-625460/2-A	Lab Control Sample	89.2										
MB 160-625460/1-A	Method Blank	100										

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)									
570-149524-1	Outfall009_20230822_Comp	39.8	78.1									
LCS 160-625463/2-A	Lab Control Sample	89.2	80.4									
MB 160-625463/1-A	Method Blank	100	80.4									

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)									
570-149524-1	Outfall009_20230822_Comp	59.7	84.5									
LCS 160-625654/2-A	Lab Control Sample	80.9	96.8									
MB 160-625654/1-A	Method Blank	78.6	94.2									

Tracer/Carrier Legend

Sr = Sr Carrier
Y = Y Carrier

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

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

		Percent Yield (Acceptance Limits)										
		U-232										
Lab Sample ID	Client Sample ID	(30-110)										
570-149524-1	Outfall009_20230822_Comp	65.5										
LCS 160-625457/2-A	Lab Control Sample	83.3										
MB 160-625457/1-A	Method Blank	87.1										

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-625658/1-A
Matrix: Water
Analysis Batch: 627787

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 625658

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.04019	U	0.469	0.469	3.00	0.936	pCi/L	08/28/23 10:36	09/12/23 07:54	1
Gross Beta	-0.4932	U	0.474	0.476	4.00	0.935	pCi/L	08/28/23 10:36	09/12/23 07:54	1

Lab Sample ID: LCS 160-625658/2-A
Matrix: Water
Analysis Batch: 627787

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 625658

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Alpha	49.6	54.56		8.06	3.00	2.37	pCi/L	110	75 - 125

Lab Sample ID: LCSB 160-625658/3-A
Matrix: Water
Analysis Batch: 627787

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 625658

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Beta	72.7	72.17		7.75	4.00	0.942	pCi/L	99	75 - 125

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-628810/1-A
Matrix: Water
Analysis Batch: 629849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 628810

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.1884	U	7.12	7.12	20.0	13.2	pCi/L	09/19/23 14:19	09/27/23 13:06	1
Potassium-40	-71.05	U	104	104		165	pCi/L	09/19/23 14:19	09/27/23 13:06	1

Lab Sample ID: LCS 160-628810/2-A
Matrix: Water
Analysis Batch: 629847

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 628810

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Americium-241	135000	153800		18300		418	pCi/L	114	75 - 125
Cesium-137	40400	42080		5020	20.0	107	pCi/L	104	75 - 125
Cobalt-60	16700	17520		2090		74.6	pCi/L	105	75 - 125

Lab Sample ID: 570-149524-1 DU
Matrix: Water
Analysis Batch: 629847

Client Sample ID: Outfall009_20230822_Comp
Prep Type: Total/NA
Prep Batch: 628810

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Cesium-137	0.565	U	-0.9639	U	9.34	20.0	16.6	pCi/L	0.09	1
Potassium-40	-20.5	U	14.31	U	148		161	pCi/L	0.12	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-625460/1-A
Matrix: Water
Analysis Batch: 628636

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 625460

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.04639	U	0.0560	0.0562	1.00	0.135	pCi/L	08/25/23 10:06	09/18/23 20:34	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*30 - 110*	*08/25/23 10:06*	*09/18/23 20:34*	*1*

Lab Sample ID: LCS 160-625460/2-A
Matrix: Water
Analysis Batch: 628636

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 625460

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			11.3	11.38		1.20	1.00	0.143	pCi/L	100	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*89.2*		*30 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-625463/1-A
Matrix: Water
Analysis Batch: 627936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 625463

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.09332	U	0.282	0.282	1.00	0.506	pCi/L	08/25/23 10:18	09/13/23 11:57	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*30 - 110*	*08/25/23 10:18*	*09/13/23 11:57*	*1*
Y Carrier	*80.4*		*30 - 110*	*08/25/23 10:18*	*09/13/23 11:57*	*1*

Lab Sample ID: LCS 160-625463/2-A
Matrix: Water
Analysis Batch: 627936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 625463

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			7.88	9.103		1.31	1.00	0.636	pCi/L	116	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*89.2*		*30 - 110*
Y Carrier	*80.4*		*30 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-625654/1-A
Matrix: Water
Analysis Batch: 626552

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 625654

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.04493	U	0.173	0.173	3.00	0.305	pCi/L	08/28/23 10:28	09/05/23 15:50	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*78.6*		*30 - 110*	*08/28/23 10:28*	*09/05/23 15:50*	*1*
Y Carrier	*94.2*		*30 - 110*	*08/28/23 10:28*	*09/05/23 15:50*	*1*

Lab Sample ID: LCS 160-625654/2-A
Matrix: Water
Analysis Batch: 626552

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 625654

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Strontium-90	7.27	7.585		0.826	3.00	0.298	pCi/L	104	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*80.9*		*30 - 110*
Y Carrier	*96.8*		*30 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-628539/1-A
Matrix: Water
Analysis Batch: 628990

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 628539

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-18.02	U	167	167	500	307	pCi/L	09/18/23 09:49	09/18/23 20:30	1

Lab Sample ID: LCS 160-628539/2-A
Matrix: Water
Analysis Batch: 628990

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 628539

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Tritium	2040	1656		341	500	315	pCi/L	81	75 - 125

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-625457/1-A
Matrix: Water
Analysis Batch: 628196

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 625457

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.08563	U	0.1193	0.1196	1.00	0.171	pCi/L	08/25/23 08:16	09/15/23 19:09	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: MB 160-625457/1-A
Matrix: Water
Analysis Batch: 628196

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 625457

Tracer	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Uranium-232	87.1		30 - 110	08/25/23 08:16	09/15/23 19:09	1

Lab Sample ID: LCS 160-625457/2-A
Matrix: Water
Analysis Batch: 628209

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 625457

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Uranium-234			12.7	12.48		1.49	1.00	0.118	pCi/L	98	75 - 125		
Uranium-238			13.0	14.19		1.64	1.00	0.103	pCi/L	109	75 - 125		

Tracer	LCS %Yield	LCS Qualifier	Limits
Uranium-232	83.3		30 - 110

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-149524-3
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Rad

Prep Batch: 625457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-1	Outfall009_20230822_Comp	Total/NA	Water	ExtChrom	
MB 160-625457/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-625457/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	

Prep Batch: 625460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-1	Outfall009_20230822_Comp	Total/NA	Water	PrecSep-21	
MB 160-625460/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-625460/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 625463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-1	Outfall009_20230822_Comp	Total/NA	Water	PrecSep_0	
MB 160-625463/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-625463/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 625654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-1	Outfall009_20230822_Comp	Total/NA	Water	PrecSep-7	
MB 160-625654/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-625654/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	

Prep Batch: 625658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-1	Outfall009_20230822_Comp	Total/NA	Water	Evaporation	
MB 160-625658/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-625658/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-625658/3-A	Lab Control Sample	Total/NA	Water	Evaporation	

Prep Batch: 628539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-1	Outfall009_20230822_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-628539/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-628539/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 628810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-149524-1	Outfall009_20230822_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-628810/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-628810/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-149524-1 DU	Outfall009_20230822_Comp	Total/NA	Water	Fill_Geo-0	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-149524-3
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Client Sample ID: Outfall009_20230822_Comp
Lab Sample ID: 570-149524-1
Date Collected: 08/22/23 08:35
Matrix: Water
Date Received: 08/22/23 18:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			200.02 mL	1.0 g	625658	08/28/23 10:36	ASG	EET SL
Total/NA	Analysis	900.0		1	1.0 mL	1.0 mL	627783	09/12/23 15:35	SCB	EET SL
	Instrument ID: GFPCRED									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	628810	09/19/23 14:19	SAC	EET SL
Total/NA	Analysis	901.1		1			629849	09/27/23 10:27	CAH	EET SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			758.21 mL	1.0 g	625460	08/25/23 10:06	KAC	EET SL
Total/NA	Analysis	903.0		1			628634	09/18/23 20:38	SCB	EET SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			758.21 mL	1.0 g	625463	08/25/23 10:18	KAC	EET SL
Total/NA	Analysis	904.0		1			627939	09/13/23 12:05	FLC	EET SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-7			508.25 mL	1.0 g	625654	08/28/23 10:28	KAC	EET SL
Total/NA	Analysis	905		1			626552	09/05/23 15:53	SCB	EET SL
	Instrument ID: GFPCRED									
Total/NA	Prep	LSC_Dist_Susp			99.99 mL	1.0 g	628539	09/18/23 09:49	DJP	EET SL
Total/NA	Analysis	906.0		1			628990	09/18/23 21:38	REV	EET SL
	Instrument ID: LSC3180									
Total/NA	Prep	ExtChrom			250.0 mL	1.0 mL	625457	08/25/23 08:16	MST	EET SL
Total/NA	Analysis	A-01-R		1			628275	09/15/23 15:11	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: 570-149524-3
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - Comp

Laboratory: Eurofins St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
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	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-24
HI - RadChem Recognition	State	n/a	06-30-24
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	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-24
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	07-31-24
North Dakota	State	R-207	06-30-24
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23 *
Texas	NELAP	T104704193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-24
Virginia	NELAP	10310	06-15-25
West Virginia DEP	State	381	10-31-23

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

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-149524-3
Project/Site: Boeing NPDES SSFL - Semi-Annual Outfall 009 - 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 - Semi-Annual Outfall 009 - Comp

Job ID: 570-149524-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-149524-1	Outfall009_20230822_Comp	Water	08/22/23 08:35	08/22/23 18:31

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

									R	R	S/R	R	R	R	R	R	R	R	EP		
Client Name/Address: Haley & Aldrich, Inc. 5333 Mission Center Rd Suite 300 San Diego, CA 92108									ANALYSIS REQUIRED												
Eurofins Calscience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 ECI Project #57013187									Total Recoverable Metals: (E200.8): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	Cl, SO_4, NO_3+NO_2-N, Perchlorate (E300)	TDS (SM2540C/E160.1)	Total Dissolved Metals: (E200.8): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	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)	Cyanide (SM4500-CN-E / E335.2)		Total Recoverable Metals: Mercury (E245.1)	Total Dissolved Metals: Mercury (E245.1)	TSS (160.2 (SM2540D))		Comments
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.																					
Sampler: Adrien Mobeka																					
Project: Boeing-SSFL NPDES Permit 2023 Semiannual Outfall [003-007, 009, 010] Outfall 009 Comp																					
Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)																					
Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)																					
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD													
Outfall 009	Outfall009_20230822_Comp	8/22/2023 0935	WM	500 mL Poly	1	HNO_3	95	Yes	X									X			
			WM	1 L Glass Amber	2	None	110	No		X											
1			WM	500 mL Poly	2	None	140	No			X										48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	155	No				X									
			WM	500 mL Poly	1	NaOH	220	No								X					
			WM	2.5 Gal Cube	1	None	225	No						X							Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No													
			WM	1 L Poly	1	None	185	No												X	
2	Outfall009_20230822_Comp_F	8/22/2023 0935	WM	1 L Poly	1	None	205	Yes					X								Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No											X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
3	Outfall009_20230822_Comp_Extra	8/22/2023 0835	WM	1 L Glass Amber	2	None	110	No		H											Hold
			WM	500 mL Poly	2	None	145	No			H										Hold

Legend: EP=Expert Panel, R=Routine, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	8-22-2023/1400	H&A	EC	8/22/23 1400
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
EC	8-22-23 1831			8/22/23 1831
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___

1.8/2.1, 2.2/2.5 5C/5

ACD

570-149524 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: 570-272825.1
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 #: 570-149524-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/27/2023			
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 - Sem-Annual Outfall 009 - 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_Diet_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:												
Outfall009_20230822_Comp (570-149524-1)	8/22/23	08:35 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	*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
	8/23/23 1329				
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: 570-272920.1
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 #: 570-149524-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 9/14/2023			
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 - Sem-Annual Outfall 009 - 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:							
Outfall009_20230822_Comp (570-149524-1)	8/22/23	08:35 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall009_20230822_Comp_Extra (570-149524-3)	8/22/23	08:35 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.

Note: Since laboratory accreditations are subject to change, Eurofins 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:	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: 570-272825.1
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 #: 570-149524-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/27/2023			
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 - Sem-Annual Outfall 009 - 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)	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:												
Outfall009_20230822_Comp (570-149524-1)	8/22/23	08:35 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	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	FED EX	8/23/23 1329		FED EX		
2	Relinquished by:	Date/Time:	Company	Received by: M. Pinette	AUG 24 2023 0900	
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:

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-149524-3

Login Number: 149524
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: 570-149524-3

Login Number: 149524
List Number: 2
Creator: Pinette, Meadow L

List Source: Eurofins St. Louis
List Creation: 08/24/23 02:28 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.	N/A	
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 10/22/2023 10:19:33 AM Revision 1

JOB DESCRIPTION

Boeing NPDES SSFL - Outfall 018 - Grab

JOB NUMBER

570-152592-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

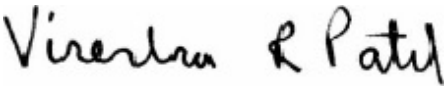
See page two for job notes and contact information.

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.

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
10/22/2023 10:19:33 AM
Revision 1

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-152592-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Grab

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
LQ	LCS/LCSD recovery above method control limits

Glossary

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

Job ID: 570-152592-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-152592-1

Revision
The report being provided is a revision of the original report sent on 10/2/2023. The report (revision 1) is being revised due to: The clients office requested Acrolein and Acrylonitrile to be added as analytes for EPA 624.1.

Receipt
The samples were received on 9/14/2023 12:47 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 1.9º C.

GC/MS VOA
Method 624.1: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: Outfall018-20230913_Grab (570-152592-1). Elevated reporting limits (RLs) are provided.

Method 624.1: The following samples were received unpreserved and presented a pH of <2. Analysis was performed within 7 days per EPA recommendation: Outfall018-20230913_Grab (570-152592-1) .

Method 624.1: The laboratory control sample (LCS) for analytical batch 570-364314 recovered outside control limits for the following analyte: Acrolein. 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 continuing calibration verification (CCV) associated with batch 570-364314 recovered above the upper control limit for Acrolein. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: Outfall018-20230913_Grab (570-152592-1), TB-20230913 (570-152592-3) and (CCVIS 570-364314/3).

Method 624.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-364314. 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 sample was received preserved with hydrochloric acid: Outfall018-20230913_Grab (570-152592-1). 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 570-363880.

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

Organic Prep
Methods 1664A, 1664B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-364196. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.
Method 1664A_P_W.

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

VOA Prep

Job ID: 570-152592-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

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

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-152592-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Grab

Client Sample ID: Outfall018-20230913_Grab
Lab Sample ID: 570-152592-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	610		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: TB-20230913
Lab Sample ID: 570-152592-3

No Detections.

This Detection Summary does not include radiochemical test results.

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall018-20230913_Grab
Lab Sample ID: 570-152592-1
Date Collected: 09/13/23 16:00
Matrix: Water
Date Received: 09/14/23 12:47

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			09/15/23 17:55	2
1,1,2,2-Tetrachloroethane	ND		1.0	0.40	ug/L			09/15/23 17:55	2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.0	0.66	ug/L			09/15/23 17:55	2
1,1,2-Trichloroethane	ND		1.0	0.35	ug/L			09/15/23 17:55	2
1,1-Dichloroethane	ND		1.0	0.79	ug/L			09/15/23 17:55	2
1,1-Dichloroethene	ND		1.0	0.67	ug/L			09/15/23 17:55	2
1,2-Dichlorobenzene	ND		1.0	0.33	ug/L			09/15/23 17:55	2
1,2-Dichloroethane	ND		1.0	0.30	ug/L			09/15/23 17:55	2
1,2-Dichloropropane	ND		1.0	0.34	ug/L			09/15/23 17:55	2
1,3-Dichlorobenzene	ND		1.0	0.31	ug/L			09/15/23 17:55	2
1,4-Dichlorobenzene	ND		1.0	0.23	ug/L			09/15/23 17:55	2
Acrolein	ND	LQ	10	9.3	ug/L			09/15/23 17:55	2
Acrylonitrile	ND		4.0	2.9	ug/L			09/15/23 17:55	2
Benzene	ND		1.0	0.56	ug/L			09/15/23 17:55	2
Bromodichloromethane	ND		1.0	0.38	ug/L			09/15/23 17:55	2
Bromoform	ND		2.0	0.50	ug/L			09/15/23 17:55	2
Bromomethane	ND		1.0	0.45	ug/L			09/15/23 17:55	2
Carbon tetrachloride	ND		1.0	0.55	ug/L			09/15/23 17:55	2
Chlorobenzene	ND		1.0	0.37	ug/L			09/15/23 17:55	2
Chloroethane	ND		2.0	0.57	ug/L			09/15/23 17:55	2
Chloroform	ND		1.0	0.37	ug/L			09/15/23 17:55	2
Chloromethane	ND		1.0	0.61	ug/L			09/15/23 17:55	2
cis-1,2-Dichloroethene	ND		1.0	0.41	ug/L			09/15/23 17:55	2
cis-1,3-Dichloropropene	ND		1.0	0.60	ug/L			09/15/23 17:55	2
Dibromochloromethane	ND		1.0	0.31	ug/L			09/15/23 17:55	2
Ethylbenzene	ND		1.0	0.49	ug/L			09/15/23 17:55	2
Methylene Chloride	ND		4.0	1.1	ug/L			09/15/23 17:55	2
Naphthalene	ND		2.0	0.65	ug/L			09/15/23 17:55	2
o-Xylene	ND		1.0	0.29	ug/L			09/15/23 17:55	2
m,p-Xylene	ND		2.0	0.33	ug/L			09/15/23 17:55	2
Tetrachloroethene	ND		1.0	0.43	ug/L			09/15/23 17:55	2
Toluene	ND		1.0	0.47	ug/L			09/15/23 17:55	2
trans-1,2-Dichloroethene	ND		1.0	0.48	ug/L			09/15/23 17:55	2
trans-1,3-Dichloropropene	ND		1.0	0.36	ug/L			09/15/23 17:55	2
Trichloroethene	ND		1.0	0.35	ug/L			09/15/23 17:55	2
Trichlorofluoromethane	ND		1.0	0.58	ug/L			09/15/23 17:55	2
Vinyl chloride	ND		1.0	0.94	ug/L			09/15/23 17:55	2
Xylenes, Total	ND		2.0	0.33	ug/L			09/15/23 17:55	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*60 - 140*		*09/15/23 17:55*	*2*
Dibromofluoromethane (Surr)	*109*		*60 - 140*		*09/15/23 17:55*	*2*
Toluene-d8 (Surr)	*94*		*60 - 140*		*09/15/23 17:55*	*2*

Client Sample ID: TB-20230913
Lab Sample ID: 570-152592-3
Date Collected: 09/13/23 16:00
Matrix: Water
Date Received: 09/14/23 12:47

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/15/23 16:48	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			09/15/23 16:48	1

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: TB-20230913 **Lab Sample ID: 570-152592-3**
Date Collected: 09/13/23 16:00 **Matrix: Water**
Date Received: 09/14/23 12:47

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			09/15/23 16:48	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			09/15/23 16:48	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			09/15/23 16:48	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			09/15/23 16:48	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			09/15/23 16:48	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			09/15/23 16:48	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			09/15/23 16:48	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			09/15/23 16:48	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			09/15/23 16:48	1
Acrolein	ND	LQ	5.0	4.6	ug/L			09/15/23 16:48	1
Acrylonitrile	ND		2.0	1.4	ug/L			09/15/23 16:48	1
Benzene	ND		0.50	0.28	ug/L			09/15/23 16:48	1
Bromodichloromethane	ND		0.50	0.19	ug/L			09/15/23 16:48	1
Bromoform	ND		1.0	0.25	ug/L			09/15/23 16:48	1
Bromomethane	ND		0.50	0.22	ug/L			09/15/23 16:48	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			09/15/23 16:48	1
Chlorobenzene	ND		0.50	0.19	ug/L			09/15/23 16:48	1
Chloroethane	ND		1.0	0.29	ug/L			09/15/23 16:48	1
Chloroform	ND		0.50	0.19	ug/L			09/15/23 16:48	1
Chloromethane	ND		0.50	0.30	ug/L			09/15/23 16:48	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			09/15/23 16:48	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			09/15/23 16:48	1
Dibromochloromethane	ND		0.50	0.15	ug/L			09/15/23 16:48	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/15/23 16:48	1
Methylene Chloride	ND		2.0	0.57	ug/L			09/15/23 16:48	1
Naphthalene	ND		1.0	0.33	ug/L			09/15/23 16:48	1
o-Xylene	ND		0.50	0.15	ug/L			09/15/23 16:48	1
m,p-Xylene	ND		1.0	0.17	ug/L			09/15/23 16:48	1
Tetrachloroethene	ND		0.50	0.21	ug/L			09/15/23 16:48	1
Toluene	ND		0.50	0.23	ug/L			09/15/23 16:48	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			09/15/23 16:48	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			09/15/23 16:48	1
Trichloroethene	ND		0.50	0.17	ug/L			09/15/23 16:48	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			09/15/23 16:48	1
Vinyl chloride	ND		0.50	0.47	ug/L			09/15/23 16:48	1
Xylenes, Total	ND		1.0	0.17	ug/L			09/15/23 16:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*60 - 140*		*09/15/23 16:48*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 140*		*09/15/23 16:48*	*1*
Toluene-d8 (Surr)	*100*		*60 - 140*		*09/15/23 16:48*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-152592-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Grab

General Chemistry

Client Sample ID: Outfall018-20230913_Grab
Lab Sample ID: 570-152592-1
Date Collected: 09/13/23 16:00
Matrix: Water
Date Received: 09/14/23 12:47

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664A)	ND		1.0	0.51	mg/L		09/15/23 08:54	09/15/23 14:00	1
Specific Conductance (SM 2510B)	**610**		1.0	1.0	umhos/cm			09/29/23 22:22	1
Settleable Solids (SM 2540F)	ND		0.10	0.10	mL/L			09/14/23 22:20	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Outfall 018 - Grab

Job ID: 570-152592-1

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)
570-152592-1	Outfall018-20230913_Grab	95	109	94
570-152592-3	TB-20230913	97	103	100
LCS 570-364314/1003	Lab Control Sample	95	105	99
LCSD 570-364314/4	Lab Control Sample Dup	95	103	94
MB 570-364314/6	Method Blank	92	105	95

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-364314/6
Matrix: Water
Analysis Batch: 364314

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/15/23 15:19	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			09/15/23 15:19	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			09/15/23 15:19	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			09/15/23 15:19	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			09/15/23 15:19	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			09/15/23 15:19	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			09/15/23 15:19	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			09/15/23 15:19	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			09/15/23 15:19	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			09/15/23 15:19	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			09/15/23 15:19	1
Acrolein	ND		5.0	4.6	ug/L			09/15/23 15:19	1
Acrylonitrile	ND		2.0	1.4	ug/L			09/15/23 15:19	1
Benzene	ND		0.50	0.28	ug/L			09/15/23 15:19	1
Bromodichloromethane	ND		0.50	0.19	ug/L			09/15/23 15:19	1
Bromoform	ND		1.0	0.25	ug/L			09/15/23 15:19	1
Bromomethane	ND		0.50	0.22	ug/L			09/15/23 15:19	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			09/15/23 15:19	1
Chlorobenzene	ND		0.50	0.19	ug/L			09/15/23 15:19	1
Chloroethane	ND		1.0	0.29	ug/L			09/15/23 15:19	1
Chloroform	ND		0.50	0.19	ug/L			09/15/23 15:19	1
Chloromethane	ND		0.50	0.30	ug/L			09/15/23 15:19	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			09/15/23 15:19	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			09/15/23 15:19	1
Dibromochloromethane	ND		0.50	0.15	ug/L			09/15/23 15:19	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/15/23 15:19	1
Methylene Chloride	ND		2.0	0.57	ug/L			09/15/23 15:19	1
Naphthalene	ND		1.0	0.33	ug/L			09/15/23 15:19	1
o-Xylene	ND		0.50	0.15	ug/L			09/15/23 15:19	1
m,p-Xylene	ND		1.0	0.17	ug/L			09/15/23 15:19	1
Tetrachloroethene	ND		0.50	0.21	ug/L			09/15/23 15:19	1
Toluene	ND		0.50	0.23	ug/L			09/15/23 15:19	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			09/15/23 15:19	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			09/15/23 15:19	1
Trichloroethene	ND		0.50	0.17	ug/L			09/15/23 15:19	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			09/15/23 15:19	1
Vinyl chloride	ND		0.50	0.47	ug/L			09/15/23 15:19	1
Xylenes, Total	ND		1.0	0.17	ug/L			09/15/23 15:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*60 - 140*		*09/15/23 15:19*	*1*
Dibromofluoromethane (Surr)	*105*		*60 - 140*		*09/15/23 15:19*	*1*
Toluene-d8 (Surr)	*95*		*60 - 140*		*09/15/23 15:19*	*1*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-364314/1003
Matrix: Water
Analysis Batch: 364314

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	10.0	10.5		ug/L		105	70 - 130
1,1,2,2-Tetrachloroethane	10.0	10.4		ug/L		104	60 - 140
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	10.6		ug/L		106	60 - 140
1,1,2-Trichloroethane	10.0	9.78		ug/L		98	70 - 130
1,1-Dichloroethane	10.0	9.55		ug/L		96	70 - 130
1,1-Dichloroethene	10.0	9.36		ug/L		94	50 - 150
1,2-Dichlorobenzene	10.0	10.9		ug/L		109	65 - 135
1,2-Dichloroethane	10.0	9.29		ug/L		93	70 - 130
1,2-Dichloropropane	10.0	9.29		ug/L		93	35 - 165
1,3-Dichlorobenzene	10.0	10.9		ug/L		109	70 - 130
1,4-Dichlorobenzene	10.0	10.4		ug/L		104	65 - 135
Acrolein	20.0	29.9	LQ	ug/L		150	60 - 140
Acrylonitrile	10.0	8.90		ug/L		89	60 - 140
Benzene	10.0	10.0		ug/L		100	65 - 135
Bromodichloromethane	10.0	10.2		ug/L		102	65 - 135
Bromoform	10.0	11.2		ug/L		112	70 - 130
Bromomethane	10.0	9.43		ug/L		94	15 - 185
Carbon tetrachloride	10.0	11.3		ug/L		113	70 - 130
Chlorobenzene	10.0	10.4		ug/L		104	65 - 135
Chloroethane	10.0	8.59		ug/L		86	40 - 160
Chloroform	10.0	9.78		ug/L		98	70 - 135
Chloromethane	10.0	14.6		ug/L		146	1 - 205
cis-1,2-Dichloroethene	10.0	10.3		ug/L		103	60 - 140
cis-1,3-Dichloropropene	10.0	10.1		ug/L		101	25 - 175
Dibromochloromethane	10.0	10.9		ug/L		109	70 - 135
Ethylbenzene	10.0	9.93		ug/L		99	60 - 140
Methylene Chloride	10.0	10.7		ug/L		107	60 - 140
Naphthalene	10.0	10.5		ug/L		105	60 - 140
o-Xylene	10.0	9.89		ug/L		99	60 - 140
m,p-Xylene	20.0	20.8		ug/L		104	60 - 140
Tetrachloroethene	10.0	10.8		ug/L		108	70 - 130
Toluene	10.0	10.2		ug/L		102	70 - 130
trans-1,2-Dichloroethene	10.0	9.98		ug/L		100	70 - 130
trans-1,3-Dichloropropene	10.0	9.77		ug/L		98	50 - 150
Trichloroethene	10.0	9.91		ug/L		99	65 - 135
Trichlorofluoromethane	10.0	10.5		ug/L		105	50 - 150
Vinyl chloride	10.0	9.73		ug/L		97	5 - 195
Xylenes, Total	30.0	30.7		ug/L		102	60 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*60 - 140*
Dibromofluoromethane (Surr)	*105*		*60 - 140*
Toluene-d8 (Surr)	*99*		*60 - 140*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 570-364314/4
Matrix: Water
Analysis Batch: 364314

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-Trichloroethane			10.0	9.83		ug/L		98	70 - 130	6	36
1,1,2,2-Tetrachloroethane			10.0	9.85		ug/L		98	60 - 140	5	61
1,1,2-Trichloro-1,2,2-trifluoroethane			10.0	9.71		ug/L		97	60 - 140	9	30
1,1,2-Trichloroethane			10.0	9.29		ug/L		93	70 - 130	5	45
1,1-Dichloroethane			10.0	8.80		ug/L		88	70 - 130	8	40
1,1-Dichloroethene			10.0	8.34		ug/L		83	50 - 150	11	32
1,2-Dichlorobenzene			10.0	10.2		ug/L		102	65 - 135	6	57
1,2-Dichloroethane			10.0	8.58		ug/L		86	70 - 130	8	49
1,2-Dichloropropane			10.0	8.43		ug/L		84	35 - 165	10	55
1,3-Dichlorobenzene			10.0	10.2		ug/L		102	70 - 130	7	43
1,4-Dichlorobenzene			10.0	10.0		ug/L		100	65 - 135	4	57
Acrolein			20.0	27.8		ug/L		139	60 - 140	7	60
Acrylonitrile			10.0	9.22		ug/L		92	60 - 140	4	60
Benzene			10.0	9.31		ug/L		93	65 - 135	7	61
Bromodichloromethane			10.0	9.54		ug/L		95	65 - 135	6	56
Bromoform			10.0	10.5		ug/L		105	70 - 130	6	42
Bromomethane			10.0	8.62		ug/L		86	15 - 185	9	61
Carbon tetrachloride			10.0	10.0		ug/L		100	70 - 130	12	41
Chlorobenzene			10.0	9.85		ug/L		98	65 - 135	5	53
Chloroethane			10.0	7.81		ug/L		78	40 - 160	9	78
Chloroform			10.0	9.33		ug/L		93	70 - 135	5	30
Chloromethane			10.0	13.0		ug/L		130	1 - 205	12	60
cis-1,2-Dichloroethene			10.0	9.46		ug/L		95	60 - 140	9	30
cis-1,3-Dichloropropene			10.0	9.26		ug/L		93	25 - 175	8	58
Dibromochloromethane			10.0	10.4		ug/L		104	70 - 135	4	50
Ethylbenzene			10.0	9.40		ug/L		94	60 - 140	5	63
Methylene Chloride			10.0	9.15		ug/L		91	60 - 140	16	28
Naphthalene			10.0	10.2		ug/L		102	60 - 140	3	30
o-Xylene			10.0	9.14		ug/L		91	60 - 140	8	30
m,p-Xylene			20.0	19.1		ug/L		95	60 - 140	9	30
Tetrachloroethene			10.0	10.1		ug/L		101	70 - 130	6	39
Toluene			10.0	9.42		ug/L		94	70 - 130	8	41
trans-1,2-Dichloroethene			10.0	9.39		ug/L		94	70 - 130	6	45
trans-1,3-Dichloropropene			10.0	9.63		ug/L		96	50 - 150	1	86
Trichloroethene			10.0	9.11		ug/L		91	65 - 135	8	48
Trichlorofluoromethane			10.0	9.96		ug/L		100	50 - 150	6	84
Vinyl chloride			10.0	8.86		ug/L		89	5 - 195	9	66
Xylenes, Total			30.0	28.2		ug/L		94	60 - 140	8	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*60 - 140*
Dibromofluoromethane (Surr)	*103*		*60 - 140*
Toluene-d8 (Surr)	*94*		*60 - 140*

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-364196/1-A
Matrix: Water
Analysis Batch: 364346

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 364196

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		09/15/23 08:54	09/15/23 14:00	1

Lab Sample ID: LCS 570-364196/2-A
Matrix: Water
Analysis Batch: 364346

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 364196

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HEM (Oil & Grease)			40.0	31.0		mg/L		78	78 - 114		

Lab Sample ID: LCSD 570-364196/3-A
Matrix: Water
Analysis Batch: 364346

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 364196

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil & Grease)			40.0	31.7		mg/L		79	78 - 114	2	18

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 570-369502/69
Matrix: Water
Analysis Batch: 369502

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			09/29/23 20:09	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-152592-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Grab

GC/MS VOA

Analysis Batch: 364314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152592-1	Outfall018-20230913_Grab	Total/NA	Water	624.1	
570-152592-3	TB-20230913	Total/NA	Water	624.1	
MB 570-364314/6	Method Blank	Total/NA	Water	624.1	
LCS 570-364314/1003	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-364314/4	Lab Control Sample Dup	Total/NA	Water	624.1	

General Chemistry

Analysis Batch: 363880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152592-1	Outfall018-20230913_Grab	Total/NA	Water	SM 2540F	

Prep Batch: 364196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152592-1	Outfall018-20230913_Grab	Total/NA	Water	1664A	
MB 570-364196/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-364196/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-364196/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

Analysis Batch: 364346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152592-1	Outfall018-20230913_Grab	Total/NA	Water	1664A	364196
MB 570-364196/1-A	Method Blank	Total/NA	Water	1664A	364196
LCS 570-364196/2-A	Lab Control Sample	Total/NA	Water	1664A	364196
LCSD 570-364196/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	364196

Analysis Batch: 369502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152592-1	Outfall018-20230913_Grab	Total/NA	Water	SM 2510B	
MB 570-369502/69	Method Blank	Total/NA	Water	SM 2510B	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-152592-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Grab

Client Sample ID: Outfall018-20230913_Grab
Lab Sample ID: 570-152592-1
Date Collected: 09/13/23 16:00
Matrix: Water
Date Received: 09/14/23 12:47

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	364314	09/15/23 17:55	B7TT	EET CAL 4
	Instrument ID: GCMSJJ									
Total/NA	Prep	1664A			997 mL	1000 mL	364196	09/15/23 08:54	UWEZ	EET CAL 4
Total/NA	Analysis	1664A		1			364346	09/15/23 14:00	VB5S	EET CAL 4
	Instrument ID: NO EQUIQ									
Total/NA	Analysis	SM 2510B		1			369502	09/29/23 22:22	ZL4M	EET CAL 4
	Instrument ID: ManSciMantech									
Total/NA	Analysis	SM 2540F		1	1000 mL	1 L	363880	09/14/23 22:20	ZVB7	EET CAL 4
	Instrument ID: NOEQUIP									

Client Sample ID: TB-20230913
Lab Sample ID: 570-152592-3
Date Collected: 09/13/23 16:00
Matrix: Water
Date Received: 09/14/23 12:47

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	364314	09/15/23 16:48	B7TT	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: 570-152592-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Grab

Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-23

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-152592-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - 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: 570-152592-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Grab

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-152592-1	Outfall018-20230913_Grab	Water	09/13/23 16:00	09/14/23 12:47
570-152592-3	TB-20230913	Water	09/13/23 16:00	09/14/23 12:47

Virendra Patel

From: Pehlivan, Victoria <VPehlivan@haleyaldrich.com>
Sent: Wednesday, October 18, 2023 11:21 AM
To: Virendra Patel
Subject: RE: Eurofins Calscience report and EDD files from 570-152592-1 Boeing NPDES SSFL - Outfall 018 - Grab

Hi Virendra,

Can we please report Acrolein and Acrylonitrile in this report? I believe we have discussed in the past that Acrolein and Acrylonitrile is run incase we need to add this to the report at a later date.

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: Virendra Patel <Virendra.Patel@et.eurofinsus.com>
Sent: Monday, October 2, 2023 12:51 PM
To: Equis <equis@haleyaldrich.com>; Miller, Katherine <KMiller@haleyaldrich.com>; Rapp, Kerry <KRapp@haleyaldrich.com>; Dallalah, Michelle <MDallalah@haleyaldrich.com>; Patel Virendra <Virendra.Patel@et.eurofinsus.com>; Pehlivan, Victoria <VPehlivan@haleyaldrich.com>
Subject: Eurofins Calscience report and EDD files from 570-152592-1 Boeing NPDES SSFL - Outfall 018 - Grab

---

Hello,

Attached please find the report and EDD files for job 570-152592-1; Boeing NPDES SSFL - Outfall 018 - Grab

Please feel free to contact me if you have any questions.

Thank you.

Virendra Patel

Project Manager

Eurofins Calscience
Phone: 714-895-5494
Mobile: 714-887-9901

E-mail: Virendra.Patel@et.eurofinsus.com
www.eurofinsus.com/env

Reference: [570-525239]
Attachments: 2

> > Bank information has changed, please refer to remittance information on invoice. < <

152592

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

VLJ0UVKT

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 018 Grab
Eurofins Calscience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 **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.	
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	R Oil & Grease (E1664A-HEM)	Q/S VOCs + 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) (E624)	R Settleable Solids (E160.5 (SM2540F))	R Conductivity (SM2510B / E120.1)	Comments
1 Outfall 018	Outfall018_20230913_Grab	9/13/2023 1600	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_20230913_Grab_Extra	9/13/2023 1600	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-20230913	9/13/2023 1600	WQ	40 mL VOA	2	HCl	20	No		X			

Field Readings | Meter serial #

Field Readings: (Include units)

Time of Readings: 1600

DO 6.11 mg/L

pH 7.82 pH unit

Temp 66.2 °C/F

Field readings QC

Checked by:

Date/Time: 9-13-2023 / 1615

570-152592 Chain of Custody

Legend: R=Routine, Q=Quarterly, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	9-14-2023 / 1110	H.A	EC	9/14/23 1110
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
EC	9/14/23 1247			9/14/23 1247
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

1.6/1.9 SCIS

2019-2020 Rainy Season
Version 5

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-152592-1

Login Number: 152592
List Number: 1
Creator: Ovalle, Erick

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

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

ANALYTICAL REPORT

PREPARED FOR

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

Generated 10/2/2023 8:51:09 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Outfall 018 - Comp

JOB NUMBER

570-152962-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

myEOL

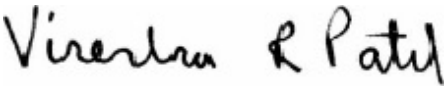
Eurofins Calscience

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



Generated
10/2/2023 8:51:09 AM

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Qualifiers

GC Semi VOA

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

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: 570-152962-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-152962-1

Receipt
The samples were received on 9/15/2023 6:55 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 2.1º C.

Receipt Exceptions

The Chain-of-Custody (COC) was incomplete as received. No collection times listed on the COC. Logged in per sample labels.

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: Due to the high concentration of Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 570-364558 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 200.8: The method blank for preparation batch 570-365233 and analytical batch 570-365376 contained Zinc above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method Filtration: The following samples were not filtered within 15 minutes of sample collection as required by the method: Outfall018_20230915_Comp_F (570-152962-3), Outfall018_20230915_Comp_F (570-152962-3[MS]) and Outfall018_20230915_Comp_F (570-152962-3[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: Outfall018_20230915_Comp_F (570-152962-3). 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 SM 5540C: Sample result concentrations for methylene blue active substances (MBAS) are calculated as LAS, mol. wt. 320.

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 570-366236. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 608.3 PCB PEST LL

Method 625: 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

Job ID: 570-152962-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

570-366035.
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 018 - Comp

Job ID: 570-152962-1

Client Sample ID: Outfall018_20230915_Comp — Lab Sample ID: 570-152962-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	14		1.0	0.36	mg/L	1		300.0	Total/NA
Sulfate - DL	140		10	2.4	mg/L	10		300.0	Total/NA
Cadmium	0.13	J,DX	1.0	0.13	ug/L	1		200.8	Total Recoverable
Copper	1.0	J,DX	2.0	0.32	ug/L	1		200.8	Total Recoverable
Lead	0.13	J,DX	1.0	0.12	ug/L	1		200.8	Total Recoverable
Zinc	3.3	J,DX MB	20	2.8	ug/L	1		200.8	Total Recoverable
Ammonia	0.043	J,DX	0.075	0.029	mg/L	1		350.1	Total/NA
Turbidity	1.3		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Dissolved Solids	380		10	8.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	5.4		1.4	1.2	mg/L	1		SM 2540D	Total/NA
Biochemical Oxygen Demand	1.9	J,DX	2.0	1.0	mg/L	1		SM 5210B	Total/NA
MBAS	0.12	J,DX	0.20	0.050	mg/L	1		SM 5540C	Total/NA

Client Sample ID: Outfall018_20230915_Comp_F — Lab Sample ID: 570-152962-3

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

This Detection Summary does not include radiochemical test results.

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: Outfall018_20230915_Comp **Lab Sample ID: 570-152962-1**
Date Collected: 09/15/23 07:30 **Matrix: Water**
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		0.95	0.13	ug/L		09/21/23 05:27	09/25/23 12:40	1
2,4-Dinitrotoluene	ND		0.19	0.11	ug/L		09/21/23 05:27	09/25/23 12:40	1
Bis(2-ethylhexyl) phthalate	ND		4.7	3.4	ug/L		09/21/23 05:27	09/25/23 12:40	1
N-Nitrosodimethylamine	ND		0.19	0.18	ug/L		09/21/23 05:27	09/25/23 12:40	1
Pentachlorophenol	ND		0.95	0.80	ug/L		09/21/23 05:27	09/25/23 12:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*59*		*31 - 120*	*09/21/23 05:27*	*09/25/23 12:40*	*1*
Phenol-d6 (Surr)	*26*		*10 - 120*	*09/21/23 05:27*	*09/25/23 12:40*	*1*
p-Terphenyl-d14 (Surr)	*70*		*45 - 120*	*09/21/23 05:27*	*09/25/23 12:40*	*1*
2,4,6-Tribromophenol	*67*		*28 - 127*	*09/21/23 05:27*	*09/25/23 12:40*	*1*
2-Fluorophenol	*39*		*17 - 120*	*09/21/23 05:27*	*09/25/23 12:40*	*1*
Nitrobenzene-d5	*62*		*27 - 120*	*09/21/23 05:27*	*09/25/23 12:40*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Method: EPA 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall018_20230915_Comp
Lab Sample ID: 570-152962-1
Date Collected: 09/15/23 07:30
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		09/21/23 12:01	09/28/23 23:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*24*	*PI*	*20 - 139*	*09/21/23 12:01*	*09/28/23 23:20*	*1*
DCB Decachlorobiphenyl (Surr)	*43*		*20 - 154*	*09/21/23 12:01*	*09/28/23 23:20*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Method: EPA 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall018_20230915_Comp
Lab Sample ID: 570-152962-1
Date Collected: 09/15/23 07:30
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**14**		1.0	0.36	mg/L			09/16/23 12:32	1
Nitrite as N	ND		0.10	0.043	mg/L			09/16/23 12:32	1
Nitrate as N	ND		0.10	0.020	mg/L			09/16/23 12:32	1

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Client Sample ID: Outfall018_20230915_Comp
Lab Sample ID: 570-152962-1
Date Collected: 09/15/23 07:30
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**140**		10	2.4	mg/L			09/16/23 14:31	10

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Method: EPA 314.0 - Perchlorate (IC)

Client Sample ID: Outfall018_20230915_Comp
Lab Sample ID: 570-152962-1
Date Collected: 09/15/23 07:30
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			09/25/23 23:18	1

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Method: EPA NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall018_20230915_Comp
Lab Sample ID: 570-152962-1
Date Collected: 09/15/23 07:30
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	0.020	mg/L			09/16/23 12:32	1

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall018_20230915_Comp
Lab Sample ID: 570-152962-1
Date Collected: 09/15/23 07:30
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	**0.13**	**J,DX**	1.0	0.13	ug/L		09/19/23 06:49	09/19/23 10:43	1
Copper	**1.0**	**J,DX**	2.0	0.32	ug/L		09/19/23 06:49	09/19/23 10:43	1
Lead	**0.13**	**J,DX**	1.0	0.12	ug/L		09/19/23 06:49	09/19/23 10:43	1
Selenium	ND		2.0	0.52	ug/L		09/19/23 06:49	09/19/23 10:43	1
Zinc	**3.3**	**J,DX MB**	20	2.8	ug/L		09/19/23 06:49	09/19/23 10:43	1

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall018_20230915_Comp_F
Lab Sample ID: 570-152962-3
Date Collected: 09/15/23 07:30
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	BU	1.0	0.13	ug/L			09/20/23 12:01	1
Copper	**0.82**	**J,DX BU**	2.0	0.32	ug/L			09/20/23 12:01	1
Lead	ND	BU	1.0	0.12	ug/L			09/20/23 12:01	1
Selenium	ND	BU	2.0	0.52	ug/L			09/20/23 12:01	1
Zinc	ND	BU	20	2.8	ug/L			09/20/23 12:01	1

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: Outfall018_20230915_Comp
Lab Sample ID: 570-152962-1
Date Collected: 09/15/23 07:30
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		09/19/23 16:24	09/20/23 15:15	1

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Method: EPA 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall018_20230915_Comp_F
Lab Sample ID: 570-152962-3
Date Collected: 09/15/23 07:30
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.20	0.12	ug/L		09/19/23 19:36	09/20/23 17:38	1

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

General Chemistry

Client Sample ID: Outfall018_20230915_Comp
Lab Sample ID: 570-152962-1
Date Collected: 09/15/23 07:30
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	**0.043**	**J,DX**	0.075	0.029	mg/L		09/27/23 11:00	09/27/23 13:38	1
Cyanide, Total (EPA Kelada 01)	ND		5.0	2.5	ug/L			09/25/23 19:59	1
Turbidity (SM 2130B)	**1.3**		0.05	0.05	NTU			09/16/23 15:05	1
Total Dissolved Solids (SM 2540C)	**380**		10	8.7	mg/L			09/22/23 16:12	1
Total Suspended Solids (SM 2540D)	**5.4**		1.4	1.2	mg/L			09/21/23 14:41	1
Biochemical Oxygen Demand (SM 5210B)	**1.9**	**J,DX**	2.0	1.0	mg/L		09/16/23 09:06	09/21/23 11:55	1
MBAS (SM 5540C)	**0.12**	**J,DX**	0.20	0.050	mg/L		09/16/23 11:55	09/16/23 16:26	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Job ID: 570-152962-1

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)
570-152962-1	Outfall018_20230915_Comp	59	26	70	67	39	62
LCS 570-366035/2-A	Lab Control Sample	77	40	85	85	62	75
LCSD 570-366035/3-A	Lab Control Sample Dup	79	39	83	68	50	75
MB 570-366035/1-A	Method Blank	58	26	69	54	40	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)	
		TCX1	DCB1
Lab Sample ID	Client Sample ID	(20-139)	(20-154)
570-152962-1	Outfall018_20230915_Comp	24 PI	43

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)	
		TCX2	DCB2
Lab Sample ID	Client Sample ID	(20-139)	(20-154)
LCS 570-366236/2-A	Lab Control Sample	65	63

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)	
		TCX2	DCB1
Lab Sample ID	Client Sample ID	(20-139)	(20-154)
LCSD 570-366236/3-A	Lab Control Sample Dup	74	69
MB 570-366236/1-A	Method Blank	68	69

Surrogate Legend

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

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-366035/1-A
Matrix: Water
Analysis Batch: 367264

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 366035

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.14	ug/L		09/21/23 05:27	09/25/23 11:17	1
2,4-Dinitrotoluene	ND		0.20	0.12	ug/L		09/21/23 05:27	09/25/23 11:17	1
Bis(2-ethylhexyl) phthalate	ND		5.0	3.6	ug/L		09/21/23 05:27	09/25/23 11:17	1
N-Nitrosodimethylamine	ND		0.20	0.19	ug/L		09/21/23 05:27	09/25/23 11:17	1
Pentachlorophenol	ND		1.0	0.84	ug/L		09/21/23 05:27	09/25/23 11:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*58*		*31 - 120*	*09/21/23 05:27*	*09/25/23 11:17*	*1*
Phenol-d6 (Surr)	*26*		*10 - 120*	*09/21/23 05:27*	*09/25/23 11:17*	*1*
p-Terphenyl-d14 (Surr)	*69*		*45 - 120*	*09/21/23 05:27*	*09/25/23 11:17*	*1*
2,4,6-Tribromophenol	*54*		*28 - 127*	*09/21/23 05:27*	*09/25/23 11:17*	*1*
2-Fluorophenol	*40*		*17 - 120*	*09/21/23 05:27*	*09/25/23 11:17*	*1*
Nitrobenzene-d5	*62*		*27 - 120*	*09/21/23 05:27*	*09/25/23 11:17*	*1*

Lab Sample ID: LCS 570-366035/2-A
Matrix: Water
Analysis Batch: 367264

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 366035

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4,6-Trichlorophenol	20.0	14.3		ug/L		71	52 - 129
2,4-Dinitrotoluene	20.0	17.5		ug/L		88	48 - 127
Bis(2-ethylhexyl) phthalate	20.0	17.0		ug/L		85	29 - 137
N-Nitrosodimethylamine	20.0	11.4		ug/L		57	20 - 120
Pentachlorophenol	20.0	13.4		ug/L		67	38 - 152

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*77*		*31 - 120*
Phenol-d6 (Surr)	*40*		*10 - 120*
p-Terphenyl-d14 (Surr)	*85*		*45 - 120*
2,4,6-Tribromophenol	*85*		*28 - 127*
2-Fluorophenol	*62*		*17 - 120*
Nitrobenzene-d5	*75*		*27 - 120*

Lab Sample ID: LCSD 570-366035/3-A
Matrix: Water
Analysis Batch: 367264

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 366035

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4,6-Trichlorophenol	20.0	10.8		ug/L		54	52 - 129	28	35
2,4-Dinitrotoluene	20.0	16.2		ug/L		81	48 - 127	8	25
Bis(2-ethylhexyl) phthalate	20.0	15.8		ug/L		79	29 - 137	7	50
N-Nitrosodimethylamine	20.0	12.0		ug/L		60	20 - 120	5	21
Pentachlorophenol	20.0	8.34		ug/L		42	38 - 152	47	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*79*		*31 - 120*
Phenol-d6 (Surr)	*39*		*10 - 120*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-366035/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 367264 — **Prep Batch: 366035**

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
p-Terphenyl-d14 (Surr)	*83*		*45 - 120*
2,4,6-Tribromophenol	*68*		*28 - 127*
2-Fluorophenol	*50*		*17 - 120*
Nitrobenzene-d5	*75*		*27 - 120*

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-366236/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 368569 — **Prep Batch: 366236**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		09/21/23 12:01	09/28/23 20:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*68*		*20 - 139*	*09/21/23 12:01*	*09/28/23 20:48*	*1*
DCB Decachlorobiphenyl (Surr)	*69*		*20 - 154*	*09/21/23 12:01*	*09/28/23 20:48*	*1*

Lab Sample ID: LCS 570-366236/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 368569 — **Prep Batch: 366236**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
alpha-BHC			0.0333	0.0281		ug/L		84	37 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*65*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*63*		*20 - 154*

Lab Sample ID: LCSD 570-366236/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 368569 — **Prep Batch: 366236**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
alpha-BHC			0.0333	0.0333		ug/L		100	37 - 140	17	36

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*74*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*69*		*20 - 154*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-364557/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 364557

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.043	mg/L			09/16/23 07:53	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 570-364557/5
Matrix: Water
Analysis Batch: 364557

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.10	0.020	mg/L			09/16/23 07:53	1

Lab Sample ID: LCS 570-364557/6
Matrix: Water
Analysis Batch: 364557

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	2.59		mg/L		104	90 - 110
Nitrate as N	5.00	5.05		mg/L		101	90 - 110

Lab Sample ID: LCSD 570-364557/7
Matrix: Water
Analysis Batch: 364557

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	2.59		mg/L		104	90 - 110	0	15
Nitrate as N	5.00	5.04		mg/L		101	90 - 110	0	15

Lab Sample ID: MB 570-364558/5
Matrix: Water
Analysis Batch: 364558

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			09/16/23 07:53	1
Sulfate	ND		1.0	0.24	mg/L			09/16/23 07:53	1

Lab Sample ID: LCS 570-364558/6
Matrix: Water
Analysis Batch: 364558

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	51.6		mg/L		103	90 - 110
Sulfate	50.0	49.5		mg/L		99	90 - 110

Lab Sample ID: LCSD 570-364558/7
Matrix: Water
Analysis Batch: 364558

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	51.6		mg/L		103	90 - 110	0	15
Sulfate	50.0	49.4		mg/L		99	90 - 110	0	15

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-367441/7
Matrix: Water
Analysis Batch: 367441

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			09/25/23 18:46	1

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: LCS 570-367441/8
Matrix: Water
Analysis Batch: 367441

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	23.4		ug/L		93	85 - 115		

Lab Sample ID: LCSD 570-367441/9
Matrix: Water
Analysis Batch: 367441

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	22.8		ug/L		91	85 - 115	2	15

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 570-365233/1-A
Matrix: Water
Analysis Batch: 365376

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 365233

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		09/19/23 06:49	09/19/23 10:36	1
Copper	ND		2.0	0.32	ug/L		09/19/23 06:49	09/19/23 10:36	1
Lead	ND		1.0	0.12	ug/L		09/19/23 06:49	09/19/23 10:36	1
Selenium	ND		2.0	0.52	ug/L		09/19/23 06:49	09/19/23 10:36	1
Zinc	3.28	J,DX	20	2.8	ug/L		09/19/23 06:49	09/19/23 10:36	1

Lab Sample ID: LCS 570-365233/2-A
Matrix: Water
Analysis Batch: 365376

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 365233

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Cadmium			80.0	79.2		ug/L		99	85 - 115		
Copper			80.0	78.7		ug/L		98	85 - 115		
Lead			80.0	76.2		ug/L		95	85 - 115		
Selenium			80.0	78.1		ug/L		98	85 - 115		
Zinc			80.0	79.0		ug/L		99	85 - 115		

Lab Sample ID: LCSD 570-365233/3-A
Matrix: Water
Analysis Batch: 365376

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 365233

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium			80.0	77.6		ug/L		97	85 - 115	2	20
Copper			80.0	78.2		ug/L		98	85 - 115	1	20
Lead			80.0	75.4		ug/L		94	85 - 115	1	20
Selenium			80.0	76.5		ug/L		96	85 - 115	2	20
Zinc			80.0	79.4		ug/L		99	85 - 115	0	20

Lab Sample ID: 570-152962-1 MS
Matrix: Water
Analysis Batch: 365376

Client Sample ID: Outfall018_20230915_Comp
Prep Type: Total Recoverable
Prep Batch: 365233

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Cadmium	0.13	J,DX	80.0	78.3		ug/L		98	80 - 120		

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-152962-1 MS
Matrix: Water
Analysis Batch: 365376

Client Sample ID: Outfall018_20230915_Comp
Prep Type: Total Recoverable
Prep Batch: 365233

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Copper	1.0	J,DX	80.0	77.8		ug/L		96	80 - 120
Lead	0.13	J,DX	80.0	73.2		ug/L		91	80 - 120
Selenium	ND		80.0	76.4		ug/L		96	80 - 120
Zinc	3.3	J,DX MB	80.0	73.1		ug/L		87	80 - 120

Lab Sample ID: 570-152962-1 MSD
Matrix: Water
Analysis Batch: 365376

Client Sample ID: Outfall018_20230915_Comp
Prep Type: Total Recoverable
Prep Batch: 365233

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	0.13	J,DX	80.0	75.1		ug/L		94	80 - 120	4	20
Copper	1.0	J,DX	80.0	76.9		ug/L		95	80 - 120	1	20
Lead	0.13	J,DX	80.0	73.0		ug/L		91	80 - 120	0	20
Selenium	ND		80.0	75.3		ug/L		94	80 - 120	1	20
Zinc	3.3	J,DX MB	80.0	70.9		ug/L		84	80 - 120	3	20

Lab Sample ID: MB 570-365740/1-A
Matrix: Water
Analysis Batch: 365857

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			09/20/23 11:54	1
Copper	ND		2.0	0.32	ug/L			09/20/23 11:54	1
Lead	ND		1.0	0.12	ug/L			09/20/23 11:54	1
Selenium	ND		2.0	0.52	ug/L			09/20/23 11:54	1
Zinc	ND		20	2.8	ug/L			09/20/23 11:54	1

Lab Sample ID: LCS 570-365740/2-A
Matrix: Water
Analysis Batch: 365857

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	80.0	74.2		ug/L		93	85 - 115
Copper	80.0	74.5		ug/L		93	85 - 115
Lead	80.0	72.2		ug/L		90	85 - 115
Selenium	80.0	74.8		ug/L		93	85 - 115
Zinc	80.0	71.2		ug/L		89	85 - 115

Lab Sample ID: LCSD 570-365740/3-A
Matrix: Water
Analysis Batch: 365857

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	77.5		ug/L		97	85 - 115	4	20
Copper	80.0	77.0		ug/L		96	85 - 115	3	20
Lead	80.0	74.0		ug/L		93	85 - 115	3	20
Selenium	80.0	77.4		ug/L		97	85 - 115	3	20
Zinc	80.0	74.7		ug/L		93	85 - 115	5	20

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-152962-3 MS
Matrix: Water
Analysis Batch: 365857

Client Sample ID: Outfall018_20230915_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	71.2	BU	ug/L		89	80 - 120
Copper	0.82	J,DX BU	80.0	70.8	BU	ug/L		87	80 - 120
Lead	ND	BU	80.0	68.1	BU	ug/L		85	80 - 120
Selenium	ND	BU	80.0	74.3	BU	ug/L		93	80 - 120
Zinc	ND	BU	80.0	67.6	BU	ug/L		85	80 - 120

Lab Sample ID: 570-152962-3 MSD
Matrix: Water
Analysis Batch: 365857

Client Sample ID: Outfall018_20230915_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	68.4	BU	ug/L		85	80 - 120	4	20
Copper	0.82	J,DX BU	80.0	69.3	BU	ug/L		86	80 - 120	2	20
Lead	ND	BU	80.0	66.4	BU	ug/L		83	80 - 120	2	20
Selenium	ND	BU	80.0	71.8	BU	ug/L		90	80 - 120	3	20
Zinc	ND	BU	80.0	64.8	BU	ug/L		81	80 - 120	4	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-365495/1-A
Matrix: Water
Analysis Batch: 365874

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 365495

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		09/19/23 16:24	09/20/23 15:09	1

Lab Sample ID: LCS 570-365495/2-A
Matrix: Water
Analysis Batch: 365874

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 365495

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	7.79		ug/L		97	85 - 115

Lab Sample ID: LCSD 570-365495/3-A
Matrix: Water
Analysis Batch: 365874

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 365495

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	7.70		ug/L		96	85 - 115	1	10

Lab Sample ID: 570-152962-1 MS
Matrix: Water
Analysis Batch: 365874

Client Sample ID: Outfall018_20230915_Comp
Prep Type: Total/NA
Prep Batch: 365495

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		8.00	7.57		ug/L		95	85 - 115

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 570-152962-1 MSD — **Client Sample ID: Outfall018_20230915_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 365874 — **Prep Batch: 365495**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		8.00	7.70		ug/L		96	85 - 115	2	10

Lab Sample ID: MB 570-365587/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 365874 — **Prep Batch: 365588**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		09/19/23 19:36	09/20/23 17:32	1

Lab Sample ID: LCS 570-365587/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 365874 — **Prep Batch: 365588**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	7.71		ug/L		96	85 - 115

Lab Sample ID: LCSD 570-365587/3-B — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 365874 — **Prep Batch: 365588**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	7.86		ug/L		98	85 - 115	2	10

Lab Sample ID: 570-152962-3 MS — **Client Sample ID: Outfall018_20230915_Comp_F**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 365874 — **Prep Batch: 365588**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND	BU	8.00	7.81	BU	ug/L		98	85 - 115

Lab Sample ID: 570-152962-3 MSD — **Client Sample ID: Outfall018_20230915_Comp_F**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 365874 — **Prep Batch: 365588**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND	BU	8.00	7.98	BU	ug/L		100	85 - 115	2	10

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 570-368214/5-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 368219 — **Prep Batch: 368214**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.075	0.029	mg/L		09/27/23 11:00	09/27/23 13:22	1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 570-368214/6-A
Matrix: Water
Analysis Batch: 368219

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 368214

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.500	0.494		mg/L		99	90 - 110

Lab Sample ID: LCSD 570-368214/7-A
Matrix: Water
Analysis Batch: 368219

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 368214

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.500	0.489		mg/L		98	90 - 110	1	20

Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate

Lab Sample ID: MB 570-367633/11
Matrix: Water
Analysis Batch: 367633

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			09/25/23 13:54	1

Lab Sample ID: MB 570-367633/44
Matrix: Water
Analysis Batch: 367633

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			09/25/23 18:10	1

Lab Sample ID: LCS 570-367633/12
Matrix: Water
Analysis Batch: 367633

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	261		ug/L		105	90 - 110

Lab Sample ID: LCS 570-367633/45
Matrix: Water
Analysis Batch: 367633

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	231		ug/L		92	90 - 110

Lab Sample ID: LCSD 570-367633/13
Matrix: Water
Analysis Batch: 367633

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	248		ug/L		99	90 - 110	5	20

Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate (Continued)

Lab Sample ID: LCSD 570-367633/46
Matrix: Water
Analysis Batch: 367633

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	240		ug/L		96	90 - 110	4	20

Lab Sample ID: MRL 570-367633/10
Matrix: Water
Analysis Batch: 367633

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	4.98	J,DX	ug/L		100	50 - 150

Lab Sample ID: MRL 570-367633/47
Matrix: Water
Analysis Batch: 367633

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	4.68	J,DX	ug/L		94	50 - 150

Method: SM 2130B - Turbidity

Lab Sample ID: LCSSRM 570-364661/1
Matrix: Water
Analysis Batch: 364661

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		99.0	99.0 - 101.0

Lab Sample ID: LCSSRM 570-364661/2
Matrix: Water
Analysis Batch: 364661

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		101.0	99.0 - 101.0

Lab Sample ID: LCSSRM 570-364661/3
Matrix: Water
Analysis Batch: 364661

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 570-366757/1
Matrix: Water
Analysis Batch: 366757

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			09/22/23 16:12	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 570-366757/2
Matrix: Water
Analysis Batch: 366757

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	938		mg/L		94	84 - 108

Lab Sample ID: LCSD 570-366757/3
Matrix: Water
Analysis Batch: 366757

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	940		mg/L		94	84 - 108	0	10

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-366302/1
Matrix: Water
Analysis Batch: 366302

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			09/21/23 14:41	1

Lab Sample ID: LCS 570-366302/2
Matrix: Water
Analysis Batch: 366302

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	116		mg/L		116	77 - 116

Lab Sample ID: LCSD 570-366302/3
Matrix: Water
Analysis Batch: 366302

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	105		mg/L		105	77 - 116	10	10

Method: SM 5210B - BOD, 5-Day

Lab Sample ID: LCS 570-364617/2-A
Matrix: Water
Analysis Batch: 366239

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 364617

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	199	183		mg/L		92	84.6 - 115.4

Lab Sample ID: USB 570-366239/2
Matrix: Water
Analysis Batch: 366239

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			09/21/23 10:01	1

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 570-364660/5-A
Matrix: Water
Analysis Batch: 364691

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 364660

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.20	0.050	mg/L		09/16/23 11:55	09/16/23 16:20	1

Lab Sample ID: LCS 570-364660/6-A
Matrix: Water
Analysis Batch: 364691

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 364660

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
MBAS			0.500	0.496		mg/L		99	83 - 122		

Lab Sample ID: LCSD 570-364660/7-A
Matrix: Water
Analysis Batch: 364691

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 364660

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS			0.500	0.493		mg/L		99	83 - 122	1	10

GC/MS Semi VOA

Prep Batch: 366035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	625	
MB 570-366035/1-A	Method Blank	Total/NA	Water	625	
LCS 570-366035/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-366035/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 367264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	625.1 SIM	366035
MB 570-366035/1-A	Method Blank	Total/NA	Water	625.1 SIM	366035
LCS 570-366035/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	366035
LCSD 570-366035/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	366035

GC Semi VOA

Prep Batch: 366236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	608	
MB 570-366236/1-A	Method Blank	Total/NA	Water	608	
LCS 570-366236/2-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-366236/3-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 368569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	608.3	366236
MB 570-366236/1-A	Method Blank	Total/NA	Water	608.3	366236
LCS 570-366236/2-A	Lab Control Sample	Total/NA	Water	608.3	366236
LCSD 570-366236/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	366236

HPLC/IC

Analysis Batch: 364557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	300.0	
MB 570-364557/5	Method Blank	Total/NA	Water	300.0	
LCS 570-364557/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-364557/7	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 364558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	300.0	
570-152962-1 - DL	Outfall018_20230915_Comp	Total/NA	Water	300.0	
MB 570-364558/5	Method Blank	Total/NA	Water	300.0	
LCS 570-364558/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-364558/7	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 365387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	NO2NO3 Calc	

Analysis Batch: 367441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	314.0	

HPLC/IC (Continued)

Analysis Batch: 367441 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-367441/7	Method Blank	Total/NA	Water	314.0	
LCS 570-367441/8	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-367441/9	Lab Control Sample Dup	Total/NA	Water	314.0	

Metals

Prep Batch: 365233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total Recoverable	Water	200.8	
MB 570-365233/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-365233/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-365233/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-152962-1 MS	Outfall018_20230915_Comp	Total Recoverable	Water	200.8	
570-152962-1 MSD	Outfall018_20230915_Comp	Total Recoverable	Water	200.8	

Analysis Batch: 365376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total Recoverable	Water	200.8	365233
MB 570-365233/1-A	Method Blank	Total Recoverable	Water	200.8	365233
LCS 570-365233/2-A	Lab Control Sample	Total Recoverable	Water	200.8	365233
LCSD 570-365233/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	365233
570-152962-1 MS	Outfall018_20230915_Comp	Total Recoverable	Water	200.8	365233
570-152962-1 MSD	Outfall018_20230915_Comp	Total Recoverable	Water	200.8	365233

Prep Batch: 365495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	245.1	
MB 570-365495/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-365495/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-365495/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-152962-1 MS	Outfall018_20230915_Comp	Total/NA	Water	245.1	
570-152962-1 MSD	Outfall018_20230915_Comp	Total/NA	Water	245.1	

Filtration Batch: 365587

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-3	Outfall018_20230915_Comp_F	Dissolved	Water	Filtration	
MB 570-365587/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-365587/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-365587/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-152962-3 MS	Outfall018_20230915_Comp_F	Dissolved	Water	Filtration	
570-152962-3 MSD	Outfall018_20230915_Comp_F	Dissolved	Water	Filtration	

Prep Batch: 365588

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-3	Outfall018_20230915_Comp_F	Dissolved	Water	245.1	365587
MB 570-365587/1-B	Method Blank	Dissolved	Water	245.1	365587
LCS 570-365587/2-B	Lab Control Sample	Dissolved	Water	245.1	365587
LCSD 570-365587/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	365587
570-152962-3 MS	Outfall018_20230915_Comp_F	Dissolved	Water	245.1	365587
570-152962-3 MSD	Outfall018_20230915_Comp_F	Dissolved	Water	245.1	365587

Metals

Filtration Batch: 365740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-3	Outfall018_20230915_Comp_F	Dissolved	Water	Filtration	
MB 570-365740/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-365740/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-365740/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-152962-3 MS	Outfall018_20230915_Comp_F	Dissolved	Water	Filtration	
570-152962-3 MSD	Outfall018_20230915_Comp_F	Dissolved	Water	Filtration	

Analysis Batch: 365857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-3	Outfall018_20230915_Comp_F	Dissolved	Water	200.8	365740
MB 570-365740/1-A	Method Blank	Dissolved	Water	200.8	365740
LCS 570-365740/2-A	Lab Control Sample	Dissolved	Water	200.8	365740
LCSD 570-365740/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	365740
570-152962-3 MS	Outfall018_20230915_Comp_F	Dissolved	Water	200.8	365740
570-152962-3 MSD	Outfall018_20230915_Comp_F	Dissolved	Water	200.8	365740

Analysis Batch: 365874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	245.1	365495
570-152962-3	Outfall018_20230915_Comp_F	Dissolved	Water	245.1	365588
MB 570-365495/1-A	Method Blank	Total/NA	Water	245.1	365495
MB 570-365587/1-B	Method Blank	Dissolved	Water	245.1	365588
LCS 570-365495/2-A	Lab Control Sample	Total/NA	Water	245.1	365495
LCS 570-365587/2-B	Lab Control Sample	Dissolved	Water	245.1	365588
LCSD 570-365495/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	365495
LCSD 570-365587/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	365588
570-152962-1 MS	Outfall018_20230915_Comp	Total/NA	Water	245.1	365495
570-152962-1 MSD	Outfall018_20230915_Comp	Total/NA	Water	245.1	365495
570-152962-3 MS	Outfall018_20230915_Comp_F	Dissolved	Water	245.1	365588
570-152962-3 MSD	Outfall018_20230915_Comp_F	Dissolved	Water	245.1	365588

General Chemistry

Prep Batch: 364617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	BOD Prep	
LCS 570-364617/2-A	Lab Control Sample	Total/NA	Water	BOD Prep	

Prep Batch: 364660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	SM 5540C	
MB 570-364660/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-364660/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-364660/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	

Analysis Batch: 364661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	SM 2130B	
LCSSRM 570-364661/1	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-364661/2	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-364661/3	Lab Control Sample	Total/NA	Water	SM 2130B	

General Chemistry

Analysis Batch: 364691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	SM 5540C	364660
MB 570-364660/5-A	Method Blank	Total/NA	Water	SM 5540C	364660
LCS 570-364660/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	364660
LCSD 570-364660/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	364660

Analysis Batch: 366239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	SM 5210B	364617
USB 570-366239/2	Method Blank	Total/NA	Water	SM 5210B	
LCS 570-364617/2-A	Lab Control Sample	Total/NA	Water	SM 5210B	364617

Analysis Batch: 366302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	SM 2540D	
MB 570-366302/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-366302/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-366302/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 366757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	SM 2540C	
MB 570-366757/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 570-366757/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 570-366757/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

Analysis Batch: 367633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	Kelada 01	
MB 570-367633/11	Method Blank	Total/NA	Water	Kelada 01	
MB 570-367633/44	Method Blank	Total/NA	Water	Kelada 01	
LCS 570-367633/12	Lab Control Sample	Total/NA	Water	Kelada 01	
LCS 570-367633/45	Lab Control Sample	Total/NA	Water	Kelada 01	
LCSD 570-367633/13	Lab Control Sample Dup	Total/NA	Water	Kelada 01	
LCSD 570-367633/46	Lab Control Sample Dup	Total/NA	Water	Kelada 01	
MRL 570-367633/10	Lab Control Sample	Total/NA	Water	Kelada 01	
MRL 570-367633/47	Lab Control Sample	Total/NA	Water	Kelada 01	

Prep Batch: 368214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	Distill/Ammonia	
MB 570-368214/5-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 570-368214/6-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	
LCSD 570-368214/7-A	Lab Control Sample Dup	Total/NA	Water	Distill/Ammonia	

Analysis Batch: 368219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	350.1	368214
MB 570-368214/5-A	Method Blank	Total/NA	Water	350.1	368214
LCS 570-368214/6-A	Lab Control Sample	Total/NA	Water	350.1	368214
LCSD 570-368214/7-A	Lab Control Sample Dup	Total/NA	Water	350.1	368214

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Client Sample ID: Outfall018_20230915_Comp
Lab Sample ID: 570-152962-1
Date Collected: 09/15/23 07:30
Matrix: Water
Date Received: 09/15/23 18:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			1056.6 mL	2 mL	366035	09/21/23 05:27	H1SH	EET CAL 4
Total/NA	Analysis	625.1 SIM		1	1 mL	1 mL	367264	09/25/23 12:40	ULLI	EET CAL 4
	Instrument ID: GCMSJJJ									
Total/NA	Prep	608			1500 mL	1 mL	366236	09/21/23 12:01	H1SH	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	368569	09/28/23 23:20	N5Y3	EET CAL 4
	Instrument ID: GC54A									
Total/NA	Analysis	300.0		1	4 mL	4 mL	364557	09/16/23 12:32	UIP1	EET CAL 4
	Instrument ID: IC15									
Total/NA	Analysis	300.0		1	4 mL	4 mL	364558	09/16/23 12:32	UIP1	EET CAL 4
	Instrument ID: IC15									
Total/NA	Analysis	300.0	DL	10	4 mL	4 mL	364558	09/16/23 14:31	UIP1	EET CAL 4
	Instrument ID: IC15									
Total/NA	Analysis	314.0		1	4 mL	4 mL	367441	09/25/23 23:18	YO8L	EET CAL 4
	Instrument ID: IC13									
Total/NA	Analysis	NO2NO3 Calc		1			365387	09/16/23 12:32	WH6J	EET CAL 4
	Instrument ID: NOEQUIP									
Total Recoverable	Prep	200.8			50 mL	50 mL	365233	09/19/23 06:49	JP8N	EET CAL 4
Total Recoverable	Analysis	200.8		1			365376	09/19/23 10:43	Y2WS	EET CAL 4
	Instrument ID: ICPMS09									
Total/NA	Prep	245.1			25 mL	50 mL	365495	09/19/23 16:24	EV3M	EET CAL 4
Total/NA	Analysis	245.1		1			365874	09/20/23 15:15	C0YH	EET CAL 4
	Instrument ID: HG7									
Total/NA	Prep	Distill/Ammonia			5 mL	5 mL	368214	09/27/23 11:00	UXCH	EET CAL 4
Total/NA	Analysis	350.1		1	5 mL	5 mL	368219	09/27/23 13:38	UXCH	EET CAL 4
	Instrument ID: ACA2									
Total/NA	Analysis	Kelada 01		1	8 mL	8 mL	367633	09/25/23 19:59	GG0B	EET CAL 4
	Instrument ID: LACHAT01									
Total/NA	Analysis	SM 2130B		1			364661	09/16/23 15:05	ZVB7	EET CAL 4
	Instrument ID: TUR4									
Total/NA	Analysis	SM 2540C		1	100 mL	1000 mL	366757	09/22/23 16:12	ZL7L	EET CAL 4
	Instrument ID: BAL100									
Total/NA	Analysis	SM 2540D		1	700 mL	1000 mL	366302	09/21/23 14:41	JB	EET CAL 4
	Instrument ID: BAL71									
Total/NA	Prep	BOD Prep					364617	09/16/23 09:06	TN8Z	EET CAL 4
Total/NA	Analysis	SM 5210B		1	300 mL	300 mL	366239	09/21/23 11:55	U7UR	EET CAL 4
	Instrument ID: BOD3									
Total/NA	Prep	SM 5540C			100 mL	100 mL	364660	09/16/23 11:55	ZVB7	EET CAL 4
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	364691	09/16/23 16:26	ZVB7	EET CAL 4
	Instrument ID: UV8									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Client Sample ID: Outfall018_20230915_Comp_F
Lab Sample ID: 570-152962-3

Date Collected: 09/15/23 07:30
Matrix: Water
Date Received: 09/15/23 18:55

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	365740	09/20/23 09:29	JP8N	EET CAL 4
Dissolved	Analysis	200.8		1			365857	09/20/23 12:01	Y2WS	EET CAL 4
	Instrument ID: ICPMS09									
Dissolved	Filtration	Filtration			25 mL	25 mL	365587	09/19/23 19:33	EV3M	EET CAL 4
Dissolved	Prep	245.1			25 mL	50 mL	365588	09/19/23 19:36	EV3M	EET CAL 4
Dissolved	Analysis	245.1		1			365874	09/20/23 17:38	C0YH	EET CAL 4
	Instrument ID: HG7									

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: 570-152962-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-23

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - 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
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.
Job ID: 570-152962-1
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-152962-1	Outfall018_20230915_Comp	Water	09/15/23 07:30	09/15/23 18:55
570-152962-3	Outfall018_20230915_Comp_F	Water	09/15/23 07:30	09/15/23 18:55

H4MW

Loc: 570
152962

Eurofins Calscience Irvine

570-152962 Chain of Custody

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 Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 **EC 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: (E200.8): 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)					Comments
Outfall 018	Outfall018_20230915_Comp	9/15/2023	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									
	Outfall018_20230915_Comp_Extra	9/15/2023	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:
	9-15-2023 / 1100	M.A	EC	9/15/23 1100
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	EC 9/15/23	1858	EC	9-15-23 18:55
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___

1.6/1.7 1.4/1.5 2.0/2.1 SCC2

2019-2020 Rainy Season
Version 5

152962

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										Comments
Eurofins Calscience Project Manager: Virendra Patel, 2841 Dow Avenue, Suite #100, Tustin, CA 92780, Tel: 714-895-5494				Project Manager: Katherine Miller					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)							
EC# Project #67013187				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											
(3) Outfall 018	Outfall018_20230915_Comp_F	9/15/2023	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.
(1)	Outfall018_20230915_Comp	9/15/2023	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]	9-15-2023	1100 H&A	[signature] EC	9/15/23 1100
[signature] EC	9/15/23	1855	[signature]	9-15-23 18:55

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: 570-288954.1
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 #: 570-152962-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 10/20/2023			
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 - 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:												
Outfall018_20230915_Comp (570-152962-1)	9/15/23	07:30 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
Relinquished by:	Date/Time: 9/19/23 1320	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: 570-289057.1
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 #: 570-152962-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 10/9/2023			
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 - 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:							
Outfall018_20230915_Comp (570-152962-1)	9/15/23	07:30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall018_20230915_Comp_Extra (570-152962-2)	9/15/23	07:30 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	***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
	9/19/23 1419				
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: 570-152962-1

Login Number: 152962
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	Refer to Job Narrative for details.
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 9/28/2023 3:11:19 PM

JOB DESCRIPTION

Boeing NPDES SSFL - Outfall 018 - Comp

JOB NUMBER

570-152962-2

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

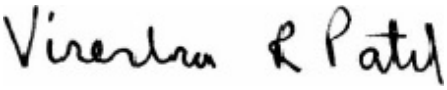
See page two for job notes and contact information.

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.

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
9/28/2023 3:11:19 PM

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-152962-2
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

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

Job ID: 570-152962-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-152962-2

Receipt
The samples were received on 9/15/2023 6:55 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 2.1º C.

Receipt Exceptions

The Chain-of-Custody (COC) was incomplete as received. No collection times listed on the COC. Logged in per sample labels.

A Chain-of-Custody (COC) was not received with these samples 570-152962 #1 #2 Outfall018_20230915_Comp (570-152962-1) and Outfall018_20230915_Comp_Extra (570-152962-2).

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument DFS 1 exceeded this criteria: Outfall018_20230915_Comp (570-152962-1), (CCV 320-709187/2), (LCS 320-708569/2-A), (LCSD 320-708569/3-A) and (MB 320-708569/1-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: 570-152962-2
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Client Sample ID: Outfall018_20230915_Comp
Lab Sample ID: 570-152962-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000033	J,DX MB	0.000050	0.0000012	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000015	J,DX MB	0.000050	0.0000007 5	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000017	J,DX MB	0.000050	0.0000006 7	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000045	J,DX MB	0.000050	0.0000002 8	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000019	J,DX MB	0.000050	0.0000006 7	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000016	J,DX MB	0.000050	0.0000007 2	ug/L	1		1613B	Total/NA
OCDD	0.000017	J,DX MB	0.00010	0.0000011	ug/L	1		1613B	Total/NA
OCDF	0.0000041	J,DX MB	0.00010	0.0000006 2	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000033	J,DX MB	0.000050	0.0000012	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000032	J,DX MB	0.000050	0.0000007 1	ug/L	1		1613B	Total/NA
Total HpCDD	0.0000085	J,DX MB q	0.000050	0.0000002 8	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000036	J,DX MB	0.000050	0.0000007 0	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-2
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall018_20230915_Comp
Date Collected: 09/15/23 07:30
Date Received: 09/15/23 18:55

Lab Sample ID: 570-152962-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000089	ug/L		09/25/23 08:02	09/27/23 20:47	1
2,3,7,8-TCDF	ND		0.000010	0.00000059	ug/L		09/25/23 08:02	09/27/23 20:47	1
1,2,3,7,8-PeCDD	ND		0.000050	0.0000013	ug/L		09/25/23 08:02	09/27/23 20:47	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000072	ug/L		09/25/23 08:02	09/27/23 20:47	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000089	ug/L		09/25/23 08:02	09/27/23 20:47	1
1,2,3,4,7,8-HxCDD	**0.0000033**	**J,DX MB**	0.000050	0.0000012	ug/L		09/25/23 08:02	09/27/23 20:47	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.0000012	ug/L		09/25/23 08:02	09/27/23 20:47	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.0000011	ug/L		09/25/23 08:02	09/27/23 20:47	1
1,2,3,4,7,8-HxCDF	**0.0000015**	**J,DX MB**	0.000050	0.00000075	ug/L		09/25/23 08:02	09/27/23 20:47	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.00000071	ug/L		09/25/23 08:02	09/27/23 20:47	1
1,2,3,7,8,9-HxCDF	ND		0.000050	0.00000073	ug/L		09/25/23 08:02	09/27/23 20:47	1
2,3,4,6,7,8-HxCDF	**0.0000017**	**J,DX MB**	0.000050	0.00000067	ug/L		09/25/23 08:02	09/27/23 20:47	1
1,2,3,4,6,7,8-HpCDD	**0.0000045**	**J,DX MB**	0.000050	0.00000028	ug/L		09/25/23 08:02	09/27/23 20:47	1
1,2,3,4,6,7,8-HpCDF	**0.0000019**	**J,DX MB**	0.000050	0.00000067	ug/L		09/25/23 08:02	09/27/23 20:47	1
1,2,3,4,7,8,9-HpCDF	**0.0000016**	**J,DX MB**	0.000050	0.00000072	ug/L		09/25/23 08:02	09/27/23 20:47	1
OCDD	**0.000017**	**J,DX MB**	0.00010	0.0000011	ug/L		09/25/23 08:02	09/27/23 20:47	1
OCDF	**0.0000041**	**J,DX MB**	0.00010	0.00000062	ug/L		09/25/23 08:02	09/27/23 20:47	1
Total TCDD	ND		0.000010	0.00000089	ug/L		09/25/23 08:02	09/27/23 20:47	1
Total TCDF	ND		0.000010	0.00000059	ug/L		09/25/23 08:02	09/27/23 20:47	1
Total PeCDD	ND		0.000050	0.0000013	ug/L		09/25/23 08:02	09/27/23 20:47	1
Total PeCDF	ND		0.000050	0.00000089	ug/L		09/25/23 08:02	09/27/23 20:47	1
Total HxCDD	**0.0000033**	**J,DX MB**	0.000050	0.0000012	ug/L		09/25/23 08:02	09/27/23 20:47	1
Total HxCDF	**0.0000032**	**J,DX MB**	0.000050	0.00000071	ug/L		09/25/23 08:02	09/27/23 20:47	1
Total HpCDD	**0.0000085**	**J,DX MB q**	0.000050	0.00000028	ug/L		09/25/23 08:02	09/27/23 20:47	1
Total HpCDF	**0.0000036**	**J,DX MB**	0.000050	0.00000070	ug/L		09/25/23 08:02	09/27/23 20:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*79*		*25 - 164*	*09/25/23 08:02*	*09/27/23 20:47*	*1*
13C-2,3,7,8-TCDF	*75*		*24 - 169*	*09/25/23 08:02*	*09/27/23 20:47*	*1*
13C-1,2,3,7,8-PeCDD	*97*		*25 - 181*	*09/25/23 08:02*	*09/27/23 20:47*	*1*
13C-1,2,3,7,8-PeCDF	*87*		*24 - 185*	*09/25/23 08:02*	*09/27/23 20:47*	*1*
13C-2,3,4,7,8-PeCDF	*79*		*21 - 178*	*09/25/23 08:02*	*09/27/23 20:47*	*1*
13C-1,2,3,4,7,8-HxCDD	*87*		*32 - 141*	*09/25/23 08:02*	*09/27/23 20:47*	*1*
13C-1,2,3,6,7,8-HxCDD	*86*		*28 - 130*	*09/25/23 08:02*	*09/27/23 20:47*	*1*
13C-1,2,3,4,7,8-HxCDF	*89*		*26 - 152*	*09/25/23 08:02*	*09/27/23 20:47*	*1*
13C-1,2,3,6,7,8-HxCDF	*83*		*26 - 123*	*09/25/23 08:02*	*09/27/23 20:47*	*1*
13C-1,2,3,7,8,9-HxCDF	*73*		*29 - 147*	*09/25/23 08:02*	*09/27/23 20:47*	*1*

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall018_20230915_Comp **Lab Sample ID: 570-152962-1**
Date Collected: 09/15/23 07:30 **Matrix: Water**
Date Received: 09/15/23 18:55

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,6,7,8-HxCDF	87		28 - 136	09/25/23 08:02	09/27/23 20:47	1
13C-1,2,3,4,6,7,8-HpCDD	91		23 - 140	09/25/23 08:02	09/27/23 20:47	1
13C-1,2,3,4,6,7,8-HpCDF	90		28 - 143	09/25/23 08:02	09/27/23 20:47	1
13C-1,2,3,4,7,8,9-HpCDF	91		26 - 138	09/25/23 08:02	09/27/23 20:47	1
13C-OCDD	91		17 - 157	09/25/23 08:02	09/27/23 20:47	1
13C-OCDF	106		17 - 157	09/25/23 08:02	09/27/23 20:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	89		35 - 197	09/25/23 08:02	09/27/23 20:47	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-2
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	**Client Sample ID**	**37TCDD (35-197)**
570-152962-1	Outfall018_20230915_Comp	89
MB 320-708569/1-A	Method Blank	84

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 320-708569/2-A	Lab Control Sample	86
LCSD 320-708569/3-A	Lab Control Sample Dup	92

Surrogate Legend
37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc. Job ID: 570-152962-2
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

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)
570-152962-1	Outfall018_20230915_Comp	79	75	97	87	79	87	86	89
MB 320-708569/1-A	Method Blank	68	67	85	77	70	78	74	80

		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)
570-152962-1	Outfall018_20230915_Comp	83	73	87	91	90	91	91	106
MB 320-708569/1-A	Method Blank	74	64	77	76	77	75	74	85

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)							
		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 320-708569/2-A	Lab Control Sample	72	67	86	76	69	78	75	78
LCSD 320-708569/3-A	Lab Control Sample Dup	76	72	93	81	75	83	81	85

		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 320-708569/2-A	Lab Control Sample	76	66	80	79	81	79	77	90
LCSD 320-708569/3-A	Lab Control Sample Dup	78	69	82	86	85	88	87	100

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: 570-152962-2
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

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 320-708569/1-A
Matrix: Water
Analysis Batch: 709187

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 708569

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000093	ug/L		09/25/23 08:02	09/27/23 18:23	1
2,3,7,8-TCDF	ND		0.000010	0.00000069	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,7,8-PeCDD	ND		0.000050	0.0000014	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000059	ug/L		09/25/23 08:02	09/27/23 18:23	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000074	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,4,7,8-HxCDD	0.00000294	J,DX q	0.000050	0.00000098	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,6,7,8-HxCDD	0.00000219	J,DX	0.000050	0.0000010	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,7,8,9-HxCDD	0.00000329	J,DX	0.000050	0.00000093	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,4,7,8-HxCDF	0.00000185	J,DX q	0.000050	0.00000067	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,6,7,8-HxCDF	0.00000160	J,DX	0.000050	0.00000064	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,7,8,9-HxCDF	0.00000159	J,DX	0.000050	0.00000067	ug/L		09/25/23 08:02	09/27/23 18:23	1
2,3,4,6,7,8-HxCDF	0.00000164	J,DX	0.000050	0.00000061	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,4,6,7,8-HpCDD	0.00000458	J,DX	0.000050	0.00000035	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,4,6,7,8-HpCDF	0.00000281	J,DX	0.000050	0.00000052	ug/L		09/25/23 08:02	09/27/23 18:23	1
1,2,3,4,7,8,9-HpCDF	0.00000287	J,DX	0.000050	0.00000057	ug/L		09/25/23 08:02	09/27/23 18:23	1
OCDD	0.0000212	J,DX	0.00010	0.0000011	ug/L		09/25/23 08:02	09/27/23 18:23	1
OCDF	0.00000475	J,DX	0.00010	0.00000079	ug/L		09/25/23 08:02	09/27/23 18:23	1
Total TCDD	ND		0.000010	0.00000093	ug/L		09/25/23 08:02	09/27/23 18:23	1
Total TCDF	ND		0.000010	0.00000069	ug/L		09/25/23 08:02	09/27/23 18:23	1
Total PeCDD	ND		0.000050	0.0000014	ug/L		09/25/23 08:02	09/27/23 18:23	1
Total PeCDF	ND		0.000050	0.00000074	ug/L		09/25/23 08:02	09/27/23 18:23	1
Total HxCDD	0.00000842	J,DX q	0.000050	0.00000098	ug/L		09/25/23 08:02	09/27/23 18:23	1
Total HxCDF	0.00000792	J,DX q	0.000050	0.00000065	ug/L		09/25/23 08:02	09/27/23 18:23	1
Total HpCDD	0.00000966	J,DX	0.000050	0.00000035	ug/L		09/25/23 08:02	09/27/23 18:23	1
Total HpCDF	0.00000568	J,DX	0.000050	0.00000055	ug/L		09/25/23 08:02	09/27/23 18:23	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*68*		*25 - 164*	*09/25/23 08:02*	*09/27/23 18:23*	*1*
13C-2,3,7,8-TCDF	*67*		*24 - 169*	*09/25/23 08:02*	*09/27/23 18:23*	*1*
13C-1,2,3,7,8-PeCDD	*85*		*25 - 181*	*09/25/23 08:02*	*09/27/23 18:23*	*1*
13C-1,2,3,7,8-PeCDF	*77*		*24 - 185*	*09/25/23 08:02*	*09/27/23 18:23*	*1*
13C-2,3,4,7,8-PeCDF	*70*		*21 - 178*	*09/25/23 08:02*	*09/27/23 18:23*	*1*
13C-1,2,3,4,7,8-HxCDD	*78*		*32 - 141*	*09/25/23 08:02*	*09/27/23 18:23*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-708569/1-A
Matrix: Water
Analysis Batch: 709187

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 708569

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDD	74		28 - 130	09/25/23 08:02	09/27/23 18:23	1
13C-1,2,3,4,7,8-HxCDF	80		26 - 152	09/25/23 08:02	09/27/23 18:23	1
13C-1,2,3,6,7,8-HxCDF	74		26 - 123	09/25/23 08:02	09/27/23 18:23	1
13C-1,2,3,7,8,9-HxCDF	64		29 - 147	09/25/23 08:02	09/27/23 18:23	1
13C-2,3,4,6,7,8-HxCDF	77		28 - 136	09/25/23 08:02	09/27/23 18:23	1
13C-1,2,3,4,6,7,8-HpCDD	76		23 - 140	09/25/23 08:02	09/27/23 18:23	1
13C-1,2,3,4,6,7,8-HpCDF	77		28 - 143	09/25/23 08:02	09/27/23 18:23	1
13C-1,2,3,4,7,8,9-HpCDF	75		26 - 138	09/25/23 08:02	09/27/23 18:23	1
13C-OCDD	74		17 - 157	09/25/23 08:02	09/27/23 18:23	1
13C-OCDF	85		17 - 157	09/25/23 08:02	09/27/23 18:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	84		35 - 197	09/25/23 08:02	09/27/23 18:23	1

Lab Sample ID: LCS 320-708569/2-A
Matrix: Water
Analysis Batch: 709187

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 708569

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,3,7,8-TCDD	0.000200	0.000176		ug/L		88	67 - 158
2,3,7,8-TCDF	0.000200	0.000171		ug/L		86	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.000849		ug/L		85	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.000881		ug/L		88	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000972		ug/L		97	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000886		ug/L		89	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000924		ug/L		92	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000905		ug/L		91	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000919		ug/L		92	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000837		ug/L		84	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.000847		ug/L		85	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000856		ug/L		86	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000903		ug/L		90	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000895		ug/L		89	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000923		ug/L		92	78 - 138
OCDD	0.00200	0.00174		ug/L		87	78 - 144
OCDF	0.00200	0.00146		ug/L		73	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	72		20 - 175
13C-2,3,7,8-TCDF	67		22 - 152
13C-1,2,3,7,8-PeCDD	86		21 - 227
13C-1,2,3,7,8-PeCDF	76		21 - 192
13C-2,3,4,7,8-PeCDF	69		13 - 328
13C-1,2,3,4,7,8-HxCDD	78		21 - 193
13C-1,2,3,6,7,8-HxCDD	75		25 - 163
13C-1,2,3,4,7,8-HxCDF	78		19 - 202
13C-1,2,3,6,7,8-HxCDF	76		21 - 159
13C-1,2,3,7,8,9-HxCDF	66		17 - 205

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-708569/2-A
Matrix: Water
Analysis Batch: 709187

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 708569

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,4,6,7,8-HxCDF	80		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	79		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	81		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	79		20 - 186
13C-OCDD	77		13 - 199
13C-OCDF	90		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	86		31 - 191

Lab Sample ID: LCSD 320-708569/3-A
Matrix: Water
Analysis Batch: 709187

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 708569

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000188		ug/L		94	67 - 158	7	50
2,3,7,8-TCDF			0.000200	0.000178		ug/L		89	75 - 158	4	50
1,2,3,7,8-PeCDD			0.00100	0.000845		ug/L		84	70 - 142	0	50
1,2,3,7,8-PeCDF			0.00100	0.000910		ug/L		91	80 - 134	3	50
2,3,4,7,8-PeCDF			0.00100	0.000981		ug/L		98	68 - 160	1	50
1,2,3,4,7,8-HxCDD			0.00100	0.000909		ug/L		91	70 - 164	3	50
1,2,3,6,7,8-HxCDD			0.00100	0.000915		ug/L		92	76 - 134	1	50
1,2,3,7,8,9-HxCDD			0.00100	0.000885		ug/L		89	64 - 162	2	50
1,2,3,4,7,8-HxCDF			0.00100	0.000905		ug/L		91	72 - 134	2	50
1,2,3,6,7,8-HxCDF			0.00100	0.000847		ug/L		85	84 - 130	1	50
1,2,3,7,8,9-HxCDF			0.00100	0.000834		ug/L		83	78 - 130	2	50
2,3,4,6,7,8-HxCDF			0.00100	0.000850		ug/L		85	70 - 156	1	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.000903		ug/L		90	70 - 140	0	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.000921		ug/L		92	82 - 122	3	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000912		ug/L		91	78 - 138	1	50
OCDD			0.00200	0.00175		ug/L		88	78 - 144	1	50
OCDF			0.00200	0.00149		ug/L		75	63 - 170	2	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	76		20 - 175
13C-2,3,7,8-TCDF	72		22 - 152
13C-1,2,3,7,8-PeCDD	93		21 - 227
13C-1,2,3,7,8-PeCDF	81		21 - 192
13C-2,3,4,7,8-PeCDF	75		13 - 328
13C-1,2,3,4,7,8-HxCDD	83		21 - 193
13C-1,2,3,6,7,8-HxCDD	81		25 - 163
13C-1,2,3,4,7,8-HxCDF	85		19 - 202
13C-1,2,3,6,7,8-HxCDF	78		21 - 159
13C-1,2,3,7,8,9-HxCDF	69		17 - 205
13C-2,3,4,6,7,8-HxCDF	82		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	86		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	85		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	88		20 - 186

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-708569/3-A
Matrix: Water
Analysis Batch: 709187

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 708569

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-OCDD	87		13 - 199
13C-OCDF	100		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	92		31 - 191

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-2
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Specialty Organics

Prep Batch: 708569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	1613B	
MB 320-708569/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-708569/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-708569/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 709187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	1613B	708569
MB 320-708569/1-A	Method Blank	Total/NA	Water	1613B	708569
LCS 320-708569/2-A	Lab Control Sample	Total/NA	Water	1613B	708569
LCSD 320-708569/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	708569

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-2
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Client Sample ID: Outfall018_20230915_Comp
Lab Sample ID: 570-152962-1
Date Collected: 09/15/23 07:30
Matrix: Water
Date Received: 09/15/23 18:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			1002.2 mL	20.0 uL	708569	09/25/23 08:02	GSH	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	709187	09/27/23 20:47	KSS	EET SAC
	Instrument ID: DFS 1									

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: 570-152962-2
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Laboratory: Eurofins Sacramento

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-24
Arkansas DEQ	State	88-0691	05-18-24
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-24
Florida	NELAP	E87570	06-30-24
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 (All)	NELAP	01944	06-30-24
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-24
Nevada	State	CA00044	07-31-24
New Hampshire	NELAP	2997	04-18-24
New Jersey	NELAP	CA005	06-30-24
New York	NELAP	11666	04-01-24
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-24
Texas	NELAP	T104704399-19-13	05-31-24
US Fish & Wildlife	US Federal Programs	58448	04-30-24
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442021-12	02-29-24
Virginia	NELAP	460278	03-14-24
Washington	State	C581	05-05-24
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-24
Wyoming	State Program	8TMS-L	01-28-19 *

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

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-2
Project/Site: Boeing NPDES SSFL - Outfall 018 - 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.
Job ID: 570-152962-2
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-152962-1	Outfall018_20230915_Comp	Water	09/15/23 07:30	09/15/23 18:55

H4MW

Loc: 570
152962

Eurofins Calscience Irvine

570-152962 Chain of Custody

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 Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 **EC 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: (E200.8): 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)					Comments
Outfall 018	Outfall018_20230915_Comp	9/15/2023	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									
	Outfall018_20230915_Comp_Extra	9/15/2023	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:
	9-15-2023 / 1100	M.A	EC	9/15/23 1100
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	EC 9/15/23	1858	EC	9-15-23 18:55
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__

1.6/1.7 1.4/1.5 2.0/2.1 SCC2

2019-2020 Rainy Season
Version 5

152962

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										Comments
Eurofins Calscience Project Manager: Virendra Patel, 2841 Dow Avenue, Suite #100, Tustin, CA 92780, Tel: 714-895-5494				Project Manager: Katherine Miller					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)							
EC# Project #67013187				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											
(3) Outfall 018	Outfall018_20230915_Comp_F	9/15/2023	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.
(1)	Outfall018_20230915_Comp	9/15/2023	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]	9-15-2023	1100 H&A	[signature] EC	9/15/23 1100
[signature] EC	9/15/23	1855	[signature]	9-15-23 18:55

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: 570-288954.1
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 #: 570-152962-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 10/20/2023			
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 - 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:												
Outfall018_20230915_Comp (570-152962-1)	9/15/23	07:30 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
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

9/28/2023

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: 570-289057.1
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 #: 570-152962-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 10/9/2023			
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 - 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:							
Outfall018_20230915_Comp (570-152962-1)	9/15/23	07:30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall018_20230915_Comp_Extra (570-152962-2)	9/15/23	07:30 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
Relinquished by:	Date/Time: 9/19/23 1419	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: 570-152962-2

Login Number: 152962
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	Refer to Job Narrative for details.
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: 570-152962-2

Login Number: 152962
List Number: 3
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 09/20/23 01:55 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	2.1c
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.	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 10/24/2023 9:02:52 AM

JOB DESCRIPTION

Boeing NPDES SSFL - Outfall 018 - Comp

JOB NUMBER

570-152962-3

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

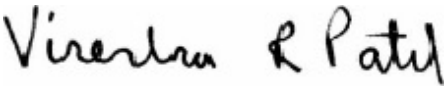
See page two for job notes and contact information.

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.

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
10/24/2023 9:02:52 AM

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

Table of Contents

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-152962-3
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

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

Job ID: 570-152962-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-152962-3

Receipt
The samples were received on 9/15/2023 6:55 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 2.1º C.

Receipt Exceptions

The Chain-of-Custody (COC) was incomplete as received. No collection times listed on the COC. Logged in per sample labels.

A Chain-of-Custody (COC) was not received with these samples 570-152962 #1 #2 Outfall018_20230915_Comp (570-152962-1) and Outfall018_20230915_Comp_Extra (570-152962-2).

RAD
Methods 900.0, 9310: Gross Alpha and Gross Beta batch 629210
The detection goal was not met for the following samples due to a reduction of the sample size attributed to high residual mass: Outfall018_20230915_Comp (570-152962-1), (570-152959-R-1-B) and (570-152959-R-1-E DU). Analytical results are reported with the detection limit achieved.

Methods 900.0, 9310: Gross Alpha and Gross Beta batch 629210
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_20230915_Comp (570-152962-1), (LCS 160-629210/2-A), (LCSB 160-629210/3-A), (MB 160-629210/1-A), (570-152959-R-1-B), (570-152959-R-1-E DU), (570-152959-R-1-C MS) and (570-152959-R-1-D MSBT)

Methods 900.0, 9310: Gross Alpha Beta prep batch 160-629210:

The matrix spike (MS) recoveries for preparation batch 160-629210 and analytical batch 160-629618 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits. (570-152959-R-1-C MS)

Method 901.1: Gamma prep batch 160-630692
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 activity is well below the RL and MDC.

Outfall018_20230915_Comp (570-152962-1)

Method 901.1: Gamma 160-630692
Many isotopes requested by gamma spectrometry analysis do not have any gamma emissions, the gamma emissions they do have are very poor, and/or are reported by assuming secular equilibrium with a longer-lived parent (or vice-versa). For example, Th-232 (which does not have a good gamma-ray) is often reported assuming the shorter-lived Ra-228 daughter is in equilibrium with the Th-232 parent. Or, Pb-214 and/or Bi-214, daughters of potentially volatile Rn-222 in the Ra-226 decay chain, may not be in equilibrium with the parent unless sufficient time has been allowed since the break in equilibrium (e.g. 21 days in the case of Ra-226-supported ingrowth). 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

Job ID: 570-152962-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall018_20230915_Comp (570-152962-1), (570-152959-R-1-J) and (570-152959-R-1-K DU)

Methods 903.0, 9315: Radium-226 batch 629716
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_20230915_Comp (570-152962-1), (LCS 160-629716/2-A), (MB 160-629716/1-A), (280-181639-D-1-A) and (280-181639-C-1-A DU)

Methods 904.0, 9320: Radium-228 batch 629719
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_20230915_Comp (570-152962-1), (LCS 160-629719/2-A), (MB 160-629719/1-A), (280-181639-D-1-B) and (280-181639-C-1-B DU)

Methods 905, SR-03-RC: Strontium-90 batch 630518
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_20230915_Comp (570-152962-1), (LCS 160-630518/2-A), (MB 160-630518/1-A), (380-64739-AO-1-A) and (380-64739-AS-1-A DU)

Method 906.0: Tritium 631354
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_20230915_Comp (570-152962-1), (LCS 160-631354/2-A), (MB 160-631354/1-A), (380-63434-D-2-B), (380-63434-D-2-C MS), (380-63938-N-1-A) and (380-63938-N-1-C DU)

Methods A-01-R, U-02-RC: Isotopic Uranium batch 629901
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Job ID: 570-152962-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Outfall018_20230915_Comp (570-152962-1), (LCS 160-629901/2-A), (MB 160-629901/1-A), (160-51569-A-1-A) and (160-51569-A-1-B DU)

Method ExtChrom: Uranium Prep Batch 160-629901:

The following samples were diluted due to sample matrix.
Outfall018_20230915_Comp (570-152962-1)

Method PrecSep_0:

Method PrecSep-21:

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: 570-152962-3
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Client Sample ID: Outfall018_20230915_Comp
Lab Sample ID: 570-152962-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-3
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall018_20230915_Comp
Date Collected: 09/15/23 07:30
Date Received: 09/15/23 18:55

Lab Sample ID: 570-152962-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	1.29	U G	1.79	1.79	3.00	3.01	pCi/L	09/22/23 09:23	09/26/23 18:23	1
Gross Beta	**6.07**		1.32	1.46	4.00	1.53	pCi/L	09/22/23 09:23	09/26/23 18:23	1

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-3
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Method: EPA 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall018_20230915_Comp
Date Collected: 09/15/23 07:30
Date Received: 09/15/23 18:55

Lab Sample ID: 570-152962-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-12.0	U G	22.1	22.2	20.0	26.5	pCi/L	10/04/23 13:13	10/18/23 14:16	1
Potassium-40	42.9	U	117	117		203	pCi/L	10/04/23 13:13	10/18/23 14:16	1

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-3
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Method: EPA 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall018_20230915_Comp
Date Collected: 09/15/23 07:30
Date Received: 09/15/23 18:55

Lab Sample ID: 570-152962-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0758	U	0.125	0.126	1.00	0.219	pCi/L	09/27/23 10:52	10/20/23 14:16	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.7*		*30 - 110*	*09/27/23 10:52*	*10/20/23 14:16*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-3
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Method: EPA 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall018_20230915_Comp
Date Collected: 09/15/23 07:30
Date Received: 09/15/23 18:55

Lab Sample ID: 570-152962-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.300	U	0.428	0.429	1.00	0.722	pCi/L	09/27/23 11:00	10/16/23 12:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.7*		*30 - 110*	*09/27/23 11:00*	*10/16/23 12:04*	*1*
Y Carrier	*86.7*		*30 - 110*	*09/27/23 11:00*	*10/16/23 12:04*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-3
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Method: EPA 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall018_20230915_Comp
Date Collected: 09/15/23 07:30
Date Received: 09/15/23 18:55

Lab Sample ID: 570-152962-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.199	U	0.326	0.326	3.00	0.548	pCi/L	10/03/23 10:29	10/11/23 16:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*77.0*		*30 - 110*	*10/03/23 10:29*	*10/11/23 16:56*	*1*
Y Carrier	*93.5*		*30 - 110*	*10/03/23 10:29*	*10/11/23 16:56*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-3
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Method: EPA 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall018_20230915_Comp
Lab Sample ID: 570-152962-1
Date Collected: 09/15/23 07:30
Matrix: Water
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	80.2	U	157	157	500	270	pCi/L	10/10/23 11:11	10/11/23 19:54	1

Method: DOE A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall018_20230915_Comp **Lab Sample ID: 570-152962-1**
Date Collected: 09/15/23 07:30 **Matrix: Water**
Date Received: 09/15/23 18:55

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.543		0.442	0.443	1.00	0.510	pCi/L	09/28/23 10:43	10/04/23 13:10	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*50.9*		*30 - 110*	*09/28/23 10:43*	*10/04/23 13:10*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-3
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Method: 903.0 - Radium-226 (GFPC)

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

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
570-152962-1	Outfall018_20230915_Comp	79.7
LCS 160-629716/2-A	Lab Control Sample	98.5
MB 160-629716/1-A	Method Blank	99.0

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)
570-152962-1	Outfall018_20230915_Comp	79.7	86.7
LCS 160-629719/2-A	Lab Control Sample	98.5	83.0
MB 160-629719/1-A	Method Blank	99.0	83.4

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)
570-152962-1	Outfall018_20230915_Comp	77.0	93.5
LCS 160-630518/2-A	Lab Control Sample	83.2	92.3
MB 160-630518/1-A	Method Blank	83.5	93.1

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)
570-152962-1	Outfall018_20230915_Comp	50.9
LCS 160-629901/2-A	Lab Control Sample	68.8
MB 160-629901/1-A	Method Blank	69.7

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-629210/1-A
Matrix: Water
Analysis Batch: 629620

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 629210

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.6017	U	0.669	0.673	3.00	1.09	pCi/L	09/22/23 09:23	09/26/23 17:34	1
Gross Beta	-0.1316	U	0.505	0.505	4.00	0.908	pCi/L	09/22/23 09:23	09/26/23 17:34	1

Lab Sample ID: LCS 160-629210/2-A
Matrix: Water
Analysis Batch: 629620

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 629210

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Alpha	49.6	45.09		6.79	3.00	2.00	pCi/L	91	75 - 125

Lab Sample ID: LCSB 160-629210/3-A
Matrix: Water
Analysis Batch: 629620

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 629210

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Beta	72.6	65.41		7.06	4.00	0.887	pCi/L	90	75 - 125

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-630692/1-A
Matrix: Water
Analysis Batch: 631987

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 630692

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-6.218	U	12.4	12.4	20.0	15.0	pCi/L	10/04/23 13:13	10/16/23 15:03	1
Potassium-40	-19.63	U	112	113		165	pCi/L	10/04/23 13:13	10/16/23 15:03	1

Lab Sample ID: LCS 160-630692/2-A
Matrix: Water
Analysis Batch: 632469

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 630692

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Americium-241	135000	149400		17800		482	pCi/L	111	75 - 125
Cesium-137	40300	39590		4730	20.0	147	pCi/L	98	75 - 125
Cobalt-60	16600	16500		1980		82.8	pCi/L	100	75 - 125

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-629716/1-A
Matrix: Water
Analysis Batch: 632731

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 629716

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04011	U	0.0802	0.0803	1.00	0.143	pCi/L	09/27/23 10:52	10/20/23 14:07	1

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: MB 160-629716/1-A
Matrix: Water
Analysis Batch: 632731

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 629716

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	99.0		30 - 110	09/27/23 10:52	10/20/23 14:07	1

Lab Sample ID: LCS 160-629716/2-A
Matrix: Water
Analysis Batch: 632839

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 629716

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			11.3	10.12		1.10	1.00	0.138	pCi/L	89	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	98.5		30 - 110

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-629719/1-A
Matrix: Water
Analysis Batch: 632004

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 629719

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.5916		0.348	0.352	1.00	0.506	pCi/L	09/27/23 11:00	10/16/23 11:56	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	99.0		30 - 110	09/27/23 11:00	10/16/23 11:56	1
Y Carrier	83.4		30 - 110	09/27/23 11:00	10/16/23 11:56	1

Lab Sample ID: LCS 160-629719/2-A
Matrix: Water
Analysis Batch: 632004

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 629719

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			7.79	8.578		1.17	1.00	0.444	pCi/L	110	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	98.5		30 - 110
Y Carrier	83.0		30 - 110

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-630518/1-A
Matrix: Water
Analysis Batch: 631444

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 630518

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.1620	U	0.202	0.202	3.00	0.334	pCi/L	10/03/23 10:29	10/11/23 16:53	1

Method: 905 - Strontium-90 (GFPC) (Continued)

Lab Sample ID: MB 160-630518/1-A
Matrix: Water
Analysis Batch: 631444

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 630518

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Sr Carrier	83.5		30 - 110	10/03/23 10:29	10/11/23 16:53	1
Y Carrier	93.1		30 - 110	10/03/23 10:29	10/11/23 16:53	1

Lab Sample ID: LCS 160-630518/2-A
Matrix: Water
Analysis Batch: 631444

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 630518

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Strontium-90	7.25	7.819		0.850	3.00	0.317	pCi/L	108	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Sr Carrier	83.2		30 - 110
Y Carrier	92.3		30 - 110

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-631354/1-A
Matrix: Water
Analysis Batch: 631800

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 631354

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	182.9	U	171	172	500	275	pCi/L	10/10/23 11:11	10/11/23 15:00	1

Lab Sample ID: LCS 160-631354/2-A
Matrix: Water
Analysis Batch: 631800

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 631354

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Tritium	2030	2120		373	500	269	pCi/L	104	75 - 125

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-629901/1-A
Matrix: Water
Analysis Batch: 630589

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 629901

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.04465	U	0.09332	0.09338	1.00	0.154	pCi/L	09/28/23 10:43	10/04/23 13:10	1

Tracer	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Uranium-232	69.7		30 - 110	09/28/23 10:43	10/04/23 13:10	1

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-3
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: LCS 160-629901/2-A
Matrix: Water
Analysis Batch: 631657

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 629901

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Uranium-234			12.7	14.60		1.66	1.00	0.143	pCi/L	115	75 - 125		
Uranium-238			13.0	13.73		1.58	1.00	0.103	pCi/L	105	75 - 125		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*68.8*		*30 - 110*

Rad

Prep Batch: 629210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	Evaporation	
MB 160-629210/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-629210/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-629210/3-A	Lab Control Sample	Total/NA	Water	Evaporation	

Prep Batch: 629716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	PrecSep-21	
MB 160-629716/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-629716/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 629719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	PrecSep_0	
MB 160-629719/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-629719/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 629901

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	ExtChrom	
MB 160-629901/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-629901/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	

Prep Batch: 630518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	PrecSep-7	
MB 160-630518/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-630518/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	

Prep Batch: 630692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-630692/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-630692/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	

Prep Batch: 631354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-152962-1	Outfall018_20230915_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-631354/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-631354/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-3
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Client Sample ID: Outfall018_20230915_Comp
Lab Sample ID: 570-152962-1
Date Collected: 09/15/23 07:30
Matrix: Water
Date Received: 09/15/23 18:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			130.02 mL	1.0 g	629210	09/22/23 09:23	MST	EET SL
Total/NA	Analysis	900.0		1			629618	09/26/23 18:23	FLC	EET SL
	Instrument ID: GFPCRED									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	630692	10/04/23 13:13	SAC	EET SL
Total/NA	Analysis	901.1		1			632469	10/18/23 14:16	CAH	EET SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			758.39 mL	1.0 g	629716	09/27/23 10:52	KAC	EET SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	632841	10/20/23 14:16	FLC	EET SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			758.39 mL	1.0 g	629719	09/27/23 11:00	KAC	EET SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	632123	10/16/23 12:04	FLC	EET SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-7			747.62 mL	1.0 g	630518	10/03/23 10:29	KAC	EET SL
Total/NA	Analysis	905		1			631441	10/11/23 16:56	FLC	EET SL
	Instrument ID: GFPCRED									
Total/NA	Prep	LSC_Dist_Susp			96.11 mL	1.0 g	631354	10/10/23 11:11	SEH	EET SL
Total/NA	Analysis	906.0		1			631800	10/11/23 19:54	REV	EET SL
	Instrument ID: LSC3180									
Total/NA	Prep	ExtChrom			245.60 mL	1.0 mL	629901	09/28/23 10:43	LKP	EET SL
Total/NA	Analysis	A-01-R		1			630593	10/04/23 13:10	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: 570-152962-3
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Laboratory: Eurofins St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
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	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	10-22-23
HI - RadChem Recognition	State	n/a	06-30-24
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	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-24
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	07-31-24
North Dakota	State	R-207	06-30-24
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-24
Texas	NELAP	T104704193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-24
Virginia	NELAP	10310	06-15-25
Washington	State	C592	08-30-24
West Virginia DEP	State	381	10-31-23

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

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-152962-3
Project/Site: Boeing NPDES SSFL - Outfall 018 - 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.
Job ID: 570-152962-3
Project/Site: Boeing NPDES SSFL - Outfall 018 - Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-152962-1	Outfall018_20230915_Comp	Water	09/15/23 07:30	09/15/23 18:55

H4MW

Loc: 570
152962

Eurofins Calscience Irvine

570-152962 Chain of Custody

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 Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 **EC 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: (E200.8): 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)					Comments
			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													
(1)			WM	500 mL Poly	2	None	120	No				X												
	Outfall018_20230915_Comp	9/15/2023	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 018			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									
			WM	1 L Glass Amber	2	None	110	No		H														Hold
			WM	500 mL Poly	2	None	120	No				H												Hold
(2)	Outfall018_20230915_Comp_Extra	9/15/2023	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]	9-15-2023 / 1100	M.A	[signature] EC	9/15/23 1100
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature] EC	9/15/23 1858		[signature] EC	9-15-23 18:55
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__

1.6/1.7 1.4/1.5 2.0/2.1 SCC2

152962

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										Comments
Eurofins Calscience Project Manager: Virendra Patel, 2841 Dow Avenue, Suite #100, Tustin, CA 92780, Tel: 714-895-5494				Project Manager: Katherine Miller					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)							
EC# Project #67013187				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											
(3) Outfall 018	Outfall018_20230915_Comp_F	9/15/2023	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.
(1)	Outfall018_20230915_Comp	9/15/2023	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]	9-15-2023	1100 H&A	[signature] EC	9/15/23 1100
[signature] EC	9/15/23	1855	[signature]	9-15-23 18:55

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

10/24/2023

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: 570-288954.1
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 #: 570-152962-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 10/20/2023			
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 - 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:												
Outfall018_20230915_Comp (570-152962-1)	9/15/23	07:30 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
	9/19/23 1320				
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: 570-289057.1
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 #: 570-152962-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 10/9/2023			
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 - 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:							
Outfall018_20230915_Comp (570-152962-1)	9/15/23	07:30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall018_20230915_Comp_Extra (570-152962-2)	9/15/23	07:30 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
	9/19/23 1419				
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: 570-288954.1
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 #: 570-152962-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 10/20/2023			
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 - 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:												
Outfall018_20230915_Comp (570-152962-1)	9/15/23	07:30 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
1	Fedex	9/19/23 1320		Fedex		
2	Relinquished by:	Date/Time:	Company	Received by: M. Pinette	Date/Time: SEP 20 2023 0850	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-152962-3

Login Number: 152962
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	Refer to Job Narrative for details.
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: 570-152962-3

Login Number: 152962
List Number: 2
Creator: Pinette, Meadow L

List Source: Eurofins St. Louis
List Creation: 09/20/23 01:39 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.	N/A	
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	

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, NPDES

Project Description: Third Quarter 2023, Stormwater Samples

Sample Date(s): August through September 2023

Analytical Laboratory: Eurofins Calscience Environmental Laboratories, Inc. – Tustin, CA

Eurofins St. Louis – Earth City, MO

Eurofins Sacramento – West Sacramento, CA

Weck Laboratories – City of Industry, CA

Validation Performed by: Kristina Ilina

Validation Reviewed by: Denis Conley

Validation Date: 10 October 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. **Level II, Third Quarter 2023**
2. **Level IV, Third Quarter 2023**
3. **Precision and Accuracy [for SDG(s) above]**
4. **Explanations**
5. **Glossary**
6. **Abbreviations**
7. **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.
- National Functional Guidelines (NFG) for Inorganic Data Review.
- Evaluation of Radiochemical Data Usability by J.G. Paar.
- 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. Radiological data reported in this sampling event were reported to the Minimum Detectable Concentration (MDC).

Sample data were qualified in accordance with the laboratory's standard operating procedures (SOPs). The results presented in each laboratory report were found to be compliant with the data quality

objectives (DQOs) for the project and are therefore usable; any exceptions are noted in the following pages.

1. Level II, Third Quarter 2023

1.1 SAMPLE MANAGEMENT

This DUSR summarizes the review of SDG numbers:

- 570-147889-1,
- 570-147889-2,
- 570-149397-1,
- 570-149398-1,
- 570-149401-1,
- 570-149404-1,
- 570-149404-2,
- 570-149524-1,
- 570-149524-2,
- 570-149524-3,
- 570-149525-1,
- 570-149525-2,
- 570-149525-3,
- 570-149529-1,
- 570-149529-2,
- 570-149529-3,
- 570-152592-1,
- 570-152593-1,
- 570-152959-1,
- 570-152959-2,
- 570-152959-3,
- 570-152962-1,
- 570-152962-2, and
- 570-152962-3.

Samples were collected, preserved, and shipped following standard chain of custody (COC) protocol.

- Method E1613B subcontracted to Eurofins Sacramento in West Sacramento, CA.
- Methods E900, E901.1, E903.0, E904.0, E905.0, E906.0, and HASL-300 U Mod subcontracted to Eurofins in St. Louis, MO.
- Method E525.2 subcontracted to Weck Laboratories in City of Industry, CA.

Samples were also received appropriately, identified correctly, and analyzed according to the COC. Issues noted with sample management are listed below:

- The original COC for SDGs 570-152959-1, 570-152959-2, 570-152959-3, 570-152962-1, 570-152962-2, and 570-152962-3 were incomplete as received. No collection times were listed on the COC. Logged in per sample labels.
- SDGs 570-152959-3 and 570-152962-3 – A COC was not received with these samples: Outfall002_20230915_Comp (570-152959-1) and Outfall002_20230915_Comp_Extra (570-152959-2), Outfall018_20230915_Comp (570-152962-1) and Outfall018_20230915_Comp_Extra (570-152962-2).

Analyses were performed on the samples listed in Table 1. Method holding times are listed in Table 2.

1.2 CASE NARRATIVE

The laboratory report case narrative lists various quality control exceedances (e.g., continuing calibration blank [CCB]) not evaluated by this review thus, no qualifiers were applied to the reported results. However, the laboratory did note the following:

- Method 608: The following samples required a mercury cleanup via USEPA Method 3660A to reduce matrix interferences caused by sulfur: Arroyo-Simi-20230809_Grab and Outfall002_20230915_Comp. No additional qualification of the reported results is recommended.
- Method 904.0: Radium-228 batch 625463. The target detection limit was not met for the following sample(s). Samples were prepped at a reduced volume due to the presence of matrix interferences: Outfall009_20230822_Comp. Analytical results are reported with the detection limit revised to reflect the reduced sample volume used in the analysis.
- Method 901.1: Due to statistical fluctuations in the baseline which resulted in higher than normal background counts and the relative size of the Cs-137 peak, the target detection limit of 20 picoCuries per liter (pCi/L) was not achieved for samples Outfal001_20230822_Comp and Outfall002_20230822_Comp. The laboratory does not believe this adversely affects the data; the Cs-137 activity is well below the RL and MDC.
- Method 900.0: The target detection limit was not met for the sample Outfall018_20230915_Comp due to a reduction of the sample size attributed to high residual mass. Analytical results are reported with the detection limit achieved.
- Methods 900.0 and 904.0: The target detection limit was not met for the following sample due to a reduction of the sample size attributed to high residual mass: Outfall002_20230822_Comp.
- Method HASL-300 U Mod: Sample Outfall002_20230822_Comp was prepped at a reduced aliquot due to heavy discoloration and sediment.

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, with the following exceptions:

- Methods 200.8 and 245.1 require filtration within 15 minutes of field sampling. The samples were filtered prior to analysis at the laboratory. Data was not qualified in this set if samples were filtered outside of the 15-minute limit.
- Headspace greater than 6mm in diameter in TB-20230821. Laboratory analyzed the sample container without headspace. No additional qualification of the reported results is recommended.
- Method 624.1: The sample Outfall018-20230913_Grab was received unpreserved and presented a pH of <2. Analysis was performed within 7 days per the USEPA recommended maximum allowable holding time. No additional qualification of the reported results is recommended.
- The reference method requires samples to have a pH of <2. The following samples were received with a pH of 7: Outfall001_20230822_Comp and Outfall002_20230822_Comp. The

samples were adjusted to the appropriate pH in the laboratory. No additional qualification of the reported results is recommended.

- The following samples were received preserved with hydrochloric acid: Outfall001_20230821_Grab and Outfall002_20230821_Grab. The requested target analyte list contains Acrolein. This compound reacts with HCl. The reported results for acrolein have been flagged "R" as rejected.
- Method HASL-300 U Mod Uranium Prep Batch 160-625457: Sample was prepped at a reduced aliquot due to heavy discoloration and sediment (Outfall009_20230822_Comp).
- Method E525.2: Diazinon extracted outside of holding time for the following sample Arroyo_Simi_20230821_Grab. Qualified UJ.

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, with the following exceptions:

- Dilution of the project samples were required to lower the concentration of the target analytes to within the instrument calibration range, control matrix interference and/or foaming during analysis, or address an abundance of non-target analytes present in the sample matrix.

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's specified quality control (QC) limits. No additional qualification of the reported results is recommended.

1.6 LABORATORY CONTROL SAMPLES

Refer to Section E 1.3. Compounds associated with the laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analyses associated with client samples exhibited recoveries and relative percent differences (RPDs) within the specified limits, with the following exceptions:

SDG #	Sample Type	Method	Batch ID	Analyte	%R	Qualifier	Affected Samples
570-152592-1	LCS	E624.1	364314	Acrolein	150%	J/None	None, samples are ND

1.7 MATRIX SPIKE SAMPLES

Refer to Section E 1.4. The samples used for matrix spike/matrix spike duplicate (MS/MSD) are listed in Table 3.

The MS/MSD recoveries and the RPD between the MS and MSD results were within the specified limits, with the following exceptions:

Sample Type	Method	Parent Sample	Analyte	%R/RER	Qualifier	Affected Samples
MS	E900	Outfall002_20230822_Comp	Gross Alpha	52%/RER=1.36	J/UJ	Outfall002_20230822_Comp
MS/MSD	E904.0	Outfall002_20230822_Comp	Radium-228	162%/167%	J/UJ	Outfall002_20230822_Comp
MS	E900	Outfall002_20230915_Comp	Gross Alpha	51%	J/UJ	Outfall002_20230915_Comp

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, with the exceptions listed in Table 4.

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 following samples were used for laboratory duplicate analysis and the RPDs were all below 20 percent (or the absolute difference rule was satisfied if detects were less than 5 times the RL).

Lab Sample Number	Laboratory Duplicate Sample Client ID	Method(s)
570-147889-1	Arroyo-Simi-20230809_Grab	SM2340C
570-149525-1	Outfal001_20230822_Comp	SM2130
570-149524-1	Outfall009_20230822_Comp	E901.1
570-152959-1	Outfall002_20230915_Comp	E900, E901.1

1.10 CONFIRMATION COLUMN REVIEW

Refer to Section E 1.8. Confirmation was achieved qualitatively, and the retention time was confirmed (within ±0.02 minutes).

1.11 DIOXIN/FURAN ESTIMATED MAXIMUM POSSIBLE CONCENTRATION (EMPC)

Refer to Section E 1.9. A result previously qualified as a non-detect for method blank contamination was not further qualified as an EMPC. The EMPC flags reported by the laboratory are listed in Table 5.

1.12 NEGATIVE RESULT CHECK

Refer to Section E 1.24. Negative sample results were reviewed, and their absolute values found to be less than their 2s counting uncertainties. No additional data qualification is recommended.

1.13 CHEMICAL YIELD – TRACERS AND CARRIERS

Refer to Section E 1.25. The reviewer verified that at least one carrier or tracer was reported per sample and that yields were within the acceptance criteria.

1.14 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, except for rejected data noted in Table 6. A summary of qualifiers applied to this dataset is shown in Table 6.

2. Level IV, Third Quarter 2023

2.1 SAMPLE MANAGEMENT

This DUSR summarizes the review of SDG numbers:

- 570-149524-1, dated 6 September 2023,
- 570-149525-1, dated 6 September 2023, and
- 570-149529-1, 6 September 2023.

Samples were collected, preserved, and shipped following standard COC protocol.
Samples were also received appropriately, identified correctly, and analyzed according to the COC.
Issues noted with sample management are listed below:

- Cyanide was analyzed by Kelada method instead of SM4500CN_E or E335.2 as requested in COC for samples Outfal001_20230822_Comp and Outfall002_20230822_Comp.

Analyses were performed on the following samples:

Sample ID	Sample Type	Lab ID	Sample Date	Matrix	Methods
Outfall009_20230822_Comp	N	570-149524-1	8/22/2023	WM	F, G, H, I, K, M, N
Outfall009_20230822_Comp_F	N	570-149524-2	8/22/2023	WM	F, J
Outfal001_20230822_Comp	N	570-149525-1	8/22/2023	WM	A, C, D, E, F, G, H, I, J, K, L, M, N, O
Outfal001_20230822_Comp_F	N	570-149525-3	8/22/2023	WM	F, J
Outfall002_20230822_Comp	N	570-149529-1	8/22/2023	WM	A, B, C, D, E, F, G, H, I, J, K, L, M, N, O
Outfall002_20230822_Comp_F	N	570-149529-3	8/22/2023	WM	B, F, J

Method Holding Times			
A.	E608.3	Organochlorine Pesticides and PCBs by GC/HSD	14 days extraction / 40 days analysis for liquid, unpreserved
B.	SM2340	Hardness	180 days for liquid unpreserved
C.	E625.1SIM	Semi-Volatile Organic Compounds (SVOCs)	7 days / 40 days
D.	E350.1	Ammonia	28 days
E.	SM5210B	BOD5 (Biochemical Oxygen on Demand)	48 hours
F.	E200.8	Metals (by Mass Spectrometer)	180 days for liquid, preserved
G.	E300	Inorganic Anions (Chloride, Fluoride, Sulfate, Nitrite/Nitrate)	28 days
H.	E300	Inorganic Anions (Nitrite, Nitrate)	48 hours
I.	KELADA-01	Cyanide	14 days
J.	E245.1	Mercury	28 days
K.	E314.0	Perchlorate	28 days
L.	SM5540	Surfactants as MBAS	48 hours
M.	SM2540C	Total Dissolved Solids	7 days
N.	SM2540D	Total Suspended Solids	7 days
O.	SM2130	Turbidity	48 hours

2.2 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:

- Methods 200.8 and 245.1 require filtration within 15 minutes of field sampling. The samples were filtered prior to analysis at the laboratory. Data was not qualified in this set if samples were filtered outside of the 15-minute limit.
- The reference method requires samples to have a pH of <2. The following samples were received with a pH of 7: Outfal001_20230822_Comp and Outfall002_20230822_Comp. The samples were adjusted to the appropriate pH in the laboratory. No qualification necessary.

2.3 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.

2.4 SURROGATE RECOVERY COMPLIANCE

Refer to Section E 1.2. The %R for each surrogate compound added to each project sample were determined to be within the laboratory specified QC limits.

2.5 LABORATORY CONTROL SAMPLES

Refer to Section E 1.3. Compounds associated with the LCS/LCSD analyses associated with client samples exhibited recoveries and RPDs within the specified limits.

2.6 MATRIX SPIKE SAMPLES

Refer to Section E 1.4. The sample(s) below were used for MS/MSD:

Lab Sample Number	Matrix Spike Client ID	Method(s)
570-149524-1	Outfall009_20230822_Comp	E200.8, E245.1
570-149524-2	Outfall009_20230822_Comp_F	E200.8, E245.1
570-149525-1	Outfal001_20230822_Comp	E314.0, E200.8, E245.1, SM5540C
570-149525-3	Outfal001_20230822_Comp_F	E200.8, E245.1
570-149529-1	Outfall002_20230822_Comp	E200.8, E245.1, E350.1
570-149529-3	Outfall002_20230822_Comp_F	E200.8, E245.1

The MS/MSD recoveries and the RPD between the MS and MSD results were within the specified limits.

2.7 BLANK SAMPLE ANALYSIS

Refer to Section E 1.5. Method blank samples had no detections, indicating that no contamination from laboratory activities occurred.

2.8 DUPLICATE SAMPLE ANALYSIS

Refer to Section E 1.6. The following samples were used for laboratory duplicate analysis and the RPDs were all below 20 percent (or the absolute difference rule was satisfied if detects were less than 5 times the RL).

Lab Sample Number	Laboratory Duplicate Sample Client ID	Method(s)
570-149525-1	Outfal001_20230822_Comp	SM2130

2.9 CALCULATION ACCURACY

Total (non-filtered) metals were greater than dissolved (filtered) metals, with the following exceptions:

Sample ID	Total Copper (µg/L)	Dissolved Copper (µg/L)	%RPD	Action
Outfal001_20230822_Comp	1.3	2	42%	RPD <50%, no qualification necessary

2.10 CONFIRMATION COLUMN REVIEW

Refer to Section E 1.8. All RPDs were within control limits.

2.11 PESTICIDE/POLYCHLORINATED BIPHENYLS CLEANUP PROCEDURE CHECKS

Refer to Section E 1.10. Target analyte retention times (RTs) and %R were reviewed and found to be within QC limits. No qualification of the reported results is recommended.

2.12 GAS CHROMATOGRAPH/MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECKS

Refer to Section E 1.17. Ion abundance criteria were within the specified QC limits.

2.13 CALIBRATION BLANKS

Refer to Section E 1.18. Calibration blanks had no detections, with the following exceptions:

Blank Type	Date of Blank	Time	Analyte Detected in	Concentration	Qualifier	Affected Samples
CCB	08/24/2023	14:00	Antimony	0.603 J,DX	RL U	Outfall009_20230822_Comp_F
CCB	08/24/2023	14:26	Antimony	0.977 J,DX	NA	None, samples out of bracket

2.14 INTERFERENCE CHECK SAMPLES AND INDUCTIVELY COUPLED PLASMA/MASS SPECTROMETRY TUNE

Refer to Section E 1.19. Percent recoveries were within the specified limits.

The instrument tune check was reviewed, and the resolution of the mass calibration was within 0.1 unified atomic mass unit (u) and the Percent Relative Standard Deviation (%RSD) less than 5 percent.

The CRI, when used, verifies the reporting limit for each analyte with control limits of 70 to 130 percent, or 50 to 150 percent for manganese. The CRI and/or the RL standard checks were within QC limits.

2.15 INITIAL CALIBRATION

Refer to Section E 1.20. The initial calibration curves were reviewed for all reported parameters and were found to be within the required QC limits.

2.16 INITIAL AND CONTINUING CALIBRATION VERIFICATION

Refer to Section E 1.21. Percent Difference (%D) and %R were reviewed and were found to be within limits without exceptions.

2.17 INTERNAL STANDARDS

Refer to Section E 1.22. Area response and retention time [organics] or percent relative intensity [inorganics 60 to 125 percent] were reviewed and found to be within the specified QC limits.

2.18 SERIAL DILUTIONS

Refer to Section E 1.23. A site-specific sample was not used for serial dilution. No qualification of the reported results is recommended.

2.19 SAMPLE RESULT VERIFICATION

A portion of the sample result(s) listed below 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.

Sample ID	Method	Analyte	Reported Result (µg/L)	Recalculated Result (µg/L)	Result Status
Outfall009_20230822_Comp	E200.8	Antimony, Total	1.1 J, DX	1.083	Confirmed (Rounding)
Outfall009_20230822_Comp		Cadmium, Total	0.13 U	0.107	Confirmed, below MDL
Outfall009_20230822_Comp		Copper, Total	5.5	5.549	Confirmed (Rounding)
Outfall009_20230822_Comp		Lead, Total	12	12.360	Confirmed (Rounding)
Outfall009_20230822_Comp		Nickel, Total	2.7	2.695	Confirmed (Rounding)
Outfall009_20230822_Comp		Selenium, Total	0.67 J, DX	0.667	Confirmed (Rounding)
Outfall009_20230822_Comp		Silver, Total	0.23 U	0.156	Confirmed, below MDL
Outfall009_20230822_Comp		Thallium, Total	0.11 U	0.029	Confirmed, below MDL
Outfall009_20230822_Comp		Zinc, Total	17 J, DX	17.022	Confirmed (Rounding)

Sample ID	Method	Analyte	Reported Result (µg/L)	Recalculated Result (µg/L)	Result Status
Outfall009_20230822_Comp_F		Antimony, Dissolved	1.8 J, DXBU	1.849	Confirmed (Rounding)
Outfall009_20230822_Comp_F		Cadmium, Dissolved	0.13 UBU	0.086	Confirmed, below MDL
Outfall009_20230822_Comp_F		Copper, Dissolved	4.2 BU	4.2	Confirmed
Outfall009_20230822_Comp_F		Lead, Dissolved	2.8 BU	2.768	Confirmed (Rounding)
Outfall009_20230822_Comp_F		Nickel, Dissolved	1.6 J, DXBU	1.642	Confirmed (Rounding)
Outfall009_20230822_Comp_F		Selenium, Dissolved	0.52 UBU	0.335	Confirmed, below MDL
Outfall009_20230822_Comp_F		Silver, Dissolved	0.23 UBU	0.169	Confirmed, below MDL
Outfall009_20230822_Comp_F		Thallium, Dissolved	0.11 UBU	0.072	Confirmed, below MDL
Outfall009_20230822_Comp_F		Zinc, Dissolved	9.5 J, DXBU	9.463	Confirmed (Rounding)

2.20 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, except for rejected data noted in Table 6. A summary of qualifiers applied to this dataset is shown in Table 6.

3. Precision and Accuracy [for SDG(s) above]

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, with the following exceptions:

- No precision was reported for SM 2540F for SDGs 570-149397-1 and 570-149398-1.
- No precision and accuracy were reported for E625.1_SIM and E608.3 for SDG 570-149525-1.
- No precision and accuracy were reported for E625.1_SIM for SDG 570-149529-1.
- No precision was reported for SM 2510B for SDG 570-152592-1 and 570-152593-1.

4. 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 %R of the compounds.
- E 1.3 Laboratory Control Samples
  - The 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
  - 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 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 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 %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 (PCBs), 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 RPD should not exceed 40 percent.
- E 1.9 Dioxin/Furan Estimated Maximum Possible Concentration
  - An 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.
- E 1.10 Pesticide/PCBs Cleanup Procedure Checks
  - Analyzing for pesticides or PCBs often requires cleanup procedures be performed on the samples. Florisil cartridges use polarity to isolate pesticides and PCBs from the sample matrix. The performance of each lot of cartridges must be evaluated every 6 months. The performance check solution must contain 2,4,5-trichlorophenol and the mid-point concentration of INDA or INDC. The %R for the target analytes and surrogates must be between 80 and 120 percent and less than 5 percent for 2,4,5-trichlorophenol.
  - Gel Permeation Chromatography (GPC) cleanup is used for the cleanup of non-aqueous sample extracts and for aqueous sample extracts that contain high molecular weight components that interfere with the analysis of the target analytes. The retention time (RT) shift for bis(2-ethylhexyl) phthalate and perylene must be less than 5 percent and the %R for each target analytes in the GPC calibration verification must be within 80 to 120 percent.
  - Pesticide/Aroclor sulfur cleanup procedures remove elemental sulfur from sample extracts prior to analysis. If not removed, sulfur may cause a rise in the chromatographic baseline, preventing accurate analyte identification and quantitation.
- E 1.17 Gas Chromatograph/Mass Spectrometer Instrument Performance Checks
  - When analyzing organic compounds, the instrument performance check solution known as bromofluorobenzene for volatiles or decafluorotriphenylphosphine for semi-volatiles is run every 12 hours to ensure adequate mass resolution, identification, and sensitivity, and to document this level of performance prior to analyzing any sequence of standards or samples.

- E 1.18 Calibration Blanks
  - Calibration blanks help determine the validity of the analytical results by determining the presence and magnitude of contamination resulting from laboratory activities or baseline drift during analysis. Initial Calibration Blanks (ICBs) are analyzed after the standards and prior to the Initial Calibration Verification (ICV) sample. CCBs are analyzed immediately after every Continuing Calibration Verification (CCV) sample.
- E 1.19 Interference Check Samples and Inductively Coupled Plasma/Mass Spectrometry Tune
  - Inorganic analysis requires an interference check sample be run to determine the validity of the analytical results based on the instrument's ability to overcome interferences typical of those found in samples. Percent recoveries of the interferents or analytes must be between 80 and 120 percent.
  - Inorganic analysis performed by a mass spectrometer also requires an Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) tune check that serves as an initial demonstration of instrument stability and precision.
  - The Contract Laboratory Program no longer requires the Contract Required Quantitation Limit Check Standard (CRI) for inorganic analysis, which is run after calibrations, though some laboratories still provide the CRI as well as the required RL standard check.
- E 1.20 Initial Calibration
  - Organic methods require an initial calibration to ensure the instrument is capable of producing acceptable qualitative and quantitative data. Standards of varying concentrations are run to create a calibration curve, which is then used to ensure the validity of compound quantitation.
  - Inorganic methods require an Initial Calibration to ensure the instrument is capable of producing acceptable qualitative and quantitative data. Instruments should be calibrated each time the instrument is set up and after CCV failure. A blank and at least five standards of varying concentrations should be run to create a calibration curve. At least one of these must be at or below the RL but above the MDL.
  - The curve must have a correlation coefficient of greater than or equal to 0.995 and the calculated %Ds for all non-zero standards must be within ±30 percent of the true value.
- 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. Yttrium (89) is the only internal standard used for the atomic emission spectrometry metals analysis performed by USEPA Method 200.7. 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.
- E 1.23 Serial Dilutions
  - Inorganic analysis requires a serial dilution analysis, which determines whether significant physical or chemical interferences exists because of the sample matrix. If the analyte concentration is sufficiently high (concentration in the original sample is > 50x the MDL that is calculated for the sample) the %D between the original determination and the serial dilution analysis (a five-fold dilution) after correction for dilution should be low.
- E 1.25 Chemical Yield
  - Tracers and carriers are used in radiochemical separations methods to evaluate chemical separation. Chemical yield is evaluated by recovering the chemical species spiked into samples. Yield is evaluated radiometrically with a tracer and gravimetrically with a carrier. Each sample is spiked with either a carrier or tracer, and sample results are adjusted for yields greater or less than 100 percent. A low yield indicates tracer losses and radionuclide of interest through sample separation. A high yield indicates instrumental problems or contamination.

5. 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 micrograms per liter
  - mg/kg milligrams per kilogram
  - mg/L milligrams 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)

6. 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 Factor
RT	Retention Time
SAP	sampling analysis plan
SDG	Sample Delivery Group
SIM	Selected ion monitoring
SOP	Standard Operating Procedure
SPE	Solid Phase Extraction
SVOC	Semi-Volatile Organic Compound
TIC	Tentatively Identified Compound
TKN	Total Kjeldahl Nitrogen
TPH	Total Petroleum Hydrocarbon
TPU	Total Propagated Uncertainty
USEPA	U.S. Environmental Protection Agency
VOC	Volatile Organic Compound

7. Qualifiers

The qualifiers below are from the USEPA NFG 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. Haley & Aldrich, Inc., 2015. Quality Assurance Project Field Plan for Santa Susana Field Laboratory Stormwater Sampling Program. December.

2. J.G. Paar, 1997. Evaluation of Radiochemical Data Usability. April.

3. United States Environmental Protection Agency (USEPA), 2014. R10 Data Validation and Review Guidelines for Polychlorinated Dibenzo-p-Dioxin and Polychlorinated Dibenzofuran Data (PCDD/PCDF) Using Method 1613B, and SW846 Method 8290A. EPA-910-R-14-003. May.

4. USEPA, 2020a. National Functional Guidelines for Inorganic Superfund Methods Data Review. EPA-542-R-20-006. November.

5. USEPA, 2020b. National Functional Guidelines for Organic Superfund Methods Data Review. EPA-540-R-20-005. November.

Attachments:

Table 1 – Sample Management
Table 2 – Method Description
Table 3 – MS Pairs
Table 4 – Method Blanks
Table 5 – Dioxin-Furan EMPC
Table 6 – Summary of Qualifiers

TABLES

TABLE 1
SAMPLE MANAGEMENT
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY

Sample ID	Sample Type	Lab ID	Sample Date	Matrix	Method(s)[1]
Arroyo-Simi-20230809_Grab	N	570-147889-1	08/09/2023	WM	A, B, T
Arroyo_Simi_20230821_Grab	N	3H21106-01	08/21/2023	WS	T
Outfall001_20230821_Grab	N	570-149397-1	08/21/2023	WM	C, D, E, F
TB-20230821	TB	570-149397-3	08/21/2023	WMQ	C
Outfall002_20230821_Grab	N	570-149398-1	08/21/2023	WM	C, D, E, F
TB-20230821	TB	570-149398-3	08/21/2023	WMQ	C
Outfall009_2020821_Grab	N	570-149401-1	08/21/2023	WM	D
Arroyo_Simi_20230821_Grab	N	570-149404-1	08/21/2023	WS	A, B
Outfall009_20230822_Comp	N	570-149524-1	08/22/2023	WM	J, K, L, M, N, P, Q, S, W, X, Y, Z, AA, AB, AC
Outfall009_20230822_Comp_F	N	570-149524-2	08/22/2023	WM	J, M
Outfal001_20230822_Comp	N	570-149525-1	08/22/2023	WM	A, G, H, I, J, K, L, M, N, O, P, Q, R, S, W, X, Y, Z, AA, AB, AC
Outfal001_20230822_Comp_F	N	570-149525-3	08/22/2023	WM	J, M
Outfall002_20230822_Comp	N	570-149529-1	08/22/2023	WM	A, B, G, H, I, J, K, L, M, N, O, P, Q, R, S, W, X, Y, Z, AA, AB, AC
Outfall002_20230822_Comp_F	N	570-149529-3	08/22/2023	WM	B, J, M
Outfall018_20230913_Grab	N	570-152592-1	09/13/2023	WM	C, D, E, F
TB-20230913	TB	570-152592-3	09/13/2023	WMQ	C
Outfall002_20230914_Grab	N	570-152593-1	09/14/2023	WM	C, D, E, F
TB-20230914	TB	570-152593-3	09/14/2023	WMQ	C
Outfall002_20230915_Comp	N	570-152959-1	09/15/2023	WM	A, G, H, I, J, K, L, M, N, O, P, Q, R, S, W, X, Y, Z, AA, AB, AC
Outfall002_20230915_Comp_F	N	570-152959-3	09/15/2023	WM	J, M
Outfall018_20230915_Comp	N	570-152962-1	09/15/2023	WM	A, G, H, I, J, K, L, M, N, O, P, Q, R, S, W, X, Y, Z, AA, AB, AC
Outfall018_20230915_Comp_F	N	570-152962-3	09/15/2023	WM	J, M

Notes:

1. Analytic methods corresponding to the listed letter codes are presented in Table 2.

TABLE 2
METHOD DESCRIPTION
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY

Letter Code	Analytic Method	Method Description	Holding Time
A.	E608.3	Organochlorine Pesticides and PCBs by GC/HSD	14 days extraction / 40 days analysis for liquid, unpreserved
B.	SM2340	Hardness	180 days for liquid unpreserved
C.	E624.1	Volatile Organic Compounds (VOCs)	7 days unpreserved (CVE and Acrolein)
			14 days preserved (all other VOCs)
D.	E1664	Oil and Grease (HEM)	28 days
E.	SM2540F	Settleable Solids	7 days
F.	SM2510	Specific Conductance	28 days
G.	E625.1SIM	Semi-Volatile Organic Compounds (SVOCs)	7 days / 40 days
H.	E350.1	Ammonia	28 days
I.	SM5210B	BOD5 (Biochemical Oxygen on Demand)	48 hours
J.	E200.8	Metals (by Mass Spectrometer)	180 days for liquid, preserved
K.	E300	Inorganic Anions (Chloride, Fluoride, Sulfate, Nitrite/Nitrate)	28 days
		Inorganic Anions (Nitrite, Nitrate)	48 hours
L.	KELADA-01	Cyanide	14 days
M.	E245.1	Mercury	28 days
N.	E314.0	Perchlorate	28 days
O.	SM5540	Surfactants as MBAS	48 hours
P.	SM2540C	Total Dissolved Solids	7 days
Q.	SM2540D	Total Suspended Solids	7 days
R.	SM2130	Turbidity	48 hours
S.	E1613B	USEPA Standard Method for High Resolution Analysis of Dioxins/Furans	1 year, preserved
T.	E525.2	ORGANIC COMPOUNDS BY GC/MS	24 hours / 30 days for diazinon 14 days / 30 days for chlorpyrifos
U.	E1631	DETERMINATION OF TOTAL MERCURY BY CVAFS	90 days
V.	SW8260SIM	Volatile Organic Compounds (VOCs)	7 days for liquid, preserved 14 days for liquid unpreserved
W.	E900	GROSS ALPHA AND BETA RADIATION	180 days, unpreserved*
X.	E901.1	GAMMA EMITTING RADIONUCLIDES IN DRINKING WATER	180 days, unpreserved*
Y.	E903.0	ALPHA EMITTING RADIUM ISOTOPES IN DRINKING WATER	180 days, unpreserved*
Z.	E904.0	Radium-228	180 days, unpreserved*
AA.	E905.0	RADIOACTIVE STRONTIUM IN DRINKING WATER	180 days, unpreserved*
AB.	E906.0	PRESCRIBED PROCEDURES FOR MEAS. OF RADIOACTIVITY IN DRINKING WATER	180 days, unpreserved*
AC.	HASL-300 U Mod	HASL-300 U Mod	180 days, unpreserved*

Notes:
** preserved to correct pH at the laboratory.*

TABLE 3
MS PAIRS
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY

Lab Sample Number	Matrix Spike/ Matrix Spike Duplicate Sample Client ID	Method(s)
570-147889-1	Arroyo_Simi_20230809_Grab	E525.2
570-149524-1	Outfall009_20230822_Comp	E200.8, E245.1
570-149524-2	Outfall009_20230822_Comp_F	E200.8, E245.1
570-149525-1	Outfal001_20230822_Comp	E314.0, E200.8, E245.1, SM5540C
570-149525-3	Outfal001_20230822_Comp_F	E200.8, E245.1
570-149529-1	Outfall002_20230822_Comp	E200.8, E245.1, E350.1, E900, E903.0, E904.0, E905.0, E906.0, HASL-300 U Mod
570-149529-3	Outfall002_20230822_Comp_F	E200.8, E245.1
570-152959-1	Outfall002_20230915_Comp	E200.8, E245.1, SM5540, E900
570-152959-3	Outfall002_20230915_Comp_F	E200.8, E245.1
570-152962-1	Outfall018_20230915_Comp	E200.8, E245.1
570-152962-3	Outfall018_20230915_Comp_F	E200.8, E245.1

TABLE 4
METHOD BLANKS
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY

Batch ID	Analyte Detected in Blank	Concentration (µg/L)	Qualifier	Affected Samples
707510	1,2,3,7,8-PeCDF	0.00000184 J,DX	NA	None, samples are ND
707510	2,3,4,7,8-PeCDF	0.0000019 J,DX	Result U	Outfall002_20230822_Comp
707510	1,2,3,4,7,8-HxCDD	0.00000259 J,DX	Result U	Outfall002_20230822_Comp Outfall009_20230822_Comp
707510	1,2,3,6,7,8-HxCDD	0.00000228 J,DX	Result U	Outfall002_20230822_Comp
707510	1,2,3,7,8,9-HxCDD	0.0000028 J,DX	Result U	Outfall002_20230822_Comp
707510	1,2,3,4,7,8-HxCDF	0.00000202 J,DX	Result U	Outfall009_20230822_Comp
707510	1,2,3,6,7,8-HxCDF	0.00000187 J,DX	Result U	Outfall002_20230822_Comp Outfall009_20230822_Comp
707510	1,2,3,7,8,9-HxCDF	0.000002 J,DX	Result U	Outfall002_20230822_Comp
707510	2,3,4,6,7,8-HxCDF	0.00000171 J,DX	Result U	Outfall002_20230822_Comp
707510	1,2,3,4,6,7,8-HpCDD	0.00000323 J,DX	Result U	Outfal001_20230822_Comp Outfall002_20230822_Comp Outfall009_20230822_Comp
707510	1,2,3,4,6,7,8-HpCDF	0.00000301 J,DX	Result U	Outfall002_20230822_Comp Outfall009_20230822_Comp
707510	1,2,3,4,7,8,9-HpCDF	0.00000228 J,DX	Result U	Outfall002_20230822_Comp
707510	OCDD	0.00000803 J,DX	Result U	Outfal001_20230822_Comp
707510	OCDF	0.00000499 J,DX	Result U	Outfall002_20230822_Comp Outfall009_20230822_Comp

TABLE 5
DIOXIN-FURAN EMPC
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY

SDG #	Lab ID	Analyte	Concentration (µg/L)	Qualifier	Affected Samples
5701290092	570-129009-1	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1.2E-06	UJ	Outfall002_20230822_Comp
5701290092	570-129009-1	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1.2E-06	UJ	Outfall002_20230822_Comp
5701290092	570-129009-1	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1.3E-06	UJ	Outfall002_20230822_Comp
5701290102	570-129010-1	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1.6E-06	UJ	Outfall009_20230822_Comp
5701290102	570-129010-1	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	8.9E-07	UJ	Outfall009_20230822_Comp
5701495252	570-149525-1	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	1.9E-06	UJ	Outfal001_20230822_Comp
5701495252	570-149525-1	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1.6E-06	UJ	Outfal001_20230822_Comp
5701495252	570-149525-1	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1.0E-06	UJ	Outfal001_20230822_Comp
5701529592	570-152959-1	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	1.9E-06	UJ	Outfall002_20230915_Comp

TABLE 6
SUMMARY OF QUALIFIERS
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY

SDG#	Location	Sample ID	Sample Date	Lab ID	Method	Fraction	Analyte	Result	Laboratory Qualifier	Final Validated Qualifier	Validation Note	Unit	Notes
3H21106	Arroyo Simi	Arroyo_Simi_20230821_Grab	8/21/2023	3H21106-01	E525.2	N	Diazinon	ND		UJ	H	ug/L	
5701493971	OUTFALL 001	Outfall001_20230821_Grab	8/21/2023	570-149397-1	E624.1	N	Acrolein	ND	U	R	*1	ug/L	
5701493981	OUTFALL 002	Outfall002_20230821_Grab	8/21/2023	570-149398-1	E624.1	N	Acrolein	ND	U	R	*1	ug/L	
5701495242	OUTFALL 009	Outfall009_20230822_Comp	8/22/2023	570-149524-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	1.1E-05	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701495242	OUTFALL 009	Outfall009_20230822_Comp	8/22/2023	570-149524-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	4.6E-06	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701495242	OUTFALL 009	Outfall009_20230822_Comp	8/22/2023	570-149524-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1.7E-05	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701495242	OUTFALL 009	Outfall009_20230822_Comp	8/22/2023	570-149524-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	5.7E-07	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701495242	OUTFALL 009	Outfall009_20230822_Comp	8/22/2023	570-149524-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	2.3E-06	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701495242	OUTFALL 009	Outfall009_20230822_Comp	8/22/2023	570-149524-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	6.5E-07	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701495242	OUTFALL 009	Outfall009_20230822_Comp	8/22/2023	570-149524-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	8.9E-07	J,DXqMB	UJ	*III	ug/L	Report ND at sample concentration
5701495242	OUTFALL 009	Outfall009_20230822_Comp	8/22/2023	570-149524-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1.6E-06	J,DXqMB	UJ	*III	ug/L	Report ND at sample concentration
5701495241	OUTFALL 009	Outfall009_20230822_Comp	8/22/2023	570-149524-1	E200.8	T	Antimony	1.1E+00	J,DX	J	DNQ	ug/L	
5701495241	OUTFALL 009	Outfall009_20230822_Comp	8/22/2023	570-149524-1	E200.8	T	Selenium	6.7E-01	J,DX	J	DNQ	ug/L	
5701495241	OUTFALL 009	Outfall009_20230822_Comp	8/22/2023	570-149524-1	E200.8	T	Zinc	1.7E+01	J,DX	J	DNQ	ug/L	
5701495241	OUTFALL 009	Outfall009_20230822_Comp_F	8/22/2023	570-149524-2	E200.8	D	Antimony	1.8	J,DXBU	U	B	ug/L	Report as RL U. Prior to validation, MDL was 0.36
5701495241	OUTFALL 009	Outfall009_20230822_Comp_F	8/22/2023	570-149524-2	E200.8	D	Nickel	1.6E+00	J,DXBU	J	DNQ	ug/L	
5701495241	OUTFALL 009	Outfall009_20230822_Comp_F	8/22/2023	570-149524-2	E200.8	D	Zinc	9.5E+00	J,DXBU	J	DNQ	ug/L	
5701495252	OUTFALL 001	Outfal001_20230822_Comp	8/22/2023	570-149525-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	0.0000019	J,DXMBq	UJ	*III	ug/L	Report ND at sample concentration
5701495252	OUTFALL 001	Outfal001_20230822_Comp	8/22/2023	570-149525-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	0.0000079	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701495252	OUTFALL 001	Outfal001_20230822_Comp	8/22/2023	570-149525-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.000001	J,DXMBq	UJ	*III	ug/L	Report ND at sample concentration
5701495252	OUTFALL 001	Outfal001_20230822_Comp	8/22/2023	570-149525-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	0.0000017	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701495252	OUTFALL 001	Outfal001_20230822_Comp	8/22/2023	570-149525-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000016	J,DXMBq	UJ	*III	ug/L	Report ND at sample concentration
5701495251	OUTFALL 001	Outfal001_20230822_Comp	8/22/2023	570-149525-1	E200.8	T	Copper	1.3	J,DX	J	DNQ	ug/L	
5701495251	OUTFALL 001	Outfal001_20230822_Comp	8/22/2023	570-149525-1	E200.8	T	Lead	0.18	J,DX	J	DNQ	ug/L	
5701495251	OUTFALL 001	Outfal001_20230822_Comp	8/22/2023	570-149525-1	E200.8	T	Selenium	0.61	J,DX	J	DNQ	ug/L	
5701495292	OUTFALL 002	Outfall002_20230822_Comp	8/22/2023	570-149529-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	2.6E-05	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701495292	OUTFALL 002	Outfall002_20230822_Comp	8/22/2023	570-149529-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1.3E-05	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701495292	OUTFALL 002	Outfall002_20230822_Comp	8/22/2023	570-149529-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	2.5E-05	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701495292	OUTFALL 002	Outfall002_20230822_Comp	8/22/2023	570-149529-1	E1613B	N	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	2.0E-06	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701495292	OUTFALL 002	Outfall002_20230822_Comp	8/22/2023	570-149529-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1.2E-06	J,DXMBq	UJ	*III	ug/L	Report ND at sample concentration
5701495292	OUTFALL 002	Outfall002_20230822_Comp	8/22/2023	570-149529-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	4.1E-06	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701495292	OUTFALL 002	Outfall002_20230822_Comp	8/22/2023	570-149529-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1.9E-06	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701495292	OUTFALL 002	Outfall002_20230822_Comp	8/22/2023	570-149529-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1.0E-06	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701495292	OUTFALL 002	Outfall002_20230822_Comp	8/22/2023	570-149529-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1.3E-06	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701495292	OUTFALL 002	Outfall002_20230822_Comp	8/22/2023	570-149529-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	2.9E-06	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701495292	OUTFALL 002	Outfall002_20230822_Comp	8/22/2023	570-149529-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1.3E-06	J,DXqMB	UJ	*III	ug/L	Report ND at sample concentration
5701495292	OUTFALL 002	Outfall002_20230822_Comp	8/22/2023	570-149529-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1.2E-06	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
5701495292	OUTFALL 002	Outfall002_20230822_Comp	8/22/2023	570-149529-1	E1613B	N	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1.5E-06	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701495292	OUTFALL 002	Outfall002_20230822_Comp	8/22/2023	570-149529-1	E1613B	N	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1.8E-06	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701495291	OUTFALL 002	Outfall002_20230822_Comp	8/22/2023	570-149529-1	E200.8	T	Selenium	0.91	J,DX	J	DNQ	ug/L	
5701495291	OUTFALL 002	Outfall002_20230822_Comp	8/22/2023	570-149529-1	E200.8	T	Zinc	12	J,DX	J	DNQ	ug/L	
5701495293	OUTFALL 002	Outfall002_20230822_Comp	45160.32986	570-149529-1	E900	T	Gross Alpha Analytes	2.09	U F G	UJ	Q	pCi/L	
5701495293	OUTFALL 002	Outfall002_20230822_Comp	8/22/2023	570-149529-1	E904.0	T	Radium-228	1.11	U G	UJ	Q	pCi/L	
5701495291	OUTFALL 002	Outfall002_20230822_Comp	8/22/2023	570-149529-1	SM5540	N	Surfactants as MBAS	0.083	J,DX	J	DNQ	mg/L	
5701495291	OUTFALL 002	Outfall002_20230822_Comp_F	8/22/2023	570-149529-3	E200.8	D	Lead	0.18	J,DXBU	J	DNQ	ug/L	
5701495291	OUTFALL 002	Outfall002_20230822_Comp_F	8/22/2023	570-149529-3	E200.8	D	Selenium	0.66	J,DXBU	J	DNQ	ug/L	
5701495291	OUTFALL 002	Outfall002_20230822_Comp_F	8/22/2023	570-149529-3	E200.8	D	Zinc	2.8	J,DXBU	J	DNQ	ug/L	
5701529592	OUTFALL 002	Outfall002_20230915_Comp	9/15/2023	570-152959-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	0.0000019	J,DXMBq	UJ	*III	ug/L	Report ND at sample concentration
5701529592	OUTFALL 002	Outfall002_20230915_Comp	9/15/2023	570-152959-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	0.000024	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701529592	OUTFALL 002	Outfall002_20230915_Comp	9/15/2023	570-152959-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	0.000004	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701529592	OUTFALL 002	Outfall002_20230915_Comp	9/15/2023	570-152959-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000025	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701529591	OUTFALL 002	Outfall002_20230915_Comp	9/15/2023	570-152959-1	E200.8	T	Copper	1	J,DX	J	DNQ	ug/L	
5701529591	OUTFALL 002	Outfall002_20230915_Comp	9/15/2023	570-152959-1	E300	N	Nitrate (as N)	0.025	J,DX	J	DNQ	mg/L	
5701529591	OUTFALL 002	Outfall002_20230915_Comp	9/15/2023	570-152959-1	E300	N	Nitrite/Nitrate	0.025	J,DX	J	DNQ	mg/L	
5701529593	OUTFALL 002	Outfall002_20230915_Comp	9/15/2023	570-152959-1	E900	T	Gross Alpha Analytes	3.34	G	J	Q	pCi/L	

TABLE 6
SUMMARY OF QUALIFIERS
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY

SDG#	Location	Sample ID	Sample Date	Lab ID	Method	Fraction	Analyte	Result	Laboratory Qualifier	Final Validated Qualifier	Validation Note	Unit	Notes
5701529591	OUTFALL 002	Outfall002_20230915_Comp	9/15/2023	570-152959-1	SM5540	N	Surfactants as MBAS	0.12	J,DX	J	DNQ	mg/L	
5701529591	OUTFALL 002	Outfall002_20230915_Comp_F	9/15/2023	570-152959-3	E200.8	D	Copper	0.99	J,DXBU	J	DNQ	ug/L	
5701529622	OUTFALL 018	Outfall018_20230915_Comp	9/15/2023	570-152962-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	0.0000041	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701529622	OUTFALL 018	Outfall018_20230915_Comp	9/15/2023	570-152962-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	0.000017	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701529622	OUTFALL 018	Outfall018_20230915_Comp	9/15/2023	570-152962-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.0000019	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701529622	OUTFALL 018	Outfall018_20230915_Comp	9/15/2023	570-152962-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	0.0000045	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701529622	OUTFALL 018	Outfall018_20230915_Comp	9/15/2023	570-152962-1	E1613B	N	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	0.0000016	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701529622	OUTFALL 018	Outfall018_20230915_Comp	9/15/2023	570-152962-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	0.0000015	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701529622	OUTFALL 018	Outfall018_20230915_Comp	9/15/2023	570-152962-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000033	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701529622	OUTFALL 018	Outfall018_20230915_Comp	9/15/2023	570-152962-1	E1613B	N	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.0000017	J,DXMB	U	B	ug/L	Report ND at sample concentration
5701529621	OUTFALL 018	Outfall018_20230915_Comp	9/15/2023	570-152962-1	E200.8	T	Cadmium	0.13	J,DX	J	DNQ	ug/L	
5701529621	OUTFALL 018	Outfall018_20230915_Comp	9/15/2023	570-152962-1	E200.8	T	Copper	1	J,DX	J	DNQ	ug/L	
5701529621	OUTFALL 018	Outfall018_20230915_Comp	9/15/2023	570-152962-1	E200.8	T	Lead	0.13	J,DX	J	DNQ	ug/L	
5701529621	OUTFALL 018	Outfall018_20230915_Comp	9/15/2023	570-152962-1	E200.8	T	Zinc	3.3	J,DXMB	U	B	ug/L	Report as RL U. Prior to validation, MDL was 2.8
5701529621	OUTFALL 018	Outfall018_20230915_Comp	9/15/2023	570-152962-1	E350.1	N	Ammonia	0.043	J,DX	J	DNQ	mg/L	
5701529621	OUTFALL 018	Outfall018_20230915_Comp	9/15/2023	570-152962-1	SM5210B	N	Biochemical Oxygen Demand (BOD)	1.9	J,DX	J	DNQ	mg/L	
5701529621	OUTFALL 018	Outfall018_20230915_Comp	9/15/2023	570-152962-1	SM5540	N	Surfactants as MBAS	0.12	J,DX	J	DNQ	mg/L	
5701529621	OUTFALL 018	Outfall018_20230915_Comp_F	9/15/2023	570-152962-3	E200.8	D	Copper	0.82	J,DXBU	J	DNQ	ug/L	

APPENDIX F

Third Quarter 2023 Reasonable Potential Analysis Tables

APPENDIX F

TABLE OF CONTENTS

REASONABLE POTENTIAL ANALYSIS SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Notes:

1. The following Reasonable Potential Analysis (RPA) provides the analytical results as performed by the procedures outlined in *Reasonable Potential Analysis Methodology Technical Memo* (MWH and Flow Science, 2006).

2. The monitoring data set utilized to conduct the RPA consists of all applicable and relevant data from the present reporting quarter.

3. As directed by the CTR and the Regional Water Control Board, 2,3,7,8-TCDD (Dioxin) values are to be expressed in 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., J [DNQ] or R) are considered estimated or rejected and are not used in this RPA.

5. All of the following abbreviations and/or notes may not occur on every table.

6. Based on ORDER NO. R4-2015-0033, page E-2, Section I.C, only pollutants which do not have a final effluent limitation in the NPDES permit are included in this RPA analysis.

Definition of Acronyms, Abbreviations, and Terminology Used

>=	Greater than or equal to
*	Freshwater aquatic life criteria for metals are expressed as a function of total hardness (mg/L) in the water body. The equations are provided in the CTR, (US EPA, 2011). Values displayed correspond to a total hardness of 100 mg/l.
‡	Available data are below detection limits; detection limit is assigned for maximum effluent concentration (MEC) and is not applicable to compare against lowest water quality criteria concentration (C)
µg/L	Concentration units, micrograms per liter
All Data Qualified	All available monitoring data are qualified and no statistical analysis is performed.
Annual	The 2015 NPDES Permit requires annual monitoring.
ANR	Analysis not required; e.g., constituent or outfall was not required by the NPDES permit to be sampled and analyzed.
Available Data < DL	All available monitoring data that are not qualified are below detection limits.
B	Background
C	Concentration
CCC	Criterion Continuous Concentration
CMC	Criterion Maximum Concentration
CTR	California Toxics Rule
CV	Coefficient of Variation
DL	Detection Limit
EPA TSD	EPA's Technical Support Document for Water Quality Based Toxics Control, (see references).

REASONABLE POTENTIAL ANALYSIS SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Definition of Acronyms, Abbreviations, and Terminology Used (Continued)

Fibers/L	Units for asbestos concentration, fibers per liter
HH O	Human Health criteria for consumption of Organisms only
HH W&OMEC	Maximum Observed Effluent Concentration
mg/L	Concentration units, milligrams per liter
Min	Minimum
MPN/100ml	Most probable number per 100 milliliters
NA	Not Applicable
Narrative	Water quality criteria are expressed as a narrative objective rather than a numeric objective, and therefore are not part of the statistical RPA calculations.
None	No available CTR or Basin Plan criteria.
pH Dependent	CTR Criteria are based on pH.
Discharge	The 2015 NPDES Permit requires monitoring once per discharge event.
Qualified Data	Data qualifier definitions are: (a) J- The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL), (b) UJ- The analyte was not detected in the sample at the detection limit /estimated detection limit (EDL), (c) Nondetect U with blank qualifier(B, F, T) - Analyte found in sample and associated blank, and (d) DNQ- Detected Not Quantified (sample results less than the RL, but great than or equal to the laboratory's MDL)
Reserved	EPA has reserved the CTR criteria.
RPA	Reasonable Potential Analysis
SIP	The State Water Resources Control Board "Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California," (see references).
Tot	Total

Priority Pollutant RPA Column Explanation

OUTFALL	Outfall (or group of outfalls) with sampling data used in RPA.
CTR	Provides CTR constituent reference number.
Constituent	Provides CTR constituent common name.
Units	Provides the data set's concentration units as referenced by 2015 NPDES Permit.
MEC	Provides the outfall monitoring group's maximum value from the applicable data set.
CV	Equal to the standard deviation divided by the average of the applicable data set. If the number of samples is less than 10, the CV is assumed to be 0.6. NA for Qualified Data.
Step 1 identifies all applicable water quality criteria.	
CTR Criteria	Concentration criteria as listed in the CTR.
CMC = Acute	The Freshwater CMC is listed as the acute concentration criterion.
CCC = Chronic	The Freshwater CCC is listed as the chronic concentration criterion.
HH W&O (Not App)	The HH W&O is deemed not applicable based on past Regional Board RPAs.
HH O = HH	The HH O is listed as the CTR human health concentration criterion.

REASONABLE POTENTIAL ANALYSIS SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Priority Pollutant RPA Column Explanation (Continued)

Basin Plan Criteria	Applicable Basin Plan Criteria are listed for the Los Angeles River and/or Calleguas Creek watersheds.
C = Lowest Criteria	The comparison concentration (C) is equal to the lowest criterion for a constituent based on the CMC, CCC, HH O, and Basin Plan Criteria listed.
Step 2 defines the applicable data set.	
Is Effluent Data Available	If all data is qualified, then NO. If not, then YES.
Step 3 determines the maximum observed effluent concentration.	
Was Constituent Detected in Effluent Data	If the constituent was detected, then YES. If all monitoring data are non-detect or qualified then NO.
Are all Detection Limits >C	If constituent was detected in effluent data then not applicable (NA). If constituent was not detected and all analysis detection limits are greater than the comparison concentration, then YES, if not then NO.
If DL > C, MEC = Min (DL)	If the previous cell answer was yes, then the MEC is equal to the minimum detection limit. If not, then NA.
Step 4 compares the MEC to the lowest applicable water quality criteria.	
MEC >= C	If the MEC is greater than or equal to the comparison concentration then YES, if not then NO.

Note: Steps 5 and 6 of the Priority Pollutant RPA do not apply to the Santa Susana Site because the Regional Board gives no consideration for receiving water background constituent concentrations. Furthermore, Boeing defers the application of best professional judgment in Step 7 and final determination of reasonable potential in Step 8 to the Regional Board Staff.

Non-priority Pollutant RPA Column Explanation

Constituent	Provides the Non-Priority Pollutant constituent common name
Monitoring	Provides the 2015 NPDES Permit directed monitoring frequency
Units	Provides the data set's concentration units
Number of Samples	Provides the number of available samples that are not qualified
MEC	Provides the outfall monitoring group's maximum value from the applicable data set
CV	Equal to the standard deviation divided by the average of the applicable data set. If the number of samples is less than 10, the CV is assumed to be 0.6.
Multiplier	Utilizes the EPA's TSD calculation to determine multiplier for which the maximum effluent concentration is calculated. (MWH and Flow Science, 2006, or EPA TSD, 1991)
Projected Maximum Effluent Concentration	Utilizes the product of the multiplier and the MEC as an estimate for the projected maximum effluent concentration.
99/99	Statistical technique used in the Environmental Protection Agency's Technical Support Document RPA to compute the upper 99th confidence range of the 99th % value of the log normal distribution of monitoring data.
Dilution Ratio	The Regional Board allocates no dilution ratio to the Santa Susana Site (NA).
Background Concentration	The Regional Board allocates no background concentration to the Santa Susana Site (NA).
Projected Maximum Receiving Water Concentration	The Regional Board estimates the projected maximum receiving water concentration as equal to the projected maximum effluent concentration.

REASONABLE POTENTIAL ANALYSIS SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Non-priority Pollutant RPA Column Explanation (Continued)

Step 1, Determine Water Quality Objectives	The water quality objective is based on appropriate Basin Plan criteria as noted in the Reasonable Potential Analysis Methodology Technical Memo.
BU – Beneficial Use Protection, NC – Human Non-carcinogen, AP- Aquatic Life Protection, TMDL – Total Maximum Daily Load	This is the Regional Board's Basis for determining if reasonable potential should be evaluated for a non-priority pollutant.

Note: Boeing has completed appropriate statistical calculations but defers the application of best professional judgment and the final determination of reasonable potential to the Regional Board Staff.

REASONABLE POTENTIAL ANALYSIS SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

References:

1. Los Angeles Regional Water Quality Control Board, “Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, (Basin Plan).” June 13, 1994.

2. MWH and Flow Science, “Reasonable Potential Analysis Methodology Technical Memo- Version 1, Final, Santa Susan Field Laboratory, Ventura County, California.” April 28, 2006.

3. State Water Resources Control Board, “Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, (SIP)” Resolution No. 2005-0019, February 24, 2005.

4. US EPA, *40CFR part 131, Water Quality Standards; Establishment of numeric Criteria for Priority Toxic Pollutants for the State of California*, (CTR) Federal Registry, 2011, pp. 496 - 507.

5. US EPA, “Technical Support Document for Water Quality-based Toxics Control.” EPA/505/2-90-001, PB-91-127415, March 1991.

TABLE F-1
REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 001, 002, 011, AND 018)

THIRD 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				Basin Plan	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
						Freshwater		Human Health								
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
1, 2, 11, 18	15	Asbestos > 10 um	Fibers/L	ANR	NA	NONE	NONE	7,000,000	NONE	7,000,000	7000000	No	NA	NA	NA	NA
1, 2, 11, 18	17	Acrolein	ug/L	Available Data <DL	0.6	NONE	NONE	320	780	NONE	780	Yes	No	No	NA	No
1, 2, 11, 18	18	Acrylonitrile	ug/L	Available Data <DL	0.6	NONE	NONE	0.059	0.66	NONE	0.66	Yes	No	Yes	2.9	NA‡
1, 2, 11, 18	19	Benzene	ug/L	Available Data <DL	0.6	NONE	NONE	1.2	71	1	1	Yes	No	No	NA	No
1, 2, 11, 18	20	Bromoform	ug/L	Available Data <DL	0.6	NONE	NONE	4.3	360	NONE	360	Yes	No	No	NA	No
1, 2, 11, 18	21	Carbon Tetrachloride	ug/L	Available Data <DL	0.6	NONE	NONE	0.25	4.4	0.5	0.5	Yes	No	Yes	0.55	NA‡
1, 2, 11, 18	22	Chlorobenzene	ug/L	Available Data <DL	0.6	NONE	NONE	680	21,000	70	70	Yes	No	No	NA	No
1, 2, 11, 18	23	Dibromochloromethane	ug/L	Available Data <DL	0.6	NONE	NONE	0.401	34	NONE	34	Yes	No	No	NA	No
1, 2, 11, 18	24	Chloroethane	ug/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	25	2-Chloroethyl vinyl ether	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	26	Chloroform (Trichloromethane)	ug/L	Available Data <DL	0.6	NONE	NONE	Reserved	Reserved	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	27	Dichlorobromomethane	ug/L	Available Data <DL	0.6	NONE	NONE	0.56	46	NONE	46	Yes	No	No	NA	No
1, 2, 11, 18	28	1,1-Dichloroethane	ug/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	5	5	Yes	No	No	NA	No
1, 2, 11, 18	31	1,2-Dichloropropane	ug/L	Available Data <DL	0.6	NONE	NONE	0.52	39	5	5	Yes	No	No	NA	No
1, 2, 11, 18	32	cis-1,3-Dichloropropene	ug/L	Available Data <DL	0.6	NONE	NONE	10	1,700	0.5	0.5	Yes	No	Yes	0.60	NA‡
1, 2, 11, 18	032a	trans-1,3-Dichloropropene	ug/L	Available Data <DL	0.6	NONE	NONE	10	1,700	0.5	0.5	Yes	No	No	NA	No
1, 2, 11, 18	33	Ethylbenzene	ug/L	Available Data <DL	0.6	NONE	NONE	3,100	29,000	700	700	Yes	No	No	NA	No
1, 2, 11, 18	34	Bromomethane (Methyl Bromide)	ug/L	Available Data <DL	0.6	NONE	NONE	48	4,000	NONE	4000	Yes	No	No	NA	No
1, 2, 11, 18	35	Chloromethane (Methyl Chloride)	ug/L	Available Data <DL	0.6	NONE	NONE	Narrative	Narrative	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	36	Methylene chloride	ug/L	Available Data <DL	0.6	NONE	NONE	4.7	1,600	NONE	1600	Yes	No	No	NA	No
1, 2, 11, 18	37	1,1,2,2-Tetrachloroethane	ug/L	Available Data <DL	0.6	NONE	NONE	0.17	11	1	1	Yes	No	No	NA	No
1, 2, 11, 18	38	Tetrachloroethene	ug/L	Available Data <DL	0.6	NONE	NONE	0.8	8.85	5	5	Yes	No	No	NA	No
1, 2, 11, 18	39	Toluene	ug/L	Available Data <DL	0.6	NONE	NONE	6,800	200,000	150	150	Yes	No	No	NA	No
1, 2, 11, 18	40	trans-1,2-Dichloroethene	ug/L	Available Data <DL	0.6	NONE	NONE	700	140,000	10	10	Yes	No	No	NA	No
1, 2, 11, 18	41	1,1,1-Trichloroethane	ug/L	Available Data <DL	0.6	NONE	NONE	Narrative	Narrative	200	200	Yes	No	No	NA	No
1, 2, 11, 18	42	1,1,2-trichloroethane	ug/L	Available Data <DL	0.6	NONE	NONE	0.6	42	5	5	Yes	No	No	NA	No
1, 2, 11, 18	44	Vinyl chloride	ug/L	Available Data <DL	0.6	NONE	NONE	2	525	0.5	0.5	Yes	No	Yes	0.94	NA‡
1, 2, 11, 18	45	2-chlorophenol	ug/L	ANR	NA	NONE	NONE	120	400	NONE	400	No	NA	NA	NA	NA
1, 2, 11, 18	46	2,4-Dichlorophenol	ug/L	ANR	NA	NONE	NONE	93	790	NONE	790	No	NA	NA	NA	NA
1, 2, 11, 18	47	2,4-dimethylphenol	ug/L	ANR	NA	NONE	NONE	540	2,300	NONE	2300	No	NA	NA	NA	NA
1, 2, 11, 18	48	2-Methyl-4,6-dinitrophenol	ug/L	ANR	NA	NONE	NONE	13.4	765	NONE	765	No	NA	NA	NA	NA
1, 2, 11, 18	49	2,4-dinitrophenol	ug/L	ANR	NA	NONE	NONE	70	14,000	NONE	14000	No	NA	NA	NA	NA
1, 2, 11, 18	50	2-nitrophenol	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	51	4-nitrophenol	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	52	4-Chloro-3-methylphenol	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	54	Phenol	ug/L	ANR	NA	NONE	NONE	21,000	4,600,000	NONE	4600000	No	NA	NA	NA	NA
1, 2, 11, 18	56	Acenaphthene	ug/L	ANR	NA	NONE	NONE	1,200	2,700	NONE	2700	No	NA	NA	NA	NA
1, 2, 11, 18	57	Acenaphthylene	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	58	Anthracene	ug/L	ANR	NA	NONE	NONE	9,600	110,000	NONE	110000	No	NA	NA	NA	NA
1, 2, 11, 18	59	Benzidine	ug/L	ANR	NA	NONE	NONE	0.00012	0.00054	NONE	0.00054	No	NA	NA	NA	NA
1, 2, 11, 18	60	Benzo(a)Anthracene	ug/L	ANR	NA	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
1, 2, 11, 18	61	Benzo(a)Pyrene	ug/L	ANR	NA	NONE	NONE	0.0044	0.049	0.2	0.049	No	NA	NA	NA	NA
1, 2, 11, 18	62	Benzo(b)Fluoranthene	ug/L	ANR	NA	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
1, 2, 11, 18	63	Benzo(g,h,i)Perylene	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	64	Benzo(k)Fluoranthene	ug/L	ANR	NA	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
1, 2, 11, 18	65	Bis (2-Chloroethoxy) methane	ug/L	ANR	NA	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)

THIRD 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				Basin Plan	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
						Freshwater		Human Health								
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
1, 2, 11, 18	66	bis (2-Chloroethyl) ether	ug/L	ANR	NA	NONE	NONE	0.031	1.4	NONE	1.4	No	NA	NA	NA	NA
1, 2, 11, 18	67	Bis (2-Chloroisopropyl) Ether	ug/L	ANR	NA	NONE	NONE	1,400	170,000	NONE	170000	No	NA	NA	NA	NA
1, 2, 11, 18	69	4-Bromophenyl phenyl ether	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	70	Butyl benzylphthalate	ug/L	ANR	NA	NONE	NONE	3,000	5,200	NONE	5200	No	NA	NA	NA	NA
1, 2, 11, 18	71	2-Chloronaphthalene	ug/L	ANR	NA	NONE	NONE	1,700	4,300	NONE	4300	No	NA	NA	NA	NA
1, 2, 11, 18	72	4-Chlorophenyl phenyl ether	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	73	Chrysene	ug/L	ANR	NA	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
1, 2, 11, 18	74	Dibenzo(a,h)anthracene	ug/L	ANR	NA	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
1, 2, 11, 18	75	1,2-Dichlorobenzene	ug/L	Available Data <DL	0.6	NONE	NONE	2,700	17,000	600	600	Yes	No	No	NA	No
1, 2, 11, 18	76	1,3-Dichlorobenzene	ug/L	Available Data <DL	0.6	NONE	NONE	400	2,600	NONE	2600	Yes	No	No	NA	No
1, 2, 11, 18	77	1,4-Dichlorobenzene	ug/L	Available Data <DL	0.6	NONE	NONE	400	2,600	5	5	Yes	No	No	NA	No
1, 2, 11, 18	78	3,3'-Dichlorobenzidine	ug/L	ANR	NA	NONE	NONE	0.04	0.077	NONE	0.077	No	NA	NA	NA	NA
1, 2, 11, 18	79	Diethyl phthalate	ug/L	ANR	NA	NONE	NONE	23,000	120,000	NONE	120000	No	NA	NA	NA	NA
1, 2, 11, 18	80	Dimethyl phthalate	ug/L	ANR	NA	NONE	NONE	313,000	2,900,000	NONE	2900000	No	NA	NA	NA	NA
1, 2, 11, 18	81	Di-n-butyl phthalate	ug/L	ANR	NA	NONE	NONE	2,700	12,000	NONE	12000	No	NA	NA	NA	NA
1, 2, 11, 18	83	2,6-Dinitrotoluene	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	84	Di-n-octyl phthalate	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	85	1,2-Diphenylhydrazine/Azobenzene	ug/L	ANR	NA	NONE	NONE	0.04	0.54	NONE	0.54	No	NA	NA	NA	NA
1, 2, 11, 18	86	Fluoranthene	ug/L	ANR	NA	NONE	NONE	300	370	NONE	370	No	NA	NA	NA	NA
1, 2, 11, 18	87	Fluorene	ug/L	ANR	NA	NONE	NONE	1,300	14,000	NONE	14000	No	NA	NA	NA	NA
1, 2, 11, 18	88	Hexachlorobenzene	ug/L	ANR	NA	NONE	NONE	0.00075	0.00077	1	0.00077	No	NA	NA	NA	NA
1, 2, 11, 18	89	Hexachlorobutadiene	ug/L	ANR	NA	NONE	NONE	0.44	50	NONE	50	No	NA	NA	NA	NA
1, 2, 11, 18	90	Hexachlorocyclopentadiene	ug/L	ANR	NA	NONE	NONE	240	17,000	50	50	No	NA	NA	NA	NA
1, 2, 11, 18	91	Hexachloroethane	ug/L	ANR	NA	NONE	NONE	1.9	8.9	NONE	8.9	No	NA	NA	NA	NA
1, 2, 11, 18	92	Indeno(1,2,3-cd)Pyrene	ug/L	ANR	NA	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
1, 2, 11, 18	93	Isophorone	ug/L	ANR	NA	NONE	NONE	8.4	600	NONE	600	No	NA	NA	NA	NA
1, 2, 11, 18	94	Naphthalene	ug/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	95	Nitrobenzene	ug/L	ANR	NA	NONE	NONE	17	1,900	NONE	1900	No	NA	NA	NA	NA
1, 2, 11, 18	97	n-Nitroso-di-n-propylamine	ug/L	ANR	NA	NONE	NONE	0.005	1.4	NONE	1.4	No	NA	NA	NA	NA
1, 2, 11, 18	98	N-Nitrosodiphenylamine	ug/L	ANR	NA	NONE	NONE	5	16	NONE	16	No	NA	NA	NA	NA
1, 2, 11, 18	99	Phenanthrene	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	100	Pyrene	ug/L	ANR	NA	NONE	NONE	960	11,000	NONE	11000	No	NA	NA	NA	NA
1, 2, 11, 18	101	1,2,4-Trichlorobenzene	ug/L	ANR	NA	NONE	NONE	NONE	NONE	70	70	No	NA	NA	NA	NA
1, 2, 11, 18	102	Aldrin	ug/L	ANR	NA	3	NONE	0.00013	0.00014	NONE	0.00014	No	NA	NA	NA	NA
1, 2, 11, 18	104	beta-BHC	ug/L	ANR	NA	NONE	NONE	0.014	0.046	NONE	0.046	No	NA	NA	NA	NA
1, 2, 11, 18	105	gamma-BHC (Lindane)	ug/L	ANR	NA	0.95	NONE	0.019	0.063	0.2	0.063	No	NA	NA	NA	NA
1, 2, 11, 18	106	delta-BHC	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
1, 2, 11, 18	107	Chlordane	ug/L	Available Data <DL	0.6	2.4	0.0043	0.00057	0.00059	0.1	0.00059	Yes	No	Yes	0.026	NA‡
1, 2, 11, 18	108	4,4'-DDT	ug/L	Available Data <DL	0.6	1.1	0.001	0.00059	0.00059	NONE	0.00059	Yes	No	Yes	0.0016	NA‡
1, 2, 11, 18	109	4,4'-DDE	ug/L	Available Data <DL	0.6	NONE	NONE	0.00059	0.00059	NONE	0.00059	Yes	No	Yes	0.0019	NA‡
1, 2, 11, 18	110	4,4'-DDD	ug/L	Available Data <DL	0.6	NONE	NONE	0.00083	0.00084	NONE	0.00084	Yes	No	Yes	0.0044	NA‡
1, 2, 11, 18	111	Dieldrin	ug/L	Available Data <DL	0.6	0.24	0.056	0.00014	0.00014	NONE	0.00014	Yes	No	Yes	0.0013	NA‡
1, 2, 11, 18	112	alpha-Endosulfan	ug/L	ANR	NA	0.22	0.056	110	240	NONE	0.056	No	NA	NA	NA	NA
1, 2, 11, 18	113	beta-Endosulfan	ug/L	ANR	NA	0.22	0.056	110	240	NONE	0.056	No	NA	NA	NA	NA
1, 2, 11, 18	114	Endosulfan Sulfate	ug/L	ANR	NA	NONE	NONE	110	240	NONE	240	No	NA	NA	NA	NA
1, 2, 11, 18	115	Endrin	ug/L	ANR	NA	0.086	0.036	0.76	0.81	2	0.036	No	NA	NA	NA	NA
1, 2, 11, 18	116	Endrin Aldehyde	ug/L	ANR	NA	NONE	NONE	0.76	0.81	NONE	0.81	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)

THIRD 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	117	Heptachlor	ug/L	ANR	NA	0.52	0.0038	0.00021	0.00021	0.01	0.00021	No	NA	NA	NA	NA
1, 2, 11, 18	118	Heptachlor Epoxide	ug/L	ANR	NA	0.52	0.0038	0.0001	0.00011	0.01	0.00011	No	NA	NA	NA	NA
1, 2, 11, 18	119	Aroclor 1016	ug/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.044	NA‡
1, 2, 11, 18	120	Aroclor 1221	ug/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.044	NA‡
1, 2, 11, 18	121	Aroclor 1232	ug/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.044	NA‡
1, 2, 11, 18	122	Aroclor 1242	ug/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.044	NA‡
1, 2, 11, 18	123	Aroclor 1248	ug/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.044	NA‡
1, 2, 11, 18	124	Aroclor 1254	ug/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.052	NA‡
1, 2, 11, 18	125	Aroclor 1260	ug/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.052	NA‡
1, 2, 11, 18	126	Toxaphene	ug/L	Available Data <DL	0.6	0.73	0.0002	0.00073	0.00075	3	0.0002	Yes	No	Yes	0.054	NA‡
1, 2, 11, 18	127	E. Coli	MPN/100ml	ANR	NA	NA	NA	NA	NA	235	235	No	NA	NA	NA	NA

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

TABLE F-2
REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 003-007, 009, AND 010)

THIRD 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				Basin Plan	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
						Freshwater		Human Health								
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
3-7, 9, 10	2	Arsenic	ug/L	ANR	NA	340	150	NONE	NONE	50	50	No	NA	NA	NA	NA
3-7, 9, 10	3	Beryllium	ug/L	ANR	NA	NONE	NONE	Narrative	Narrative	4	4	No	NA	NA	NA	NA
3-7, 9, 10	5a	Chromium	ug/L	ANR	NA	550	180	Narrative	Narrative	50	50	No	NA	NA	NA	NA
3-7, 9, 10	5b	Chromium VI (Hexavalent)	ug/L	ANR	NA	16	11	Narrative	Narrative	NONE	11	No	NA	NA	NA	NA
3-7, 9, 10	10	Selenium	ug/L	All Data Qualified	NA	Reserved	5	Narrative	Narrative	50	5	No	No	No	NA	No
3-7, 9, 10	11	Silver	ug/L	Available Data <DL	0.6	3.4	NONE	NONE	NONE	NONE	3.4	Yes	No	No	NA	No
3-7, 9, 10	15	Asbestos > 10 um	Fibers/L	ANR	NA	NONE	NONE	7,000,000	NONE	7,000,000	7000000	No	NA	NA	NA	NA
3-7, 9, 10	17	Acrolein	ug/L	ANR	NA	NONE	NONE	320	780	NONE	780	No	NA	NA	NA	NA
3-7, 9, 10	18	Acrylonitrile	ug/L	ANR	NA	NONE	NONE	0.059	0.66	NONE	0.66	No	NA	NA	NA	NA
3-7, 9, 10	19	Benzene	ug/L	ANR	NA	NONE	NONE	1.2	71	1	1	No	NA	NA	NA	NA
3-7, 9, 10	20	Bromoform	ug/L	ANR	NA	NONE	NONE	4.3	360	NONE	360	No	NA	NA	NA	NA
3-7, 9, 10	21	Carbon Tetrachloride	ug/L	ANR	NA	NONE	NONE	0.25	4.4	0.5	0.5	No	NA	NA	NA	NA
3-7, 9, 10	22	Chlorobenzene	ug/L	ANR	NA	NONE	NONE	680	21,000	70	70	No	NA	NA	NA	NA
3-7, 9, 10	23	Dibromochloromethane	ug/L	ANR	NA	NONE	NONE	0.401	34	NONE	34	No	NA	NA	NA	NA
3-7, 9, 10	24	Chloroethane	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	25	2-Chloroethyl vinyl ether	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	26	Chloroform	ug/L	ANR	NA	NONE	NONE	Reserved	Reserved	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	27	Dichlorobromomethane	ug/L	ANR	NA	NONE	NONE	0.56	46	NONE	46	No	NA	NA	NA	NA
3-7, 9, 10	28	1,1-Dichloroethane	ug/L	ANR	NA	NONE	NONE	NONE	NONE	5	5	No	NA	NA	NA	NA
3-7, 9, 10	29	1,2-Dichloroethane	ug/L	ANR	NA	NONE	NONE	0.38	99	0.5	0.5	No	NA	NA	NA	NA
3-7, 9, 10	30	1,1-Dichloroethene	ug/L	ANR	NA	NONE	NONE	0.057	3.2	6	3.2	No	NA	NA	NA	NA
3-7, 9, 10	31	1,2-Dichloropropane	ug/L	ANR	NA	NONE	NONE	0.52	39	5	5	No	NA	NA	NA	NA
3-7, 9, 10	32	cis-1,3-Dichloropropene	ug/L	ANR	NA	NONE	NONE	10	1,700	0.5	0.5	No	NA	NA	NA	NA
3-7, 9, 10	032a	trans-1,3-Dichloropropene	ug/L	ANR	NA	NONE	NONE	10	1,700	0.5	0.5	No	NA	NA	NA	NA
3-7, 9, 10	33	Ethylbenzene	ug/L	ANR	NA	NONE	NONE	3,100	29,000	700	700	No	NA	NA	NA	NA
3-7, 9, 10	34	Bromomethane (Methyl Bromide)	ug/L	ANR	NA	NONE	NONE	48	4,000	NONE	4000	No	NA	NA	NA	NA
3-7, 9, 10	35	Chloromethane (Methyl Chloride)	ug/L	ANR	NA	NONE	NONE	Narrative	Narrative	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	36	Methylene chloride	ug/L	ANR	NA	NONE	NONE	4.7	1,600	NONE	1600	No	NA	NA	NA	NA
3-7, 9, 10	37	1,1,2,2-Tetrachloroethane	ug/L	ANR	NA	NONE	NONE	0.17	11	1	1	No	NA	NA	NA	NA
3-7, 9, 10	38	Tetrachloroethene	ug/L	ANR	NA	NONE	NONE	0.8	8.85	5	5	No	NA	NA	NA	NA
3-7, 9, 10	39	Toluene	ug/L	ANR	NA	NONE	NONE	6,800	200,000	150	150	No	NA	NA	NA	NA
3-7, 9, 10	40	trans-1,2-Dichloroethene	ug/L	ANR	NA	NONE	NONE	700	140,000	10	10	No	NA	NA	NA	NA
3-7, 9, 10	41	1,1,1-Trichloroethane	ug/L	ANR	NA	NONE	NONE	Narrative	Narrative	200	200	No	NA	NA	NA	NA
3-7, 9, 10	42	1,1,2-trichloroethane	ug/L	ANR	NA	NONE	NONE	0.6	42	5	5	No	NA	NA	NA	NA
3-7, 9, 10	43	Trichloroethene	ug/L	ANR	NA	NONE	NONE	2.7	81	5	5	No	NA	NA	NA	NA
3-7, 9, 10	44	Vinyl chloride	ug/L	ANR	NA	NONE	NONE	2	525	0.5	0.5	No	NA	NA	NA	NA

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

TABLE F-2
REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 003-007, 009, AND 010)

THIRD 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				Basin Plan	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
						Freshwater		Human Health								
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
3-7, 9, 10	45	2-chlorophenol	ug/L	ANR	NA	NONE	NONE	120	400	NONE	400	No	NA	NA	NA	NA
3-7, 9, 10	46	2,4-Dichlorophenol	ug/L	ANR	NA	NONE	NONE	93	790	NONE	790	No	NA	NA	NA	NA
3-7, 9, 10	47	2,4-dimethylphenol	ug/L	ANR	NA	NONE	NONE	540	2,300	NONE	2300	No	NA	NA	NA	NA
3-7, 9, 10	48	2-Methyl-4,6-dinitrophenol	ug/L	ANR	NA	NONE	NONE	13.4	765	NONE	765	No	NA	NA	NA	NA
3-7, 9, 10	49	2,4-dinitrophenol	ug/L	ANR	NA	NONE	NONE	70	14,000	NONE	14000	No	NA	NA	NA	NA
3-7, 9, 10	50	2-nitrophenol	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	51	4-nitrophenol	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	52	4-Chloro-3-methylphenol	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	53	Pentachlorophenol	ug/L	ANR	NA	pH dependent	pH dependent	0.28	8.2	1	1	No	NA	NA	NA	NA
3-7, 9, 10	54	Phenol	ug/L	ANR	NA	NONE	NONE	21,000	4,600,000	NONE	4600000	No	NA	NA	NA	NA
3-7, 9, 10	55	2,4,6-Trichlorophenol	ug/L	ANR	NA	NONE	NONE	2.1	6.5	NONE	6.5	No	NA	NA	NA	NA
3-7, 9, 10	56	Acenaphthene	ug/L	ANR	NA	NONE	NONE	1,200	2,700	NONE	2700	No	NA	NA	NA	NA
3-7, 9, 10	57	Acenaphthylene	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	58	Anthracene	ug/L	ANR	NA	NONE	NONE	9,600	110,000	NONE	110000	No	NA	NA	NA	NA
3-7, 9, 10	59	Benzidine	ug/L	ANR	NA	NONE	NONE	0.00012	0.00054	NONE	0.00054	No	NA	NA	NA	NA
3-7, 9, 10	60	Benzo(a)Anthracene	ug/L	ANR	NA	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
3-7, 9, 10	61	Benzo(a)Pyrene	ug/L	ANR	NA	NONE	NONE	0.0044	0.049	0.2	0.049	No	NA	NA	NA	NA
3-7, 9, 10	62	Benzo(b)Fluoranthene	ug/L	ANR	NA	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
3-7, 9, 10	63	Benzo(g,h,i)Perylene	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	64	Benzo(k)Fluoranthene	ug/L	ANR	NA	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
3-7, 9, 10	65	Bis (2-Chloroethoxy) methane	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	66	bis (2-Chloroethyl) ether	ug/L	ANR	NA	NONE	NONE	0.031	1.4	NONE	1.4	No	NA	NA	NA	NA
3-7, 9, 10	67	Bis (2-Chloroisopropyl) Ether	ug/L	ANR	NA	NONE	NONE	1,400	170,000	NONE	170000	No	NA	NA	NA	NA
3-7, 9, 10	68	bis (2-ethylhexyl) Phthalate	ug/L	ANR	NA	NONE	NONE	1.8	5.9	4	4	No	NA	NA	NA	NA
3-7, 9, 10	69	4-Bromophenyl phenyl ether	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	70	Butyl benzylphthalate	ug/L	ANR	NA	NONE	NONE	3,000	5,200	NONE	5200	No	NA	NA	NA	NA
3-7, 9, 10	71	2-Chloronaphthalene	ug/L	ANR	NA	NONE	NONE	1,700	4,300	NONE	4300	No	NA	NA	NA	NA
3-7, 9, 10	72	4-Chlorophenyl phenyl ether	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	73	Chrysene	ug/L	ANR	NA	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
3-7, 9, 10	74	Dibenzo(a,h)anthracene	ug/L	ANR	NA	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
3-7, 9, 10	75	1,2-Dichlorobenzene	ug/L	ANR	NA	NONE	NONE	2,700	17,000	600	600	No	NA	NA	NA	NA
3-7, 9, 10	76	1,3-Dichlorobenzene	ug/L	ANR	NA	NONE	NONE	400	2,600	NONE	2600	No	NA	NA	NA	NA
3-7, 9, 10	77	1,4-Dichlorobenzene	ug/L	ANR	NA	NONE	NONE	400	2,600	5	5	No	NA	NA	NA	NA
3-7, 9, 10	78	3,3'-Dichlorobenzidine	ug/L	ANR	NA	NONE	NONE	0.04	0.077	NONE	0.077	No	NA	NA	NA	NA
3-7, 9, 10	79	Diethyl phthalate	ug/L	ANR	NA	NONE	NONE	23,000	120,000	NONE	120000	No	NA	NA	NA	NA
3-7, 9, 10	80	Dimethyl phthalate	ug/L	ANR	NA	NONE	NONE	313,000	2,900,000	NONE	2900000	No	NA	NA	NA	NA
3-7, 9, 10	81	Di-n-butyl phthalate	ug/L	ANR	NA	NONE	NONE	2,700	12,000	NONE	12000	No	NA	NA	NA	NA
3-7, 9, 10	82	2,4-Dinitrotoluene	ug/L	ANR	NA	NONE	NONE	0.11	9.1	NONE	9.1	No	NA	NA	NA	NA
3-7, 9, 10	83	2,6-Dinitrotoluene	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	84	Di-n-octyl phthalate	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	85	1,2-Diphenylhydrazine/Azobenzene	ug/L	ANR	NA	NONE	NONE	0.04	0.54	NONE	0.54	No	NA	NA	NA	NA
3-7, 9, 10	86	Fluoranthene	ug/L	ANR	NA	NONE	NONE	300	370	NONE	370	No	NA	NA	NA	NA
3-7, 9, 10	87	Fluorene	ug/L	ANR	NA	NONE	NONE	1,300	14,000	NONE	14000	No	NA	NA	NA	NA
3-7, 9, 10	88	Hexachlorobenzene	ug/L	ANR	NA	NONE	NONE	0.00075	0.00077	1	0.00077	No	NA	NA	NA	NA
3-7, 9, 10	89	Hexachlorobutadiene	ug/L	ANR	NA	NONE	NONE	0.44	50	NONE	50	No	NA	NA	NA	NA
3-7, 9, 10	90	Hexachlorocyclopentadiene	ug/L	ANR	NA	NONE	NONE	240	17,000	50	50	No	NA	NA	NA	NA
3-7, 9, 10	91	Hexachloroethane	ug/L	ANR	NA	NONE	NONE	1.9	8.9	NONE	8.9	No	NA	NA	NA	NA
3-7, 9, 10	92	Indeno(1,2,3-cd)Pyrene	ug/L	ANR	NA	NONE	NONE	0.0044	0.049	NONE	0.049	No	NA	NA	NA	NA
3-7, 9, 10	93	Isophorone	ug/L	ANR	NA	NONE	NONE	8.4	600	NONE	600	No	NA	NA	NA	NA

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

TABLE F-2
REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 003-007, 009, AND 010)

THIRD 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				Basin Plan	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
						Freshwater		Human Health								
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
3-7, 9, 10	94	Naphthalene	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	95	Nitrobenzene	ug/L	ANR	NA	NONE	NONE	17	1,900	NONE	1900	No	NA	NA	NA	NA
3-7, 9, 10	96	N-Nitrosodimethylamine	ug/L	ANR	NA	NONE	NONE	0.00069	8.1	NONE	8.1	No	NA	NA	NA	NA
3-7, 9, 10	97	n-Nitroso-di-n-propylamine	ug/L	ANR	NA	NONE	NONE	0.005	1.4	NONE	1.4	No	NA	NA	NA	NA
3-7, 9, 10	98	N-Nitrosodiphenylamine	ug/L	ANR	NA	NONE	NONE	5	16	NONE	16	No	NA	NA	NA	NA
3-7, 9, 10	99	Phenanthrene	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	100	Pyrene	ug/L	ANR	NA	NONE	NONE	960	11,000	NONE	11000	No	NA	NA	NA	NA
3-7, 9, 10	101	1,2,4-Trichlorobenzene	ug/L	ANR	NA	NONE	NONE	NONE	NONE	70	70	No	NA	NA	NA	NA
3-7, 9, 10	102	Aldrin	ug/L	ANR	NA	3	NONE	0.00013	0.00014	NONE	0.00014	No	NA	NA	NA	NA
3-7, 9, 10	103	alpha-BHC	ug/L	ANR	NA	NONE	NONE	0.0039	0.013	NONE	0.013	No	NA	NA	NA	NA
3-7, 9, 10	104	beta-BHC	ug/L	ANR	NA	NONE	NONE	0.014	0.046	NONE	0.046	No	NA	NA	NA	NA
3-7, 9, 10	105	gamma-BHC (Lindane)	ug/L	ANR	NA	0.95	NONE	0.019	0.063	0.2	0.063	No	NA	NA	NA	NA
3-7, 9, 10	106	delta-BHC	ug/L	ANR	NA	NONE	NONE	NONE	NONE	NONE	NONE	No	NA	NA	NA	NA
3-7, 9, 10	107	Chlordane	ug/L	ANR	NA	2.4	0.0043	0.00057	0.00059	0.1	0.00059	No	NA	NA	NA	NA
3-7, 9, 10	108	4,4'-DDT	ug/L	ANR	NA	1.1	0.001	0.00059	0.00059	NONE	0.00059	No	NA	NA	NA	NA
3-7, 9, 10	109	4,4'-DDE	ug/L	ANR	NA	NONE	NONE	0.00059	0.00059	NONE	0.00059	No	NA	NA	NA	NA
3-7, 9, 10	110	4,4'-DDD	ug/L	ANR	NA	NONE	NONE	0.00083	0.00084	NONE	0.00084	No	NA	NA	NA	NA
3-7, 9, 10	111	Dieldrin	ug/L	ANR	NA	0.24	0.056	0.00014	0.00014	NONE	0.00014	No	NA	NA	NA	NA
3-7, 9, 10	112	alpha-Endosulfan	ug/L	ANR	NA	0.22	0.056	110	240	NONE	0.056	No	NA	NA	NA	NA
3-7, 9, 10	113	beta-Endosulfan	ug/L	ANR	NA	0.22	0.056	110	240	NONE	0.056	No	NA	NA	NA	NA
3-7, 9, 10	114	Endosulfan Sulfate	ug/L	ANR	NA	NONE	NONE	110	240	NONE	240	No	NA	NA	NA	NA
3-7, 9, 10	115	Endrin	ug/L	ANR	NA	0.086	0.036	0.76	0.81	2	0.036	No	NA	NA	NA	NA
3-7, 9, 10	116	Endrin Aldehyde	ug/L	ANR	NA	NONE	NONE	0.76	0.81	NONE	0.81	No	NA	NA	NA	NA
3-7, 9, 10	117	Heptachlor	ug/L	ANR	NA	0.52	0.0038	0.00021	0.00021	0.01	0.00021	No	NA	NA	NA	NA
3-7, 9, 10	118	Heptachlor Epoxide	ug/L	ANR	NA	0.52	0.0038	0.0001	0.00011	0.01	0.00011	No	NA	NA	NA	NA
3-7, 9, 10	119	Aroclor 1016	ug/L	ANR	NA	NONE	0.014	0.00017	0.00017	0.5	0.00017	No	NA	NA	NA	NA
3-7, 9, 10	120	Aroclor 1221	ug/L	ANR	NA	NONE	0.014	0.00017	0.00017	0.5	0.00017	No	NA	NA	NA	NA
3-7, 9, 10	121	Aroclor 1232	ug/L	ANR	NA	NONE	0.014	0.00017	0.00017	0.5	0.00017	No	NA	NA	NA	NA
3-7, 9, 10	122	Aroclor 1242	ug/L	ANR	NA	NONE	0.014	0.00017	0.00017	0.5	0.00017	No	NA	NA	NA	NA
3-7, 9, 10	123	Aroclor 1248	ug/L	ANR	NA	NONE	0.014	0.00017	0.00017	0.5	0.00017	No	NA	NA	NA	NA
3-7, 9, 10	124	Aroclor 1254	ug/L	ANR	NA	NONE	0.014	0.00017	0.00017	0.5	0.00017	No	NA	NA	NA	NA
3-7, 9, 10	125	Aroclor 1260	ug/L	ANR	NA	NONE	0.014	0.00017	0.00017	0.5	0.00017	No	NA	NA	NA	NA
3-7, 9, 10	126	Toxaphene	ug/L	ANR	NA	0.73	0.0002	0.00073	0.00075	3	0.0002	No	NA	NA	NA	NA
3-7, 9, 10	127	E. Coli	MPN/100ml	ANR	NA	NA	NA	NA	NA	235	235	No	NA	NA	NA	NA

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

TABLE F-3
REASONABLE POTENTIAL ANALYSIS - NON-PRIORITY POLLUTANTS (OUTFALLS 003-007, 009, AND 010)

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

Outfall	Constituent	Monitoring	Units	Number of Samples	MEC	CV	Multiplier	Projected Maximum Effluent Concentration (99/99)	Dilution Ratio	Background Concentration	Projected Maximum Receiving Water Concentration	Step 1, Determine Water Quality Objectives	BU - Beneficial use protection NC - Human noncarcinogen AP - Aquatic life protection TMDL - Total Maximum Daily Load
3-7, 9, 10	Total Suspended Solids	Annual	mg/L	1.00	18	0.60	13.2	237.6	0	0	237.6	45	BU

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

APPENDIX G

Third Quarter 2023 Receiving Water Surveys

TABLE G
RECEIVING WATER SURVEYS

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

July 1 through September 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.

THIRD QUARTER 2023 ARROYO SIMI OBSERVATIONS AT ARROYO SIMI			
ARROYO SIMI OBSERVATIONS	**JULY**	**AUGUST**	**SEPTEMBER**
Date and time of inspection	N/A	8/21/2023, 09:30	N/A
Weather conditions	N/A	Overcast, cool, 68°F	N/A
Color of water	N/A	Brown	N/A
Appearance of oil films or grease, or floatable materials	N/A	None	N/A
Extent of visible turbidity or color patches	N/A	Uniform translucent	N/A
Description of odor, if any	N/A	None	N/A
Presence or activity of California Least Tern or California Brown Pelican	N/A	No	N/A
Upstream Surface Water Temperature*	N/A	66.0°	N/A
Upstream Surface Water pH*	N/A	7.41	N/A

Notes:
N/A = not applicable. Since Outfall 009 did not flow during the months of July and September, no monthly inspection was required at Arroyo Simi.

THIRD QUARTER 2023 BELL CREEK OBSERVATIONS AT OUTFALL 002			
BELL CREEK OBSERVATIONS	**JULY**	**AUGUST**	**SEPTEMBER**
Date and time of inspection	N/A	8/21/2023, 08:10	9/15/2023, 07:55
Weather conditions	N/A	Overcast, cool, 66°F	Overcast, cool, 64°F
Color of water	N/A	Slight brown	Slight brown
Appearance of oil films or grease, or floatable materials	N/A	None	None
Extent of visible turbidity or color patches	N/A	Uniform translucent	Uniform translucent
Description of odor, if any	N/A	None	None
Presence or activity of California Least Tern or California Brown Pelican	N/A	No	No

Notes:
N/A = not applicable. Since Outfall 002 did not flow during the month of July, no monthly inspection was required at Outfall 002.

THIRD QUARTER 2023 DAYTON CANYON CREEK OBSERVATIONS AT OUTFALL 008			
DAYTON CANYON CREEK OBSERVATIONS	**JULY**	**AUGUST**	**SEPTEMBER**
Date and time of inspection	N/A	N/A	N/A
Weather conditions	N/A	N/A	N/A
Color of water	N/A	N/A	N/A
Appearance of oil films or grease, or floatable materials	N/A	N/A	N/A
Extent of visible turbidity or color patches	N/A	N/A	N/A
Description of odor, if any	N/A	N/A	N/A
Presence or activity of California Least Tern or California Brown Pelican	N/A	N/A	N/A

Notes:
N/A = not applicable. Since Outfall 008 did not flow during the months of July, August, or September, no monthly inspection was required at Outfall 008.

APPENDIX H

Annual Comprehensive Sitewide Compliance Evaluation Report

APPENDIX H

ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION REPORT
REPORTING YEAR 1 JULY 2022 THROUGH 30 JUNE 2023

This Annual Comprehensive Site Compliance Evaluation Report (Annual Evaluation) was prepared for The Boeing Company (Boeing) Santa Susana Field Laboratory (Site), located in Simi Hills, Ventura County, California in general accordance with Attachment G (Section IX.D.) of the Site's Waste Discharge Requirements (National Pollutant Discharge Elimination System [NPDES] Permit No. CA0001309, CI No. 6027). This Annual Evaluation evaluates compliance with the Site-Wide Stormwater Pollution Prevention Plan (SWPPP) during reporting year 1 July 2022 through 30 June 2023. The Annual Evaluation was conducted between 11 and 17 July 2023 by Mark Dominick, P.G., QSD and Stephen Schiller, both of Haley & Aldrich, Inc.

REVIEW OF VISUAL OBSERVATION RECORDS, INSPECTION RECORDS, AND SAMPLING AND ANALYSIS RESULTS

For the reporting year, the Inspectors reviewed all inspection forms during the Annual Evaluation, up to June 2023, that documented inspections/visual observations. Each inspection form was complete or revised as needed. A process exists and has been implemented for non-compliance items to be properly evaluated and corrected.

Sampling and analysis results were evaluated in each quarterly Discharge Monitoring Report (DMR).

POTENTIAL POLLUTANT SOURCE VISUAL INSPECTION

For the reporting year, the Inspectors conducted visual inspections at the Site during the Annual Evaluation at buildings, equipment, and surrounding areas to evaluate the status of existing potential pollutant sources. The Inspectors confirmed that areas where known potential pollutants exist have appropriate best management practices (BMPs) installed and maintained to minimize and/or eliminate the potential for pollutant releases to reach the drainage system. No additional BMPs are required at this time. No additional buildings, equipment, or surrounding areas were identified that require BMPs.

BEST MANAGEMENT PRACTICE REVIEW

For the reporting year, the Inspectors reviewed and evaluated the structural and non-structural BMPs at the Site during the Annual Evaluation. The Inspectors determined the BMPs were adequate, properly implemented, required minor maintenance, and were in compliance with the SWPPP and BMP plan. The Inspectors observed minor amounts of sediment delivered or accumulated around sediment control BMPs due to the upstream areas being well-vegetated with a diversity of plants. The on-site evaluation did result in recommendations which the Inspectors identified on the inspection forms and verified that the corrective actions were completed prior to the issuance of the Third Quarter DMR, with the exception of the recommendation to remove accumulated sediment from behind check structures in several site drainages. Check structures have begun to be cleared now that the Los Angeles Regional Water Quality Control Board (Regional Board) has issued a Clean Water Act Section 401 Water Quality Certification (401C) approving the work.

APPENDIX H

ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION REPORT
REPORTING YEAR 1 JULY 2022 THROUGH 30 JUNE 2023

SWPPP REVISIONS AND SCHEDULE

The Regional Board adopted the 2015 NPDES Permit No. R4-2015-0033 on 12 February 2015, effective 1 April 2015, to revise the existing 2010 NPDES Permit No. R4-2010-0090. Version 10 of the SWPPP will be completed in the fall of 2023 based on observations made during the Annual Evaluation and include the following revisions:

- Updated text to Santa Susana Site Areas (Section 2.3);
- Updated text to Surface Water Ponds (Section 2.4.1);
- Updated text to Surface Water Monitoring Locations (Section 2.4.3);
- Updated text to Active Areas (Section 2.6);
- Updated text to Significant Materials and Potential Sources (Sections 2.8.1.1 through 2.8.1.4);
- Updated text to Non-Stormwater Discharges (Section 2.8.4);
- Added Trash section (Section 2.8.7);
- Updated text to Non-Stormwater Discharges (Section 3.1.3)
- Updated text to Pollutants with Potential to be Present (Section 3.2);
- Updated text to Structural BMPs (Sections 4.2, 4.2.1, and 4.2.2);
- Added text to New BMPs to be Implemented (Section 4.3);
- Updated text to the Sampling and Analysis Plan section;
- Updated figures;
- Updated Significant Materials Inventory (Appendix C); and
- Updated Spill Prevention and Response Plan (Appendix E).

NON-COMPLIANCE INCIDENTS AND CORRECTIVE ACTIONS TAKEN

As part of the Annual Evaluation, the Inspectors reviewed the non-compliance issues (Permit Limit exceedances) discussed in the DMRs and reviewed the corrective actions. The Inspectors have determined that the corrective actions were appropriate and have been completed. During the onsite portion of the annual evaluation, minor recommendations were made to Boeing and the Inspectors have determined that the recommendations were either completed prior to the issuance of the Third Quarter DMR or will be scheduled to be completed following implementing activities covered under the 401C.

CERTIFICATION

Per NPDES Permit Appendix G, Section IX.D, the signature and certification requirements for this evaluation report are included in the DMR text.