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

Via FedEx to losangeles@waterboards.ca.gov
February 15, 2022
Information Technology Unit
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, California 90013

Subject: Fourth Quarter 2021 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 October 1 through December 31 (Fourth Quarter 2021). 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

FOURTH QUARTER 2021 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 Fourth Quarter 2021. Table I summarizes the Fourth Quarter 2021 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 Fourth Quarter 2021 sample results that exceeded NPDES Permit Limits, Benchmarks, and Receiving Water Limits, and the potential causes thereof.
- **Stormwater Treatment System at Outfall 011 Activities:** This section summarizes the Fourth Quarter 2021 activities at the stormwater treatment system (SWTS) at Outfall 011.
- **Stormwater Treatment System at Outfall 018 Activities:** This section summarizes the Fourth Quarter 2021 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 Fourth Quarter 2021 as well as activities associated with NASA, DOE, the Stormwater Expert Panel (Expert Panel), NASA and Boeing BMP Monitoring-related activities, the Northern Drainage, the Outfall 001/002 BMP Compliance Report, and Other BMP Activities. Table II summarizes typical BMP-related activities that occur at outfalls every quarter. Table III summarizes specific BMP activities completed during the Fourth Quarter 2021 by location.
- **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 Fourth Quarter 2021.
- **Appendix B** tabulates waste shipments during the Fourth Quarter 2021.
- **Appendix C** presents chemical analytical results from the Fourth Quarter 2021 stormwater and/or receiving water sample discharge monitoring in tabular form by outfall locations, constituents evaluated (analytes), sample dates, and data validation qualifiers.
- **Appendix D** summarizes the NPDES Permit limit, benchmark, and Receiving Water limit exceedances.
- **Appendix E** contains copies of the laboratory analytical reports, chain-of-custody forms, and data validation reports (if validation was performed).
- **Appendix F** tabulates the Reasonable Potential Analysis.
- **Appendix G** presents the observations of the receiving water monitoring program required by the NPDES Permit and includes the Arroyo Simi, Bell Creek, and Dayton Canyon surveys.

DISCHARGE AND SAMPLE COLLECTION SUMMARY

The Santa Susana Site had five qualifying rain events during the Fourth Quarter 2021 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). The fifth qualifying rain event produced 11.80 inches of rain. Automated flow-weighted composite samplers (autosamplers) were set in preparation for all rain events. Two qualifying rain events produced stormwater discharges. Stormwater samples were collected at Outfalls 001, 002, 008, 009, 011, and 018 in one or more rain events or stormwater treatment system discharge events this quarter. There were no changes in the discharge as described in the NPDES Permit during the reporting period.

In addition to outfall sampling, receiving water samples were collected. An offsite receiving water sample was collected at the Arroyo Simi location (RSW-002, Frontier Park; see Figure 2) and an onsite receiving water sample was collected at the Bell Creek location (RSW-001, Outfall 002, see Figure 1).

Table I summarizes the Fourth Quarter 2021 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 Fourth Quarter 2021

Date	Outfall/Location	Sample Frequency	Sample Type
12/13-12/16/2021	Outfall 009	Annual, Toxicity	Grab, Composite
12/22-12/31/2021	Outfall 001	Annual, Toxicity	Grab, Composite
	Outfall 002	Annual, Toxicity	Grab, Composite
	Bell Creek Receiving Water (RSW-001, Outfall 002)	Annual	Grab
	Outfall 008	Annual, Toxicity	Grab, Composite
	Outfall 009	Routine, Toxicity	Grab, Composite
	Outfall 011	Annual, Toxicity	Grab, Composite
	Outfall 018	Annual, Toxicity	Grab, Composite
	Arroyo Simi Receiving Water (RSW-002, Frontier Park)	Quarterly	Grab

Notes:

Routine = 1 per discharge event.

Toxicity is required during the 1st and 2nd Rain or Flow 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 Fourth Quarter 2021 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.

FOURTH QUARTER 2021 SUMMARY OF EXCEEDANCES AND/OR NON-COMPLIANCE

The Fourth Quarter 2021 exceedances of Daily Maximum benchmarks, Daily Maximum Permit limits, Receiving Water limits (Appendix D), or other non-compliance included:

- Manganese, iron, and dioxins (TCDD) Toxic Equivalent (TEQ) at Outfall 001;
- Iron at Outfall 002;
- Copper[1] and chronic toxicity at Outfall 009;
- *E. coli at* Arroyo Simi – Frontier Park (RSW-002);
- Iron, manganese, and TCDD TEQ at Outfall 011; and
- Biochemical oxygen demand at Outfall 018.

Outfall 001

Metals: Manganese and Iron

On December 26, 2021, a stormwater sample was collected from Outfall 001. Manganese was detected at 110 micrograms per liter (µg/L), above the Daily Maximum Benchmark of 50 µg/L, and iron was detected at 7.1 milligrams per liter (mg/L), above the Daily Maximum Benchmark of 0.3 mg/L.

The industrial areas upstream of Outfall 001 are monitored at Outfall 011. Given that Outfall 011 did not produce flow at the time of the December 26 sample; industrial operations were not conducted below Outfall 011 or between Outfall 011 and Outfall 001; the property in the watershed between Outfall 011 and Outfall 001 includes little to no industrial materials, equipment, activities, or developed areas; and that the primary developed surfaces in that area are dirt roads. Boeing believes the higher metals concentrations at Outfall 001 during the Fourth Quarter 2021 are attributable to erosion of site soils containing natural background concentrations of iron and manganese. This conclusion is consistent with the findings in prior site studies conducted by the Stormwater Expert Panel which confirmed that manganese and iron are naturally occurring in site soils unrelated to former industrial operations and was based on methods discussed in the 2019 and 2020 Expert Panel Annual Reports, which compared the particulate strengths in stormwater samples to solids concentration in potential source material samples indicating that natural background soils are the likely source of manganese and iron exceedances.

Dioxins (TCDD) Toxic Equivalent (TEQ)

On December 26, 2021, TCDD TEQ was calculated in a stormwater sample collected from Outfall 001 at 2.9E-08 µg/L, which is slightly above the Daily Maximum Benchmark of 2.8E-08 µg/L.

Boeing believes the elevated dioxin concentrations at Outfall 001 during the Fourth Quarter 2021 are attributable to non-industrial sources, such as road runoff and soils adjacent to telephone/utility poles (treated wood). This conclusion is consistent with the findings in prior site studies conducted by the Stormwater Expert Panel based on methods discussed in the 2019 and 2020 Expert Panel Annual Reports, which compared the particulate strengths in stormwater samples to solids concentration in potential source material samples indicating that natural background soils, soil near treated wood, and/or road runoff were the likely sources of TCDD TEQ in samples exceeding permit limits. Due to the lack of rain in 2020/2021, the Expert Panel recommended in their 2021 Annual Report to continue BMP and subarea monitoring and moving treated wood utility pole BMPs (i.e., wattles, biobags) further from the poles to better contain pole-impacted soils. Boeing is conducting the recommended monitoring.

[1] As discussed below, the copper detection appears to be a laboratory error as it could not be repeated by the laboratory.

Outfall 002

Metals: Iron

On December 26, 2021, a stormwater sample was collected from Outfall 002. Iron was detected at 2.5 mg/L, above the Daily Maximum Benchmark of 0.3 mg/L.

The industrial areas upstream of Outfall 002 are monitored at Outfall 018. Given the absence of metals exceedances at Outfall 018 and because the property in the watershed between Outfall 018 and Outfall 002 similarly lacks industrial materials, equipment, activities, or developed areas, Boeing believes that the higher iron concentration at Outfall 002 during the Fourth Quarter 2021 is attributable to erosion of site soils containing natural background concentrations of iron. This conclusion is consistent with the findings in prior site studies conducted by the Stormwater Expert Panel which confirmed that iron is naturally occurring in site soils unrelated to former industrial operations and was based on methods discussed in the 2019 and 2020 Expert Panel Annual Reports, which compared the particulate strengths in stormwater samples to solids concentration in potential source material samples indicating that natural background soils are the likely source of iron exceedances.

Outfall 009

Metals: Copper

On December 15, 2021, a stormwater sample was collected from Outfall 009. Copper was detected at 15 µg/L, slightly above the Daily Maximum Permit Limit of 13 µg/L.

The cause of the higher copper concentration at Outfall 009 during the Fourth Quarter 2021 is unknown and further source investigation and data analysis is ongoing. The laboratory reanalyzed the sample and copper was detected at 6.5 µg/L, which is well below the Daily Maximum Permit Limit of 13 µg/L. To date, the laboratory has not been able to reconcile the two results. Boeing has requested the Expert Panel to investigate potential sources.

Chronic Toxicity

A chronic toxicity test conducted on stormwater collected from Outfall 009 on December 26, 2021, indicated a result of Fail with a % Effect of 57.52%, which is above the Daily Maximum Permit Limit of Pass or % Effect <50%.

Based on this sample result, the laboratory initiated the Toxicity Identification Evaluation (TIE) process as part of Boeing's Initial Toxicity Reduction Evaluation (TRE) Work Plan and reanalyzed the December 26 sample to establish a baseline for the TIE (Haley & Aldrich, 2015). The baseline toxicity was reported as Pass with a % Effect of 20.49%. Because the chronic toxicity test from December 26 failed but the baseline toxicity passed, the detection is considered episodic and the TRE process was ended.

Arroyo Simi – Frontier Park (RSW-002)

Bacteria

Boeing understands that the data collected at Arroyo Simi – Frontier Park (RSW-002), which is approximately 4 miles downstream of the site, is used by the Water Board for TMDL calculations; however, inclusion of these calculations do not yield statistically meaningful data for the Santa Susana Site because bacterial inputs into Arroyo Simi originate from multiple points including natural wildlife and other upgradient sources (e.g., a dog park). Boeing did not collect the *E. coli* samples for the geometric mean calculation, so an annual geomean cannot be calculated for Arroyo Simi – Frontier Park (RSW-002) in 2021.

During calendar year 2022, Boeing will improve their quality assurance/quality control protocols to ensure these samples are collected. Weather permitting, Boeing will attempt to collect an additional round of samples for calculation of the geomean in First Quarter 2022.

Outfall 011

Metals: Iron and Manganese

On December 30, 2021, a stormwater sample was collected from Outfall 011. Iron was detected at 5.1 mg/L, above the Daily Maximum Permit Limits of 0.3 mg/L; and manganese was detected at 100 µg/L, above the Daily Maximum Permit Limit of 50 µg/L. Additionally, iron was calculated with mass loading of 526 pounds per day (lbs/day), above the mass-based Daily Maximum Permit Limit of 295 lbs/day.

Boeing believes the higher iron and manganese concentrations at Outfall 011 during the Fourth Quarter 2021 are attributable to increased erosion of natural soils. This conclusion is consistent with the findings in prior site studies conducted by the Stormwater Expert Panel which confirmed that manganese and iron are naturally occurring in site soils unrelated to former industrial operations and was based on methods discussed in the 2019 and 2020 Expert Panel Annual Reports, which compared the particulate strengths in stormwater samples to solids concentration in potential source material samples indicating that natural background soils are the likely source of manganese and iron exceedances.

Dioxins (TCDD) Toxic Equivalent (TEQ)

On December 30, 2021, TCDD TEQ was calculated in a stormwater sample collected from Outfall 011 at 3.9E-08 µg/L, which is above the Daily Maximum Benchmark of 2.8E-08 µg/L.

Boeing believes the elevated dioxin concentrations at Outfall 011 during the Fourth Quarter 2021 are attributable to non-industrial sources, such as road runoff and soils adjacent to telephone/utility poles (treated wood). This conclusion is consistent with the findings in prior site studies conducted by the Stormwater Expert Panel based on methods discussed in the 2019 and 2020 Expert Panel Annual Reports, which compared the particulate strengths in stormwater samples to solids concentration in potential source material samples indicating that natural background soils, soil near treated wood, and/or road runoff were the likely sources of TCDD TEQ in samples exceeding permit limits. Due to the lack of rain in 2020/2021, the Expert Panel recommended in their 2021 Annual Report to continue BMP and subarea monitoring and moving treated wood utility pole BMPs (i.e., wattles, biobags) further from the poles to better contain pole-impacted soils. Boeing is conducting the recommended monitoring.

Outfall 018

Biochemical Oxygen Demand

On December 28, 2021, a stormwater sample was collected from Outfall 018 during the stormwater treatment system discharge event. Biochemical oxygen demand (BOD) was detected at 66 mg/L, above the Daily Maximum Permit Limit of 30 mg/L.

Boeing has examined the field logs, physical parameter data, and analytical reports, and believes this analytical result to be anomalous for the following reasons:

- Dissolved oxygen (DO) concentrations compared to the BOD result: typically, a high DO result correlates to a low BOD result. At the time of collection from the autosampler, dissolved oxygen concentrations were near saturated concentrations (7.96 mg/L). Saturated (elevated) DO conditions are inconsistent with elevated BOD.
- Inconsistencies with the monitoring record: BOD exceedances have not been observed at Outfall 018 previously. BOD has never been detected above 10 mg/L at Outfall 018, including in samples collected prior

to the SWTS being built. Since the SWTS began operation, BOD has not been detected above 3 mg/L prior to this sample result.

- Possible natural sources: possible natural sources include decaying vegetation or waterfowl waste. The pond sediment is not known to contain oxygen depleting constituents.
- Potential analytical error: The laboratory ran multiple dilutions, each dilution yielded contradictory BOD results with the final reported result conducted outside of the holding time.

Boeing also conducted a visual inspection of the conveyance infrastructure in the immediate vicinity of the discharge point and the autosampler location to ensure that a build-up of bacterial growth or algae had not occurred in the post filtration system that could have contributed to this anomalous data point. While no build-up of biological material was observed at the time of this inspection, it should be noted that the pond has occasionally contained algae blooms in the past. Boeing will conduct an additional dry season visual inspection of the discharge point and autosampler location to evaluate if visible biological growth has accumulated during the dry season.

Given the lack of prior historical exceedances at Outfall 018 and the inconsistency of the results with DO concentration, Boeing believes the most likely the explanation is possible natural sources or laboratory error.

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 Fourth Quarter 2021 as follows:

- Removed the iron air release valves from the GAC and installed manual stainless steel valves.
- Trimmed tree branches away from electrical conduits and chemical lines by the GAC.
- Installed new isolation valves on the microsand pumps.

SWTS 011 did not operate in the Fourth Quarter 2021.

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 Fourth Quarter 2021 as follows:

- Installed new blind flanges and gaskets in ChemBox 4.
- Hydrotested and optimized SWTS, repairing leaks on the Sand Filters.
- Replaced the mixer motor for the potassium permanganate chemical tank.

SWTS 018 operated once during the Fourth Quarter 2021. Operational data are summarized below:

- SWTS 018 operated from December 26 through 30, 2021, and discharged for approximately 90 hours.
- The total amount of water treated and discharged from Silvernale Pond was 5,277,400 gallons.

The total amount of solids generated by operation of SWTS 018 will be reported in a future DMR as solids processing are ongoing.

STORMWATER POLLUTION PREVENTION PLAN/BEST MANAGEMENT PRACTICE ACTIVITIES

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

TABLE II: Routine Quarterly Outfall BMP Activities

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

Notes:

X = BMP activity is applicable to the outfall and was completed in Fourth Quarter 2021 .

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 Fourth Quarter 2021 by outfall or BMP location.

TABLE III: Additional Fourth Quarter 2021 BMP Activities

Outfall, Watershed, BMP, or Other Location	BMP Activities During Fourth Quarter 2021
001, 002, 003, 004, 006, 008, 009, 010, 011, and 018	Field tested flow meters and autosamplers to verify proper flow and pacing.
003	Reconfigured the solar panels, electrical lines, and battery cables to improve function and reliability of sampling equipment. Rebuilt the media bed aboveground manifold.
004	Performed weed abatement in and around media bed.
006	Performed weed abatement in and around the media bed. Installed a new bracket to hang the float switches for the Charles King pump. Replaced the solar controller for the Autosampler batteries. Replaced the corrugated split loom over the bubbler tube
010	Reconfigured the solar panels, electrical lines, and battery cables to improve function and reliability of sampling equipment.
R-2A	Performed weed abatement around the pump station as well as along the conveyance lines up to Silvernale Pond.
Lower Lot	Removed sediment from along the wooden fence in the Lower Lot. Removed leaf litter and sediment from the curb by the cistern. Replaced the bark-filled wattles in the Lower Lot diverting water into the cistern.
Air Monitoring Station 4	Installed riprap and biodegradable wattles along the temporary path leading to the drainage channel.
Area I and II Roads	Applied Hydromulch to the base of the newly installed Southern California Edison power poles.

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

NASA-Related Activities

NASA filed a SWPPP for demolition activities at the Bravo area in the Third Quarter 2021 (NASA, 2021). While conducting demolition activities during the Fourth Quarter 2021, NASA maintained silt fencing, gravel/riprap, and fiber rolls as perimeter and linear sediment controls within the Bravo area. Also, during the Fourth Quarter 2021, NASA maintained silt fencing, gravel/riprap, and fiber rolls as perimeter and linear sediment controls in areas where previous construction activities and SWPPPs had been completed.

DOE-Related Activities

Demolition BMPs and stormwater activities covered by DOE's Construction SWPPPs for the Hazardous Waste Management Facility (HWMF), Radioactive Materials Handling Facility (RMHF), and other facilities within Area IV were inspected in accordance with the Construction General Permit (CGP) (DOE, 2020a, 2020b, 2020c).

Expert Panel-Related Activities

The BMP activities discussed below were performed, commenced, or completed during the Fourth Quarter 2021 in coordination with the Expert Panel.

Culvert Modifications

Twelve culvert modifications (CM) were constructed in 2009 at various points at or along the main road adjacent to, and which discharge into, the Northern Drainage. The CMs were designed to treat stormwater from roads and/or the surrounding hillsides. The Fourth Quarter 2021 activities included:

- Conducting BMP inspections, including the culvert inlets and riprap check dams;
- Cleaning CM basins and weir boards of debris as needed;
- Performing weed abatement at all CMs.

NASA Expendable Launch Vehicle (ELV) Area BMPs

BMPs and drainage improvements were installed between June and October 2013 at the NASA ELV to improve the quality of stormwater from the ELV area. After being pumped from the cistern at the bottom of the swale to the ELV system, stormwater is gravity-driven through the tank system, starting with the settling tanks, then through the filter media tank, before discharging to a tributary that flows to Outfall 009. In the Second Quarter 2016, a sandbag berm was placed across the ELV asphalt swale to divert stormwater toward CM-1 for treatment instead of directly discharging to the Northern Drainage. A generator was installed at the ELV system during the Third Quarter 2019. Also, the ELV BMP System was reconstructed. The filter media and pea gravel were removed from the system. The underdrain was rewrapped with filter fabric, approximately 6-inches of new, clean 0.5-inch gravel was installed at the bottom of the tank. This installation includes at least 4-inches of gravel coverage above the underdrain pipe. On top of the 0.5-inch gravel, 6-inches of pea gravel was replaced into the tank. The top layer of the ELV BMP system includes the filter media that was replaced into the system. The Fourth Quarter 2021 activities included BMP inspections.

Well 13 Road

Sandbag berms located near the culvert inlet and downgradient of the hydroseeded area were reinforced and increased in height during Fourth Quarter 2017. The Fourth Quarter 2021 activities included BMP inspections.

B-1 Area

The B-1 Area BMPs include:

- A media filter, constructed in 2012; and
- An upper parking lot media filter, constructed in 2017.

The Fourth Quarter 2021 activities included conducting BMP inspections, clearing the areas of sediment and debris, and removing damaged and spent fiber rolls.

Upper Parking Lot Media Filter

Construction of a media filter at the northwest corner of the upper parking lot was completed during the Second Quarter 2017. This BMP is similar in style to the B-1 media filter and designed to treat runoff from parts of the parking lot as well as parts of the adjacent entrance road. The Fourth Quarter 2021 activities included BMP inspections and sediment and debris removal in and around the media bed.

Former Building 1436 Detention Bioswales

Two detention bioswales were constructed at the former Building 1436 following its removal in Third Quarter 2014. The graded surface was hydroseeded, and more than 2,900 native plantings were installed in December 2014. The bioswales were designed to capture, pretreat, and detain stormwater from the adjacent parking lot and from

approximately 13.9 acres of drainage area east and upgradient prior to releasing the stormwater to the former Instrument and Equipment Laboratories (IEL) storm drain, where flow is diverted to the lower lot biofilter for treatment. The Fourth Quarter 2021 activities included conducting BMP inspections.

Lower Lot Biofilter

The lower lot biofilter is a stormwater treatment BMP designed and built to capture, convey, and treat stormwater from the lower lot and former IEL watershed. The lower lot biofilter consists of a 30,000-gallon cistern, a stormwater conveyance line, a sedimentation basin, and a media biofilter.

The Fourth Quarter 2021 activities included inspections to verify that the sedimentation basin and biofilter were free of sediment and debris, checks of the cistern area and pump, weed abatement as needed, in addition to inspections of surrounding BMPs.

Approximately 1,027,800 gallons of stormwater were pumped from the cistern to the sedimentation basin during the Fourth Quarter 2021.

Administration Area Inlet Filters

Four storm drain inlets were modified with either drop inlet filters or weighted wattles filled with media mixtures during the Second Quarter 2017. At the inlet closest to the lower lot, a storm drain filter sock was placed upstream of the inlet to increase the settling of solids. The Fourth Quarter 2021 activities included BMP inspections and replacement of media in the drop inlet filters.

Former Shooting Range

BMPs at the Former Shooting Range consist of:

- Slope stabilization measures (i.e., vegetation planting areas);
- Riprap berms along the Northern Drainage;
- A culvert maintenance media filter;
- Fiber rolls, silt fencing, sandbag berm;
- Water bar across the trail;
- Three check structures on the Northern Drainage Trail;
- A check structure at the dissipater; and
- Hydroseeding.

The entire area continues to benefit from the growth of dense vegetation that shields lead shot from direct contact with or dislodging during precipitation events and prevents soil erosion and mobility of the shot to downstream areas.

At the request of the Expert Panel, the Sage Ranch side of the Former Shooting Range was inspected to confirm that BMPs (i.e., fiber rolls, silt fence, etc.) control and/or treat stormwater runoff from that side of the Former Shooting Range to the Northern Drainage. The Fourth Quarter 2021 activities included BMP inspections.

NASA and Boeing BMP Monitoring-Related Activities

In addition to activities performed in coordination with the Expert Panel described above, BMP performance

monitoring samples were collected in the watershed associated with Outfalls 001, 002, 009, and 011 during the Fourth Quarter 2021. These sampling results will be reported by the Expert Panel in their 2022 Annual Report.

Northern Drainage BMPs

Boeing restored the Northern Drainage (Outfall 009) following cleanup activities performed under the Department of Toxic Substances Control oversight and in accordance with the requirements of the Regional Board's Cleanup and Abatement Order No. R4-2007-0054 (Regional Water Quality Control Board, 2007). The restoration and mitigation activities proposed in the Northern Drainage Restoration, Mitigation, and Monitoring Plan (RMMP)[2] were implemented in 2012. In accordance with the RMMP, regular maintenance and reporting were implemented in the Northern Drainage from 2012 through the Third Quarter 2017 for the stream's plant biology and geomorphology. The successful restoration and mitigation of the Northern Drainage according to the success criteria of the RMMP were documented in the fifth and final Annual Mitigation Monitoring Report (Haley & Aldrich, 2017). Based on the success of the project, Boeing requested that the Regional Board provide written notice stating that Boeing had complied with all terms of the Cleanup and Abatement Order and Boeing's obligations under the Order would therefore be terminated. No RMMP-related inspections of Northern Drainage BMPs were performed during Fourth Quarter 2021. Boeing will continue to inspect the Northern Drainage BMPs annually and maintain them on an as-needed basis.

Outfall 001/002 BMP Compliance Report Related Activities

Boeing and the Expert Panel will continue to monitor and evaluate the effectiveness of BMPs within the watersheds of Outfall 001 and Outfall 002. Recommendations for these watersheds were provided in the 2021 Expert Panel Annual Report (Geosyntec and the Expert Panel, 2021).

Other BMP Activities

BMP observations and maintenance inspections were conducted in conformance with the Site-wide SWPPP (Haley & Aldrich, 2021) at and around the former test stands Alfa and Bravo and former Advanced Propulsion Test Facility (APTF).

REASONABLE POTENTIAL ANALYSIS

Stormwater discharges from the Santa Susana Site occurred at Outfalls 001, 002, 008, 009, 011, and 018 during the Fourth Quarter 2021. Analytical results from this quarter were added to the Reasonable Potential Analysis (RPA) dataset. RPA analysis also was performed for *E. coli* for Outfall 009. The result from this analysis is discussed below and is provided in Appendix F. The analytical results for the Fourth Quarter 2021 did not trigger a reasonable potential for constituents not already regulated under the current NPDES Permit.

Outfall 009 *E. Coli*

On December 15, 2021, *E. coli* was detected in stormwater samples collected from Outfall 009 at 280 most probable number (MPN)/100mL. Boeing believes that the detected *E. coli* was caused by the animals that live at or cross through the Santa Susana Site. Boeing collects all sanitary waste generated at the Santa Susana Site and transports it to an offsite facility for treatment and disposal.

CONCLUSIONS

The site experienced high intensity rain events in the Fourth Quarter 2021. The fifth qualifying rain event produced

[2] Available at: http://www.boeing.com/principles/environment/santa-susana/technical-reports.page

11.80 inches of rain with 4.71 inches triggering the sampling on December 26, and 7.08 inches triggering the sampling on December 30. These high intensity rain events resulted in higher-than-normal rates of erosion from the site; however, the detected exceedances are likely attributable to background or non-industrial sources, consistent with the research and conclusions of the Stormwater Expert Panel; whereas episodic or unrepeatable results likely are due to laboratory error. In addition, the analytical results for the Fourth Quarter 2021 did not trigger a reasonable potential for constituents not already regulated under the current NPDES Permit. The Expert Panel is reviewing the data collected and will make BMP and monitoring recommendations that will be communicated in the Expert Panel's 2022 Annual Report.

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 February 2022 at The Boeing Company, Seal Beach, California Site.

Sincerely,

Kim O'Rourke

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

Enclosures:

References
Figure 1 – Site Map with Stormwater Collection and Conveyance System and Site Features
Figure 2 – Arroyo Simi Receiving Water (RSW-002, Frontier Park) Sampling Location and Upstream Monitoring Point
Appendix A – Fourth Quarter 2021 Rainfall Data Summary
Appendix B – Fourth Quarter 2021 Waste Shipment Summary Tables
Appendix C – Fourth Quarter 2021 Discharge Monitoring Data Summary Tables
Appendix D – Fourth Quarter 2021 NPDES Permit Limit Exceedances and/or Non-Compliance
Appendix E – Fourth Quarter 2021 Analytical Laboratory Reports, Chain of Custody Forms, and Validation Reports
Appendix F – Fourth Quarter 2021 Reasonable Potential Analysis Tables
Appendix G – Fourth Quarter 2021 Receiving Water Surveys

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

REFERENCES

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

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

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

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

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

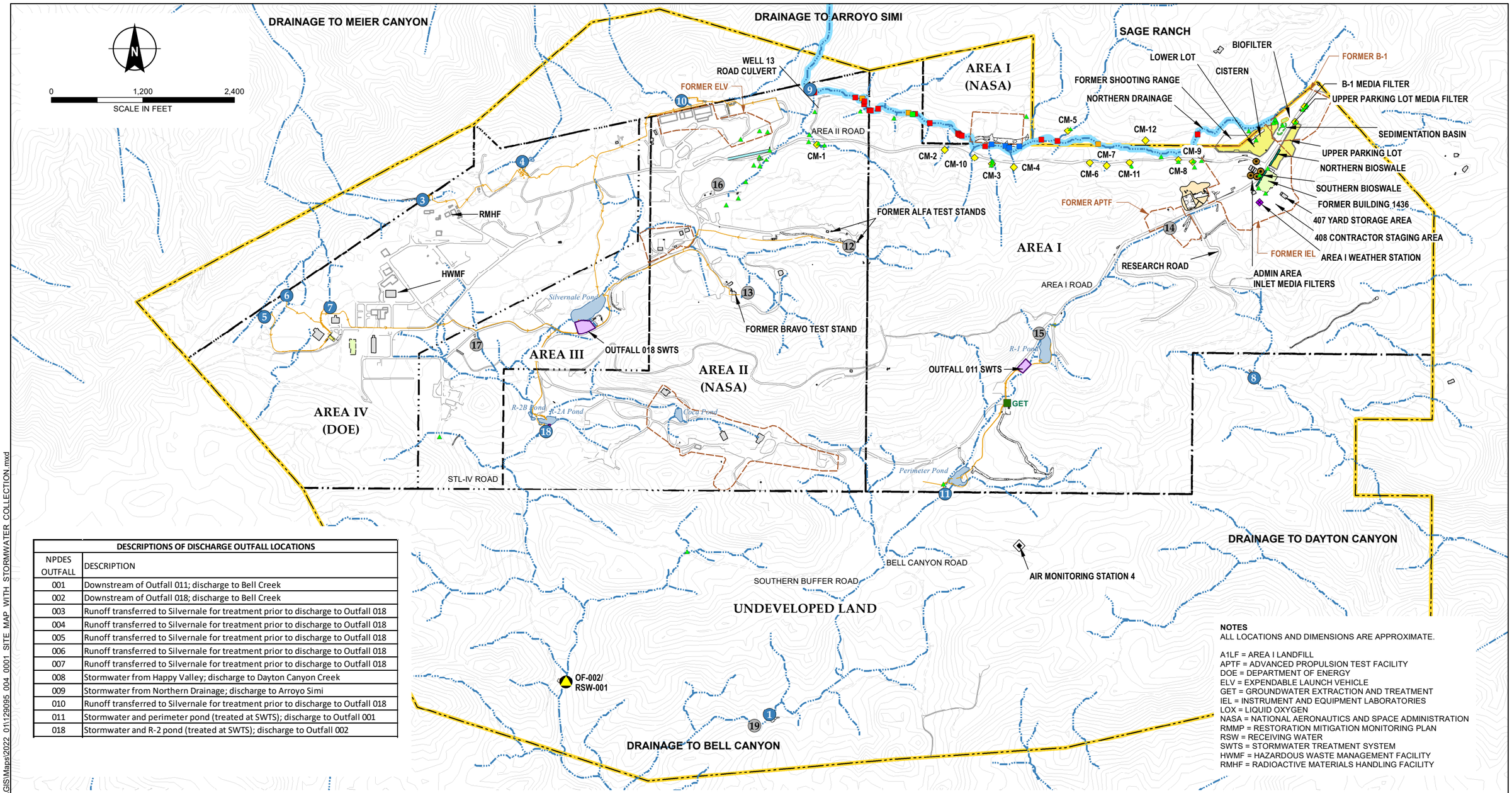
6. National Aeronautics and Space Administration, 2021. Stormwater Pollution and Prevention Plan for the Pacific Region MATOC FY21 Facilities Reduction Program at the NASA Santa Susana Field Laboratory (Phase 5 – Bravo Test Area Demolition), Ventura County, California. July.

7. U.S. Department of Energy, 2020a. Stormwater Pollution Prevention Plan for HWMF Phase 1 Decommissioning and Demolition U.S. Department of Energy, Energy Technology Engineering Center – Area IV, Santa Susana Field Laboratory, Ventura County, California, October.

8. U.S. Department of Energy, 2020b. Stormwater Pollution Prevention Plan for HWMF Phase 1 Decommissioning and Demolition U.S. Department of Energy, Energy Technology Engineering Center – Area IV, Santa Susana Field Laboratory, Ventura County, California, July.

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

FIGURES



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

NOTES
ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

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

LEGEND

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

HALEY ALDRICH

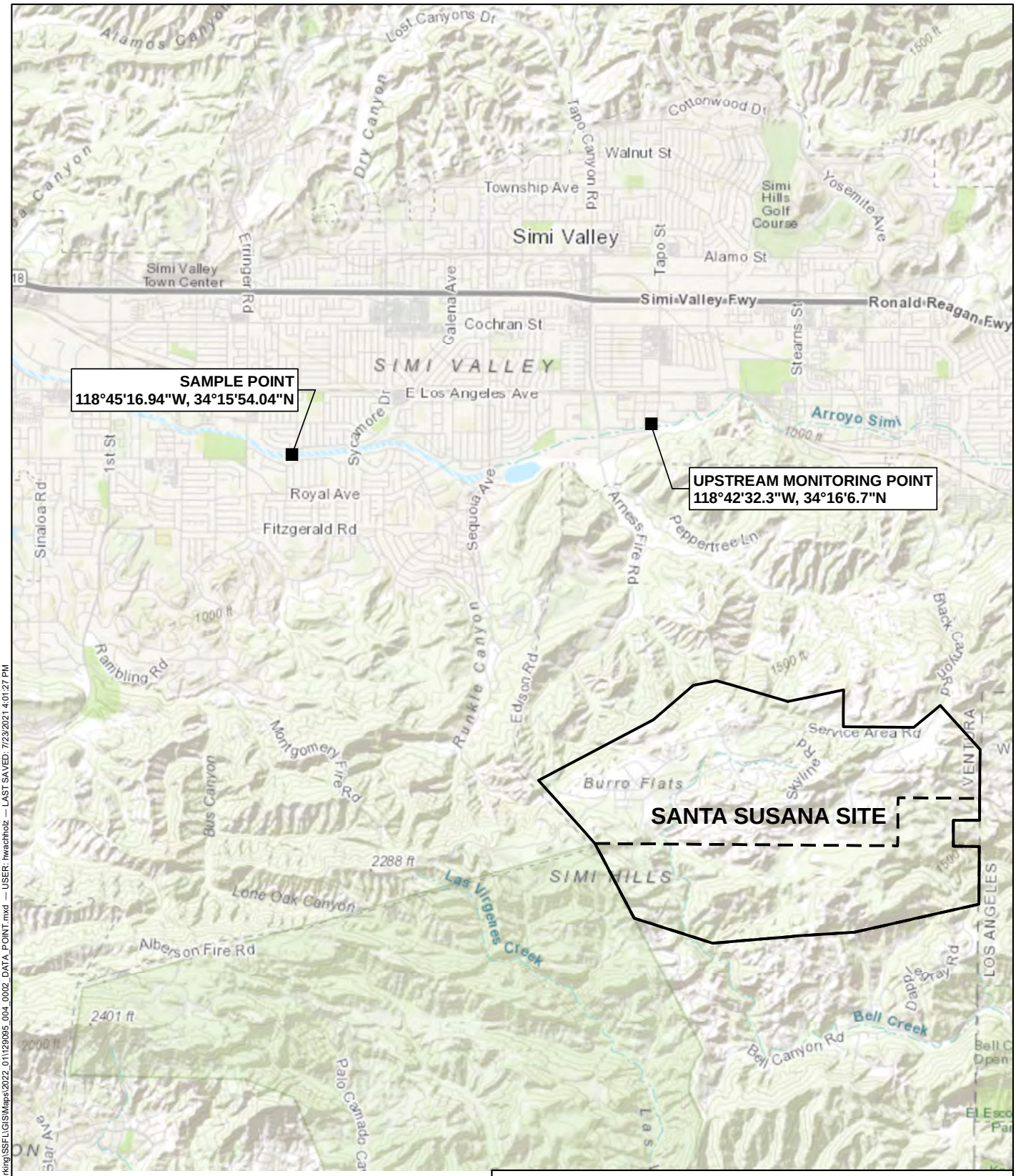
NPDES PERMIT COMPLIANCE FOURTH QUARTER 2021
DISCHARGE MONITORING REPORT
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

SITE MAP WITH STORMWATER COLLECTION AND CONVEYANCE SYSTEM AND SITE FEATURES

FEBRUARY 2022

FIGURE 1

C:\Users\hwachholz\Documents\working\SSFL\GIS\Maps\2022_01\129095_004_0001_SITE_MAP_WITH_STORMWATER_COLLECTION.mxd



NOTES

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

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

N

0 0.5 1

SCALE IN MILES

HALEY ALDRICH

NPDES PERMIT COMPLIANCE FOURTH QUARTER 2021
DISCHARGE MONITORING REPORT
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

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

FEBRUARY 2022

FIGURE 2

GIS FILE PATH: C:\Users\hwachholz\Documents\working\SSFL\GIS\Maps\2022_01\129095_004_0002_DATA_POINT.mxd — USER: hwachholz — LAST SAVED: 7/23/2021 4:01:27 PM

APPENDIX A

Fourth Quarter 2021 Rainfall Data Summary

APPENDIX A

TABLE OF CONTENTS

Table A – Daily Rainfall Summary

TABLE A
DAILY RAINFALL SUMMARY

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Station: AREA 1
Parameter: Inches of Rain
Month/Year: October 2021

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	0.08	0.00	0.35	0.05	0.00	0.48
	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	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
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	d	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.02	0.02
H	23	0.02	0.02	0.01	0.04	0.01	0.01	0.04	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	0.16
	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	0.05	0.03	0.02	0.04	0.02	0.03	0.17	0.37	0.09	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86
	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

Flags: d = Off-line part of hour. Invalid hour due to calibration (October 18). For the off-line event, the rain gauge at Sage Ranch did not record rainfall on October 18 during hour 0600-0700.

TABLE A
DAILY RAINFALL SUMMARY

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Station: AREA 1
Parameter: Inches of Rain
Month/Year: November 2021

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	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
D	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	d	d	d	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
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	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Flags: d = Off-line part of hour, invalid hour due to battery/power supply failure (November 8). For the off-line event, the rain gauge at Sage Ranch did not record rainfall on November 8 during hour 0700-1300.

TABLE A
DAILY RAINFALL SUMMARY

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Station: AREA 1
Parameter: Inches of Rain
Month/Year: December 2021

HOUR OF THE DAY, PACIFIC STANDARD TIME

DAY OF THE MONTH	HR-BEG 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
	HR-END 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
	DAY																								Total
	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	7	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	d 0.02
	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
	9	0.00	0.00	0.00	0.00	0.01	0.04	0.02	0.02	0.01	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
	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
	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
	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	0.03	0.03	0.09	0.05	0.20
	14	0.05	0.10	0.12	0.31	0.22	0.37	0.78	0.12	0.19	0.03	0.14	0.08	0.06	0.03	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.64
	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
	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	0.01	0.03	0.02	0.03	0.02	0.01	0.00	0.00	0.00	0.12
	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
	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
	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	d	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	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
	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	0.07	0.07
	23	0.06	0.11	0.05	0.09	0.10	0.06	0.08	0.06	0.07	0.17	0.22	0.19	0.17	0.16	0.09	0.08	0.18	0.29	0.24	0.38	0.32	0.20	0.01	0.05	3.43
	24	0.05	0.02	0.04	0.02	0.19	0.01	0.17	0.02	0.00	0.02	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	0.01	0.58
	25	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.08	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.09	0.33	0.06	0.62
	26	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
	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	0.04	0.03	0.02	0.05	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.16
	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	0.03	0.07	0.07	0.09	0.03	0.01	0.04	0.08	0.19	0.34	0.31	0.32	0.30	0.25	2.13
	30	0.40	0.42	0.36	0.30	0.38	0.21	0.27	0.28	0.26	0.40	0.20	0.20	0.22	0.16	0.13	0.11	0.12	0.09	0.11	0.11	0.00	0.04	0.02	0.00	4.79
	31	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01

Flags: d = Off-line part of hour. Invalid hour due to equipment malfunction (December 6) and semi-annual quality assurance audit (December 20). For both off-line events, the rain guage at Sage Ranch did not record any measurable rainfall for December 6 or December 20.

APPENDIX B

Fourth Quarter 2021 Waste Shipment Summary Tables

APPENDIX B

TABLE OF CONTENTS

Table B – Fourth Quarter 2021 Waste Shipment Summary Tables

TABLE B
WASTE SHIPMENT SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

TYPE OF WASTE	MATRIX	QTY.	UNITS	TRANSPORTER 1	TRANSPORTER 2	DESTINATION
Hazardous Waste	Liquid	1,234	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
Hazardous Waste	Solid	168	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Environemntal Services, Inc. 2247 South Highway 71 Kimball, NE 69145
Hazardous Waste	Liquid	3,353	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	Tri-State Motor Transit Co. 17235 N 75th Ave., Suite D175 Glendale, AZ 85308	Clean Harbors Deer Park LLC 2027 Independence Parkway South La Porte, TX 77571
UN3090, Lithium Metal Batteries	Solid	10	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Retriev Technologies, Inc. 8090 Lancaster-Newark Road Baltimore, OH 43105
Waste Aerosols, Flammable, N.O.S.	Solid	44	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
Non Hazardous, Non D.O.T. Regulated Material	Solid	2,133	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	Remedial Transportation Services 31194 Shelby Lane Shafter, CA 93263	Clean Harbors Grassy Mountain LLC 3 Miles East 7 Miles North of Knolls Grantsville, UT 84029
Non RCRA Hazardous Waste	Solid	55	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	Remedial Transportation Services 31194 Shelby Lane Shafter, CA 93263	Clean Harbors Grassy Mountain LLC 3 Miles East 7 Miles North of Knolls Grantsville, UT 84029
UN1791, Waste Hypochlorite Solutions	Liquid	179	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	Tri-State Motor Transit Co. 17235 N 75th Ave., Suite D175 Glendale, AZ 85308	Clean Harbors Deer Park LLC 2027 Independence Parkway South La Porte, TX 77571
UN3077, Environmentally Hazardous Substances	Solid	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
Non Hazardous, Non D.O.T. Regulated Material	Solid	3,288	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	Patriot Environmental Services 508 East E Street Wilmington, CA 90744-6023	Clean Harbors Grassy Mountain LLC 3 Miles East 7 Miles North of Knolls Grantsville, UT 84029
Non Hazardous, Non D.O.T. Regulated Material	Liquid	265	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	Patriot Environmental Services 508 East E Street Wilmington, CA 90744-6023	Clean Harbors Grassy Mountain LLC 3 Miles East 7 Miles North of Knolls Grantsville, UT 84029
Non Hazardous Waste	Liquid	30,000	G	Southwest Processors, Inc. 4120 Bandini Boulevard Vernon, CA 90058	n/a	Southwest Processors, Inc. 4120 Bandini Boulevard Vernon, CA 90058
Non RCRA Hazardous Waste	Solid	600	P	Patriot Environmental Services 508 East E Street Wilmington, CA 90744-6023	n/a	US Ecology Beatty US Hwy 95, 11 Miles South of Beatty Beatty, NV 89003

TABLE B
WASTE SHIPMENT SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

TYPE OF WASTE	MATRIX	QTY.	UNITS	TRANSPORTER 1	TRANSPORTER 2	DESTINATION
UN3432, Polychlorinated biphenyls	Solid	2,000	P	Patriot Environmental Services 508 East E Street Wilmington, CA 90744-6023	n/a	US Ecology Beatty US Hwy 95, 11 Miles South of Beatty Beatty, NV 89003
RQ. NA2212, Asbestos	Solid	2	Y	Star Resources Corp. 1026 Blinn Avenue Wilmington, CA 90744	n/a	Azusa Land Reclamation 1211 W. Gladstone Street Azusa, CA 91702
UN1863, Waste Fuel, Aviation	Liquid	175	G	American Integrated Services	n/a	Crosby & Overton, Inc. 1630 W. 17th Street Long Beach, CA 90813
UN1993, Waste Flammable Liquids	Liquid	50	G	American Integrated Services	n/a	Crosby & Overton, Inc. 1630 W. 17th Street Long Beach, CA 90813
UN3432, Polychlorinated biphenyls	Solid	3,700	P	American Integrated Services	n/a	Clean Harbors Grassy Mountain LLC 3 Miles East 7 Miles North of Knolls Grantsville, UT 84029
Hazardous Waste	Liquid	70	L	Patriot Environmental Services 508 East E Street Wilmington, CA 90744-6023	n/a	US Ecology Vernon 5375 South Boyle Avenue Los Angeles, CA 90058
Hazardous Waste	Liquid	9,005	G	Ecology Control Industries	n/a	US Ecology Vernon 5375 South Boyle Avenue Los Angeles, CA 90058
Non RCRA Hazardous Waste	Solid	1,800	P	American Integrated Services	n/a	Clean Harbors Grassy Mountain LLC 3 Miles East 7 Miles North of Knolls Grantsville, UT 84029
Non RCRA Hazardous Waste	Solid	8,660	P	EQ Industrial Services	n/a	US Ecology Idaho 20400 Lemley Road Grand View, ID 83624
Non D.O.T. Regulated Radioactive Material	Solid	3,997,280	P	RUST and Sons Trucking 15353 Olde Hwy 80 El Cajon, Ca 92091	n/a	Energy Solutions, LLC Clive Disposal Site, I-80 Exit 49 Clive, UT 84029
UN3077, Environmentally Hazardous Substances	Solid	22	P	Hitman Transport Services, Inc. 1560 Bear Creek Road Oak Ridge, TN 37830	n/a	Energy Solutions, LLC Clive Disposal Site, I-80 Exit 49 Clive, UT 84029
UN2910, Radioactive Material Excepted Package	Solid	2	P	Hitman Transport Services, Inc. 1560 Bear Creek Road Oak Ridge, TN 37830	n/a	Energy Solutions, LLC Clive Disposal Site, I-80 Exit 49 Clive, UT 84029

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

APPENDIX C

Fourth Quarter 2021 Discharge Monitoring Data Summary Tables

APPENDIX C

TABLE OF CONTENTS

Reporting Summary Notes

Outfall 001 - Discharge Monitoring Data Summary Table
Outfall 001 - Discharge Monitoring Mass Summary Table

Outfall 002 - Discharge Monitoring Data Summary Table
Outfall 002 - Discharge Monitoring Mass Summary Table

Outfall 008 - Discharge Monitoring Data Summary Table
Outfall 008 - Discharge Monitoring Mass Summary Table

Outfall 009 - Discharge Monitoring Data Summary Table
Outfall 009 - Discharge Monitoring Mass Summary Table

Outfall 011 - Discharge Monitoring Data Summary Table
Outfall 011 - Discharge Monitoring Mass Summary Table

Outfall 018 - Discharge Monitoring Data Summary Table
Outfall 018 - Discharge Monitoring Mass Summary Table

Arroyo Simi - Discharge Monitoring Data Summary Table

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 2018.

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

7. Abbreviations, symbols, and acronyms:

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

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

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

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

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

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

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

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

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

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

(4)	The drinking water maximum contaminant level of 3.00E-05 µg/L is for the dioxin congener 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD). TCDD Toxic Equivalent (TEQ) without detected but not quantified (DNQ) values is the sum of the products of the detected dioxin congener concentration multiplied by that congener's toxic Equivalency factor (TEF) and bioaccumulation equivalency factor (BEF). There are 17 dioxin congeners.
(a)	Based on Order No. R4-2015-0033, page 17, footnote 7, sampling event is a dry discharge and the NPDES Permit Limit for cadmium is 4.0 ug/L and 3.93 lbs/day at OF001,002,011,018 and 0.24 lbs/day at OF008.
(b)	Based on Order No. R4-2015-0033, page 17, footnote 7, sampling event is a wet discharge and the NPDES Permit Limit for cadmium is 3.1 ug/L and 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.
(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.

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

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

OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/24/2021 10:00 - 12/26/2021 08:30[m]		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	0.071917	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	mg/L	30	1/Discharge	Composite	4.9	*
Oil & Grease	mg/L	15	1/Discharge	Grab	ND < 0.55	U*
pH (Field)	s.u.	6.5-8.5	1/Discharge	Grab	7.12	*
Total Suspended Solids#	mg/L	45	1/Discharge	Composite	82[c]	*
PRIORITY POLLUTANTS						
1,1-Dichloroethene	µg/L	6.0	1/Discharge	Grab	ND < 0.33	U*
1,2-Dichloroethane	µg/L	0.5	1/Discharge	Grab	ND < 0.15	U*
2,4,6-Trichlorophenol	µg/L	13	1/Discharge	Composite	ND < 0.079	U*
2,4-Dinitrotoluene	µg/L	18	1/Discharge	Composite	ND < 0.12	U*
alpha-BHC	µg/L	0.03	1/Discharge	Composite	ND < 0.00080	U*
Antimony	µg/L	6.0	1/Year	Composite	ND < 0.50	U
Arsenic	µg/L	10.0	1/Year	Composite	ND < 8.9	U
Beryllium	µg/L	4.0	1/Year	Composite	ND < 0.44	U
Bis (2-Ethylhexyl) Phthalate	µg/L	4.0	1/Discharge	Composite	ND < 2.1	U*
Cadmium	µg/L	(4.0) 3.1	1/Discharge	Composite	ND < 0.25	U
Chromium VI (Hexavalent)	µg/L	16	1/Year	Composite	ND < 0.19	U*
Copper	µg/L	14	1/Discharge	Composite	6.7	--
Cyanide	µg/L	8.5	1/Discharge	Composite	ND < 2.5	U*
Lead	µg/L	5.2	1/Discharge	Composite	3.0	--
Mercury	µg/L	0.1	1/Discharge	Composite	ND < 0.10	U*
Nickel	µg/L	94	1/Year	Composite	ND < 5.0	U
N-Nitrosodimethylamine	µg/L	16	1/Discharge	Composite	ND < 0.16	U*
Pentachlorophenol	µg/L	16.5	1/Discharge	Composite	ND < 0.12	U*
Selenium	µg/L	(5) 8.2	1/Discharge	Composite	ND < 0.50	U
Silver	µg/L	4.1	1/Year	Composite	ND < 0.50	U
Thallium	µg/L	2.0	1/Year	Composite	ND < 0.20	U
Trichloroethene	µg/L	5.0	1/Discharge	Grab	ND < 0.17	U*
Zinc	µg/L	119	1/Discharge	Composite	21	--
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	mg/L	10.1	1/Discharge	Composite	0.217	*
Barium	mg/L	1.0	1/Year	Composite	0.066	--
Chloride	mg/L	150	1/Discharge	Composite	5.2	*
Chlorine, Total Residual (Field)	mg/L	0.1	1/Year	Grab	0.0	*
Chronic Toxicity	Pass or Fail and % Effect	Pass or % Effect <50	1st & 2nd rain event/Year	Composite	Pass, -1.25	*
Detergents (as MBAS)	mg/L	0.5	1/Discharge	Composite	0.28	J (DNQ*)
Fluoride	mg/L	1.6	1/Year	Composite	ND < 0.23	U*
Iron	mg/L	0.3	1/Discharge[r]	Composite	7.1	--
Manganese	µg/L	50	1/Discharge[r]	Composite	110	--
Nitrate - N	mg/L	8	1/Discharge	Composite	3.4	*
Nitrate + Nitrite as Nitrogen (N)	mg/L	8	1/Discharge	Composite	3.4	*
Nitrite - N	mg/L	1	1/Discharge	Composite	ND < 0.090	U*
Perchlorate	µg/L	6.0	1/Discharge	Composite	ND < 9.1	U*
Settleable Solids#	ml/L	0.3	1/Discharge	Grab	0.10[c]	*
Sulfate	mg/L	300	1/Discharge	Composite	5.4	*
Temperature (Field)	Deg F	86	1/Discharge	Grab	49.1	*
Total Dissolved Solids	mg/L	950	1/Discharge	Composite	140	*
REMAINING PRIORITY POLLUTANTS						
1,1,1-Trichloroethane	µg/L	-	1/Year	Grab	ND < 0.25	U*
1,1,2,2-Tetrachloroethane	µg/L	-	1/Year	Grab	ND < 0.20	U*
1,1,2-Trichloroethane	µg/L	-	1/Year	Grab	ND < 0.17	U*
1,1-Dichloroethane	µg/L	-	1/Year	Grab	ND < 0.39	U*
1,2,4-Trichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.15	U*
1,2-Dichlorobenzene	µg/L	-	1/Year	Grab	ND < 0.16	U*

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

OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/24/2021 10:00 - 12/26/2021 08:30[m]		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
1,2-Dichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.15	U*
1,2-Dichloropropane	µg/L	-	1/Year	Grab	ND < 0.17	U*
1,2-Diphenylhydrazine/Azobenzene	µg/L	-	1/Year	Composite	ND < 0.081	U*
1,3-Dichlorobenzene	µg/L	-	1/Year	Grab	ND < 0.16	U*
1,3-Dichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.15	U*
1,4-Dichlorobenzene	µg/L	-	1/Year	Grab	ND < 0.11	U*
1,4-Dichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.15	U*
2,4-Dichlorophenol	µg/L	-	1/Year	Composite	ND < 0.11	U*
2,4-Dimethylphenol	µg/L	-	1/Year	Composite	ND < 0.15	U*
2,4-Dinitrophenol	µg/L	-	1/Year	Composite	ND < 1.2	U*
2,6-Dinitrotoluene	µg/L	-	1/Year	Composite	ND < 0.15	U*
2-Chloroethyl vinyl ether[q]	µg/L	-	1/Year	Grab	ND < 1.1	U*
2-Chloronaphthalene	µg/L	-	1/Year	Composite	ND < 0.16	U*
2-Chlorophenol	µg/L	-	1/Year	Composite	ND < 0.096	U*
2-Methyl-4,6-dinitrophenol	µg/L	-	1/Year	Composite	ND < 4.6	U*
2-Nitrophenol	µg/L	-	1/Year	Composite	ND < 1.6	U*
3,3'-Dichlorobenzidine	µg/L	-	1/Year	Composite	ND < 1.9	U*
4,4'-DDD	µg/L	-	1/Year	Composite	ND < 0.00080	U*
4,4'-DDE	µg/L	-	1/Year	Composite	ND < 0.00050	U*
4,4'-DDT	µg/L	-	1/Year	Composite	ND < 0.0016	U*
4-Bromophenyl phenyl ether	µg/L	-	1/Year	Composite	ND < 0.090	U*
4-Chloro-3-methylphenol	µg/L	-	1/Year	Composite	ND < 0.14	U*
4-Chlorophenyl phenyl ether	µg/L	-	1/Year	Composite	ND < 0.11	U*
4-Nitrophenol	µg/L	-	1/Year	Composite	ND < 1.3	U*
Acenaphthene	µg/L	-	1/Year	Composite	ND < 0.10	U*
Acenaphthylene	µg/L	-	1/Year	Composite	ND < 0.098	U*
Acrolein	µg/L	-	1/Year	Grab	ND < 4.6	U*
Acrylonitrile	µg/L	-	1/Year	Grab	ND < 1.4	U*
Aldrin	µg/L	-	1/Year	Composite	ND < 0.00070	U*
alpha-Endosulfan	µg/L	-	1/Year	Composite	ND < 0.00070	U*
Anthracene	µg/L	-	1/Year	Composite	ND < 0.084	U*
Aroclor 1016	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1221	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1232	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1242	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1248	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1254	µg/L	-	1/Year	Composite	ND < 0.052	U*
Aroclor 1260	µg/L	-	1/Year	Composite	ND < 0.052	U*
Benzene	µg/L	-	1/Year	Grab	ND < 0.28	U*
Benzidine	µg/L	-	1/Year	Composite	ND < 2.6	U*
Benzo(a)anthracene	µg/L	-	1/Year	Composite	ND < 0.081	U*
Benzo(a)pyrene	µg/L	-	1/Year	Composite	ND < 0.084	U*
Benzo(b)fluoranthene	µg/L	-	1/Year	Composite	ND < 0.12	U*
Benzo(g,h,i)perylene	µg/L	-	1/Year	Composite	ND < 0.15	U*
Benzo(k)fluoranthene	µg/L	-	1/Year	Composite	ND < 0.090	U*
beta-BHC	µg/L	-	1/Year	Composite	ND < 0.0017	U*
beta-Endosulfan	µg/L	-	1/Year	Composite	ND < 0.00050	U*
Bis (2-Chloroethoxy) Methane	µg/L	-	1/Year	Composite	ND < 0.17	U*
Bis (2-Chloroethyl) Ether	µg/L	-	1/Year	Composite	ND < 0.11	U*
Bis (2-Chloroisopropyl) Ether	µg/L	-	1/Year	Composite	ND < 0.11	U*
Bromoform	µg/L	-	1/Year	Grab	ND < 0.25	U*
Bromomethane	µg/L	-	1/Year	Grab	ND < 0.22	U*
Butyl benzylphthalate	µg/L	-	1/Year	Composite	0.70	J (DNQ*)
Carbon tetrachloride	µg/L	-	1/Year	Grab	ND < 0.28	U*
Chlordane	µg/L	-	1/Year	Composite	ND < 0.0065	U*
Chlorobenzene	µg/L	-	1/Year	Grab	ND < 0.19	U*

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

OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/24/2021 10:00 - 12/26/2021 08:30[m]		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Chlorodibromomethane	µg/L	-	1/Year	Grab	ND < 0.15	U*
Chloroethane	µg/L	-	1/Year	Grab	ND < 0.29	U*
Chloroform	µg/L	-	1/Year	Grab	ND < 0.19	U*
Chloromethane (Methyl Chloride)	µg/L	-	1/Year	Grab	ND < 0.30	U*
Chromium	µg/L	-	1/Year	Composite	7.0	--
Chromium III (Trivalent)	µg/L	-	1/Year	Composite	ND < 6.9	U*
Chrysene	µg/L	-	1/Year	Composite	ND < 0.067	U*
cis-1,3-Dichloropropene	µg/L	-	1/Year	Grab	ND < 0.30	U*
delta-BHC	µg/L	-	1/Year	Composite	ND < 0.0011	U*
Dibenzo(a,h)anthracene	µg/L	-	1/Year	Composite	ND < 0.16	U*
Dichlorobromomethane	µg/L	-	1/Year	Grab	ND < 0.19	U*
Dieldrin	µg/L	-	1/Year	Composite	ND < 0.00050	U*
Diethyl phthalate	µg/L	-	1/Year	Composite	ND < 0.16	U*
Dimethyl phthalate	µg/L	-	1/Year	Composite	ND < 0.084	U*
Di-n-butyl phthalate	µg/L	-	1/Year	Composite	ND < 0.80	U*
Di-n-octyl phthalate	µg/L	-	1/Year	Composite	ND < 0.75	U*
Endosulfan sulfate	µg/L	-	1/Year	Composite	ND < 0.00060	U*
Endrin	µg/L	-	1/Year	Composite	ND < 0.00070	U*
Endrin aldehyde	µg/L	-	1/Year	Composite	ND < 0.0051	U*
Ethylbenzene	µg/L	-	1/Year	Grab	ND < 0.25	U*
Fluoranthene	µg/L	-	1/Year	Composite	ND < 0.11	U*
Fluorene	µg/L	-	1/Year	Composite	ND < 0.094	U*
gamma-BHC (Lindane)	µg/L	-	1/Year	Composite	ND < 0.00090	U*
Heptachlor	µg/L	-	1/Year	Composite	ND < 0.00070	U*
Heptachlor epoxide	µg/L	-	1/Year	Composite	ND < 0.00040	U*
Hexachlorobenzene	µg/L	-	1/Year	Composite	ND < 0.11	U*
Hexachlorobutadiene	µg/L	-	1/Year	Composite	ND < 0.20	U*
Hexachlorocyclopentadiene	µg/L	-	1/Year	Composite	ND < 0.11	U*
Hexachloroethane	µg/L	-	1/Year	Composite	ND < 0.18	U*
Indeno(1,2,3-cd)pyrene	µg/L	-	1/Year	Composite	ND < 0.14	U*
Isophorone	µg/L	-	1/Year	Composite	ND < 0.10	U*
m,p-Xylenes	µg/L	-	1/Year	Grab	ND < 0.17	U*
Methylene chloride	µg/L	-	1/Year	Grab	ND < 0.57	U*
Naphthalene	µg/L	-	1/Year	Composite	ND < 0.11	U*
Naphthalene	µg/L	-	1/Year	Grab	ND < 0.33	U*
Nitrobenzene	µg/L	-	1/Year	Composite	ND < 0.11	U*
N-Nitroso-di-n-propylamine	µg/L	-	1/Year	Composite	ND < 0.072	U*
N-Nitrosodiphenylamine	µg/L	-	1/Year	Composite	ND < 0.11	U*
o-Xylene	µg/L	-	1/Year	Grab	ND < 0.15	U*
Phenanthrene	µg/L	-	1/Year	Composite	ND < 0.086	U*
Phenol	µg/L	-	1/Year	Composite	ND < 0.088	U*
Pyrene	µg/L	-	1/Year	Composite	ND < 0.093	U*
Tetrachloroethene	µg/L	-	1/Year	Grab	ND < 0.21	U*
Toluene	µg/L	-	1/Year	Grab	ND < 0.23	U*
Toxaphene	µg/L	-	1/Year	Composite	ND < 0.013	U*
trans-1,2-Dichloroethene	µg/L	-	1/Year	Grab	ND < 0.24	U*
trans-1,3-Dichloropropene	µg/L	-	1/Year	Grab	ND < 0.18	U*
Trichlorofluoromethane	µg/L	-	1/Year	Grab	ND < 0.29	U*
Vinyl chloride	µg/L	-	1/Year	Grab	ND < 0.47	U*
Xylenes (Total)	µg/L	-	1/Year	Grab	ND < 0.17	U*
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS						
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	-	1/Quarter	Grab	ND < 0.33	U*
1,2-Dichloro-1,1,2-trifluoroethane	µg/L	-	1/Year	Grab	ND < 0.58	U*
1,4-Dioxane	µg/L	-	1/Year	Composite	ND < 1.1	U*
Boron	mg/L	-	1/Year	Composite	0.065	--
cis-1,2-Dichloroethene	µg/L	-	1/Year	Grab	ND < 0.21	U*

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

OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/24/2021 10:00 - 12/26/2021 08:30[m]		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Cobalt	µg/L	-	1/Year	Composite	ND < 2.8	U
Conductivity at 25 C	µmhos/cm	-	1/Discharge	Grab	110	*
Cyclohexane	µg/L	-	1/Year	Grab	ND < 0.79	U*
Diesel Range Organics (DRO C13-C28)	mg/L	-	1/Year	Grab	0.13	*
Dissolved Oxygen (Field)	mg/L	-	1/Discharge	Grab	10.09	*
E. Coli	mpn/100mL	-	1/Year	Grab	150	J (H)
Gasoline Range Organics (GRO C4-C12)	mg/L	-	1/Year	Grab	ND < 0.030	U*
Hardness (as CaCO3)	mg/L	-	1/Year	Composite	110	*
Monomethyl hydrazine	µg/L	-	1/Year	Composite	ND < 0.31	U*
Total Organic Carbon	mg/L	-	1/Year	Composite	18	*
Turbidity	NTU	-	1/Discharge	Composite	60	*
Vanadium	µg/L	-	1/Year	Composite	16	--
ADDITIONAL POLLUTANTS[2]						
Antimony, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.50	U
Arsenic, dissolved	µg/L	-	Additional/Year	Composite	ND < 8.9	U
Barium, dissolved	mg/L	-	Additional/Year	Composite	0.020	--
Beryllium, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.44	U
Boron, dissolved	mg/L	-	Additional/Year	Composite	0.059	--
Cadmium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.25	U
Chromium, dissolved	µg/L	-	Additional/Year	Composite	ND < 2.5	U
Cobalt, dissolved	µg/L	-	Additional/Year	Composite	ND < 2.8	U
Copper, dissolved	µg/L	-	Additional/Discharge	Composite	3.3	--
Hardness, dissolved (as CaCO3)	mg/L	-	Additional/Year	Composite	92	*
Iron, dissolved	mg/L	-	Additional/Discharge[r]	Composite	0.20	--
Lead, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U
Manganese, dissolved	µg/L	-	Additional/Discharge[r]	Composite	7.7	J (DNQ)
Mercury, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.12	U*
Nickel, dissolved	µg/L	-	Additional/Year	Composite	ND < 5.0	U
Selenium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U
Silver, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.50	U
Thallium, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.20	U
Vanadium, dissolved	µg/L	-	Additional/Year	Composite	2.7	J (DNQ)
Zinc, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 12	U

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

OUTFALL 001
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

					12/26/2021 08:30 (Composite)[m]			
ANALYTE	**SAMPLE FREQUENCY**	**1998 WHO TEF**	**BEF GREAT LAKES WATER QUALITY INITIATIVE**	**UNITS**	**LAB MDL**	**LAB RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**TCDD EQUIVALENT (w/out DNQ Values)**
1,2,3,4,6,7,8-HpCDD	1/Discharge	0.01	0.05	µg/L	5.6E-07	5.7E-05	--	**2.9E-08**
1,2,3,4,6,7,8-HpCDF	1/Discharge	0.01	0.01	µg/L	3.8E-07	1.4E-05	J (DNQ)	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	0.01	0.4	µg/L	4.3E-07	9.2E-07	U (B)	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	0.1	0.3	µg/L	4.1E-07	2.1E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	0.1	0.08	µg/L	3.0E-07	7.8E-07	J (DNQ)	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	0.1	0.1	µg/L	4.2E-07	2.6E-06	J (DNQ)	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	0.1	0.2	µg/L	3.4E-07	1.2E-06	J (DNQ)	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	0.1	0.1	µg/L	3.6E-07	1.8E-06	J (DNQ)	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	0.1	0.6	µg/L	3.0E-07	6.2E-07	J (DNQ)	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1.0	0.9	µg/L	3.6E-07	4.5E-07	UJ (*IIII)	**ND**
1,2,3,7,8-PeCDF	1/Discharge	0.05	0.2	µg/L	3.4E-07	ND	U	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	0.1	0.7	µg/L	2.8E-07	5.6E-07	J (DNQ)	**ND**
2,3,4,7,8-PeCDF	1/Discharge	0.5	1.6	µg/L	3.3E-07	ND	U	**ND**
2,3,7,8-TCDD	1/Discharge	1.0	1.0	µg/L	3.7E-07	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	0.1	0.8	µg/L	7.1E-06	ND	U	**ND**
OCDD	1/Discharge	0.0001	0.01	µg/L	5.7E-07	6.1E-04	--	**6.1E-10**
OCDF	1/Discharge	0.0001	0.02	µg/L	4.1E-07	4.2E-05	J (DNQ)	**ND**

TCDD TEQ w/out DNQ Values[4]	**2.9E-08**

TCDD TEQ (PRIORITY POLLUTANTS) DAILY MAXIMUM 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

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/26/2021 08:30 (Composite)[m]		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS						
Gross Alpha	pCi/L	15	1/Discharge	1.25+/-1.25	1.99	U*
Gross Beta	pCi/L	50	1/Discharge	6.28+/-1.30	1.17	*
Combined Radium-226 & Radium-228	pCi/L	5.0	1/Discharge	0.705+/-0.407	NM	U*
Strontium-90	pCi/L	8.0	1/Discharge	0.627+/-0.479	0.745	U*
Tritium	pCi/L	20,000	1/Discharge	-66.7+/-172	320	U*
ADDITIONAL POLLUTANTS						
Cesium-137	pCi/L	200	1/Discharge	-6.22+/-11.4	13.2	U*
Uranium	pCi/L	20	1/Discharge	0.150+/-0.154	0.231	U*
ADDITIONAL POLLUTANTS WITHOUT LIMITS						
Potassium-40	pCi/L	-	1/Discharge	95.4+/-52.3	50.2	*

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

OUTFALL 001
DISCHARGE MONITORING MASS SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/24/2021 10:00 - 12/26/2021 08:30[(m)]		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	0.071917	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	LBS/DAY	29,481	1/Discharge	Composite	2.9	*
Oil & Grease	LBS/DAY	14,741	1/Discharge	Grab	ND	U*
Total Suspended Solids[#]	LBS/DAY	44,222	1/Discharge	Composite	49[(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	Composite	ND	U
Arsenic	LBS/DAY	9.83	1/Year	Composite	ND	U
Beryllium	LBS/DAY	3.93	1/Year	Composite	ND	U
Bis (2-Ethylhexyl) Phthalate	LBS/DAY	3.93	1/Discharge	Composite	ND	U*
Cadmium	LBS/DAY	(3.93) 3.05	1/Discharge	Composite	ND	U
Chromium VI (Hexavalent)	LBS/DAY	15.72	1/Year	Composite	ND	U*
Copper	LBS/DAY	13.76	1/Discharge	Composite	0.0040	--
Cyanide	LBS/DAY	8.35	1/Discharge	Composite	ND	U*
Lead	LBS/DAY	5.11	1/Discharge	Composite	0.0018	--
Mercury	LBS/DAY	0.1	1/Discharge	Composite	ND	U*
Nickel	LBS/DAY	92.4	1/Year	Composite	ND	U
N-Nitrosodimethylamine	LBS/DAY	15.72	1/Discharge	Composite	ND	U*
Pentachlorophenol	LBS/DAY	16.22	1/Discharge	Composite	ND	U*
Selenium	LBS/DAY	(4.91) 8.06	1/Discharge	Composite	ND	U
Silver	LBS/DAY	4.03	1/Year	Composite	ND	U
TCDD TEQ_NoDNQ[(4)]	LBS/DAY	2.75E-08	1/Discharge	Composite	1.7E-11	*
Thallium	LBS/DAY	1.97	1/Year	Composite	ND	U
Trichloroethene	LBS/DAY	4.91	1/Discharge	Grab	ND	U*
Zinc	LBS/DAY	117	1/Discharge	Composite	0.013	--
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	LBS/DAY	9,925.3	1/Discharge	Composite	0.130	*
Barium	LBS/DAY	983	1/Year	Composite	0.040	--
Chloride	LBS/DAY	147,405	1/Discharge	Composite	3.1	*
Chlorine, Total Residual (Field)	LBS/DAY	98.3	1/Year	Grab	0.0	*
Detergents (as MBAS)	LBS/DAY	491.4	1/Discharge	Composite	0.17	J (DNQ*)
Fluoride	LBS/DAY	1,572.3	1/Year	Composite	ND	U*
Iron	LBS/DAY	295	1/Discharge[(r)]	Composite	4.3	--
Manganese	LBS/DAY	49.1	1/Discharge[(r)]	Composite	0.0660	--
Nitrate - N	LBS/DAY	7,862	1/Discharge	Composite	2.0	*
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	7,862	1/Discharge	Composite	2.0	*
Nitrite - N	LBS/DAY	983	1/Discharge	Composite	ND	U*
Perchlorate	LBS/DAY	5.9	1/Discharge	Composite	ND	U*
Sulfate	LBS/DAY	294,810	1/Discharge	Composite	3.2	*
Total Dissolved Solids	LBS/DAY	933,567	1/Discharge	Composite	84.0	*

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/24/2021 09:30 - 12/26/2021 10:00		
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	0.39616	*
CONVENTIONAL POLLUTANTS								
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	mg/L	30	1/Discharge	NA	-	Composite	4.0	*
Oil & Grease	mg/L	15	1/Discharge	NA	-	Grab	ND < 0.55	U*
pH (Field)	s.u.	6.5-8.5	1/Discharge	1/Quarter	6.5-8.5	Grab	6.72	*
Total Suspended Solids[#]	mg/L	45	1/Discharge	1/Year	-	Composite	100[(c)]	*
PRIORITY POLLUTANTS								
1,1-Dichloroethene	µg/L	6.0	1/Discharge	1/5 Years	-	Grab	ND < 0.33	U*
1,2-Dichloroethane	µg/L	0.5	1/Discharge	1/5 Years	-	Grab	ND < 0.15	U*
2,4,6-Trichlorophenol	µg/L	13	1/Discharge	1/5 Years	-	Composite	ND < 0.071	U*
2,4-Dinitrotoluene	µg/L	18	1/Discharge	1/5 Years	-	Composite	ND < 0.11	U*
alpha-BHC	µg/L	0.03	1/Discharge	1/5 Years	-	Composite	ND < 0.00080	U*
Antimony	µg/L	6.0	1/Year	1/5 Years	-	Composite	ND < 0.50	U
Arsenic	µg/L	10.0	1/Year	1/5 Years	-	Composite	ND < 8.9	U
Beryllium	µg/L	4.0	1/Year	1/5 Years	-	Composite	ND < 0.44	U
Bis (2-Ethylhexyl) Phthalate	µg/L	4.0	1/Discharge	1/5 Years	-	Composite	ND < 1.9	U*
Cadmium	µg/L	(4.0) 3.1	1/Discharge	1/5 Years	-	Composite	ND < 0.25	U
Chromium VI (Hexavalent)	µg/L	16	1/Year	1/5 Years	-	Composite	ND < 0.19	U*
Copper	µg/L	14	1/Discharge	1/5 Years	-	Composite	4.6	--
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	1.4	--
Mercury	µg/L	0.1	1/Discharge	1/5 Years	-	Composite	ND < 0.10	U*
Nickel	µg/L	94	1/Year	1/5 Years	-	Composite	ND < 5.0	U
N-Nitrosodimethylamine	µg/L	16	1/Discharge	1/5 Years	-	Composite	ND < 0.15	U*
Pentachlorophenol	µg/L	16.5	1/Discharge	1/5 Years	-	Composite	ND < 0.11	U*
Selenium	µg/L	(5) 8.2	1/Discharge	1/5 Years	-	Composite	ND < 0.50	U
Silver	µg/L	4.1	1/Year	1/5 Years	-	Composite	ND < 0.50	U
Thallium	µg/L	2.0	1/Year	1/5 Years	-	Composite	ND < 0.20	U
Trichloroethene	µg/L	5.0	1/Discharge	1/5 Years	-	Grab	ND < 0.17	U*
Zinc	µg/L	119	1/Discharge	1/5 Years	-	Composite	ND < 12	U
NON-CONVENTIONAL POLLUTANTS								
Ammonia - N	mg/L	10.1	1/Discharge	NA	-	Composite	0.402	*
Barium	mg/L	1.0	1/Year	NA	-	Composite	0.028	--
Chloride	mg/L	150	1/Discharge	NA	-	Composite	5.3	*
Chlorine, Total Residual (Field)	mg/L	0.1	1/Year	NA	-	Grab	0.0	*
Chronic Toxicity	Pass or Fail and % Effect	Pass or % Effect <50	1st & 2nd rain event/Year	NA	-	Composite	Pass, -15.19	*
Detergents (as MBAS)	mg/L	0.5	1/Discharge	NA	-	Composite	ND < 0.15	U*

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/24/2021 09:30 - 12/26/2021 10:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Fluoride	mg/L	1.6	1/Year	NA	-	Composite	ND < 0.23	U*
Iron	mg/L	0.3	1/Discharge[r]	NA	-	Composite	2.5	--
Manganese	µg/L	50	1/Year	NA	-	Composite	37	--
Nitrate - N	mg/L	8	1/Discharge	NA	-	Composite	3.6	*
Nitrate + Nitrite as Nitrogen (N)	mg/L	8	1/Discharge	NA	-	Composite	3.8	*
Nitrite - N	mg/L	1	1/Discharge	NA	-	Composite	0.21	J (DNQ*)
Perchlorate	µg/L	6.0	1/Discharge	NA	-	Composite	ND < 9.1	U*
Settleable Solids[#]	ml/L	0.3	1/Discharge	NA	-	Grab	ND < 0.10	U*
Sulfate	mg/L	300	1/Discharge	NA	-	Composite	5.7	*
Temperature (Field)	Deg F	86	1/Discharge	1/Quarter	-	Grab	49.8	*
Total Dissolved Solids	mg/L	950	1/Discharge	NA	-	Composite	280	*
REMAINING PRIORITY POLLUTANTS								
1,1,1-Trichloroethane	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.25	U*
1,1,2,2-Tetrachloroethane	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.20	U*
1,1,2-Trichloroethane	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.17	U*
1,1-Dichloroethane	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.39	U*
1,2,4-Trichlorobenzene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.14	U*
1,2-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.16	U*
1,2-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.14	U*
1,2-Dichloropropane	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.17	U*
1,2-Diphenylhydrazine/Azobenzene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.073	U*
1,3-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.16	U*
1,3-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.13	U*
1,4-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.11	U*
1,4-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.13	U*
2,4-Dichlorophenol	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.10	U*
2,4-Dimethylphenol	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.14	U*
2,4-Dinitrophenol	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 1.0	U*
2,6-Dinitrotoluene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.14	U*
2-Chloroethyl vinyl ether[q]	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 1.1	U*
2-Chloronaphthalene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.14	U*
2-Chlorophenol	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.086	U*
2-Methyl-4,6-dinitrophenol	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 4.2	U*
2-Nitrophenol	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 1.5	U*
3,3'-Dichlorobenzidine	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 1.7	U*
4,4'-DDD	µg/L	-	1/Year	1/Quarter	0.0014	Composite	ND < 0.0008	U*
4,4'-DDE	µg/L	-	1/Year	1/Quarter	0.001	Composite	ND < 0.0005	U*
4,4'-DDT	µg/L	-	1/Year	1/Quarter	0.001	Composite	ND < 0.0016	U*

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/24/2021 09:30 - 12/26/2021 10:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
4-Bromophenyl phenyl ether	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.081	U*
4-Chloro-3-methylphenol	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.12	U*
4-Chlorophenyl phenyl ether	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.095	U*
4-Nitrophenol	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 1.2	U*
Acenaphthene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.090	U*
Acenaphthylene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.089	U*
Acrolein	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 4.6	U*
Acrylonitrile	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 1.4	U*
Aldrin	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.00070	U*
alpha-Endosulfan	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.00070	U*
Anthracene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.076	U*
Aroclor 1016	µg/L	-	1/Year	1/Quarter	0.0003	Composite	ND < 0.044	U*
Aroclor 1221	µg/L	-	1/Year	1/Quarter	0.0003	Composite	ND < 0.044	U*
Aroclor 1232	µg/L	-	1/Year	1/Quarter	0.0003	Composite	ND < 0.044	U*
Aroclor 1242	µg/L	-	1/Year	1/Quarter	0.0003	Composite	ND < 0.044	U*
Aroclor 1248	µg/L	-	1/Year	1/Quarter	0.0003	Composite	ND < 0.044	U*
Aroclor 1254	µg/L	-	1/Year	1/Quarter	0.0003	Composite	ND < 0.052	U*
Aroclor 1260	µg/L	-	1/Year	1/Quarter	0.0003	Composite	ND < 0.052	U*
Benzene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.28	U*
Benzidine	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 2.4	U*
Benzo(a)anthracene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.073	U*
Benzo(a)pyrene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.076	U*
Benzo(b)fluoranthene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.11	U*
Benzo(g,h,i)perylene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.13	U*
Benzo(k)fluoranthene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.081	U*
beta-BHC	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.0017	U*
beta-Endosulfan	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.00050	U*
Bis (2-Chloroethoxy) Methane	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.15	U*
Bis (2-Chloroethyl) Ether	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.10	U*
Bis (2-Chloroisopropyl) Ether	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.097	U*
Bromoform	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.25	U*
Bromomethane	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.22	U*
Butyl benzylphthalate	µg/L	-	1/Year	1/5 Years	-	Composite	0.70	J (DNQ*)
Carbon tetrachloride	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.28	U*
Chlordane	µg/L	-	1/Year	1/Quarter	0.001	Composite	ND < 0.0065	U*
Chlorobenzene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.19	U*
Chlorodibromomethane	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.15	U*
Chloroethane	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.29	U*

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/24/2021 09:30 - 12/26/2021 10:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Chloroform	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.19	U*
Chloromethane (Methyl Chloride)	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.30	U*
Chromium	µg/L	-	1/Year	1/5 Years	-	Composite	4.2	J (DNQ)
Chromium III (Trivalent)	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 6.9	U*
Chrysene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.061	U*
cis-1,3-Dichloropropene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.30	U*
delta-BHC	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.0011	U*
Dibenzo(a,h)anthracene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.15	U*
Dichlorobromomethane	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.19	U*
Dieldrin	µg/L	-	1/Year	1/Quarter	0.0002	Composite	ND < 0.00050	U*
Diethyl phthalate	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.14	U*
Dimethyl phthalate	µg/L	-	1/Year	1/5 Years	-	Composite	0.082	J (DNQ*)
Di-n-butyl phthalate	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.72	U*
Di-n-octyl phthalate	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.67	U*
Endosulfan sulfate	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.00060	U*
Endrin	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.00070	U*
Endrin aldehyde	µg/L	-	1/Year	1/5 Years	-	Composite	0.011	*
Ethylbenzene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.25	U*
Fluoranthene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.10	U*
Fluorene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.085	U*
gamma-BHC (Lindane)	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.00090	U*
Heptachlor	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.00070	U*
Heptachlor epoxide	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.00040	U*
Hexachlorobenzene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.099	U*
Hexachlorobutadiene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.18	U*
Hexachlorocyclopentadiene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.10	U*
Hexachloroethane	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.16	U*
Indeno(1,2,3-cd)pyrene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.13	U*
Isophorone	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.093	U*
m,p-Xylenes	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.17	U*
Methylene chloride	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.57	U*
Naphthalene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.10	U*
Naphthalene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.33	U*
Nitrobenzene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.10	U*
N-Nitroso-di-n-propylamine	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.065	U*
N-Nitrosodiphenylamine	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.10	U*
o-Xylene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.15	U*
Phenanthrene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.078	U*

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/24/2021 09:30 - 12/26/2021 10:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Phenol	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.080	U*
Pyrene	µg/L	-	1/Year	1/5 Years	-	Composite	ND < 0.084	U*
Tetrachloroethene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.21	U*
Toluene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.23	U*
Toxaphene	µg/L	-	1/Year	1/Quarter	0.0003	Composite	ND < 0.013	U*
trans-1,2-Dichloroethene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.24	U*
trans-1,3-Dichloropropene	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.18	U*
Trichlorofluoromethane	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.29	U*
Vinyl chloride	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.47	U*
Xylenes (Total)	µg/L	-	1/Year	1/5 Years	-	Grab	ND < 0.17	U*
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS								
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	-	1/Quarter	NA	-	Grab	ND < 0.33	U*
1,2-Dichloro-1,1,2-trifluoroethane	µg/L	-	1/Year	NA	-	Grab	ND < 0.58	U*
1,4-Dioxane	µg/L	-	1/Year	NA	-	Composite	ND < 1.1	U*
Boron	mg/L	-	1/Year	NA	-	Composite	0.065	--
cis-1,2-Dichloroethene	µg/L	-	1/Year	NA	-	Grab	ND < 0.21	U*
Cobalt	µg/L	-	1/Year	NA	-	Composite	ND < 2.8	U
Conductivity	µmhos/cm	-	1/Discharge	NA	-	Grab	210	*
Cyclohexane	µg/L	-	1/Year	NA	-	Grab	ND < 0.79	U*
Diesel Range Organics (DRO C13-C28)	mg/L	-	1/Year	NA	-	Grab	ND < 0.037	U*
Dissolved Oxygen (Field)	mg/L	-	1/Discharge	NA	-	Grab	9.73	*
E. Coli	mpn/100mL	-	1/Year	1/Year	235	Grab	96	J (H)
Gasoline Range Organics (GRO C4-C12)	mg/L	-	1/Year	NA	-	Grab	ND < 0.030	U*
Hardness (as CaCO3)	mg/L	-	1/Year	1/Quarter	-	Composite	40	*
Monomethyl hydrazine	µg/L	-	1/Year	NA	-	Composite	ND < 0.31	U*
Total Organic Carbon	mg/L	-	1/Year	NA	-	Composite	16	*
Turbidity	NTU	-	1/Discharge	NA	-	Composite	170	*
Vanadium	µg/L	-	1/Year	NA	-	Composite	6.4	J (DNQ)
ADDITIONAL POLLUTANTS[2]								
Antimony, dissolved	µg/L	-	Additional/Year	NA	-	Composite	ND < 0.50	U
Arsenic, dissolved	µg/L	-	Additional/Year	NA	-	Composite	ND < 8.9	U
Barium, dissolved	mg/L	-	Additional/Year	NA	-	Composite	0.016	--
Beryllium, dissolved	µg/L	-	Additional/Year	NA	-	Composite	ND < 0.44	U
Boron, dissolved	mg/L	-	Additional/Year	NA	-	Composite	0.063	--
Cadmium, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.25	U
Chromium, dissolved	µg/L	-	Additional/Year	NA	-	Composite	ND < 2.5	U
Cobalt, dissolved	µg/L	-	Additional/Year	NA	-	Composite	ND < 2.8	U
Copper, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	3.7	--

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/24/2021 09:30 - 12/26/2021 10:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Hardness, Dissolved (as CaCO3)	mg/L	-	Additional/Year	NA	-	Composite	37	*
Iron, dissolved	mg/L	-	Additional/Discharge[r]	NA	-	Composite	0.480	--
Lead, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	0.54	J (DNQ)
Manganese, dissolved	µg/L	-	Additional/Year	NA	-	Composite	9.9	J (DNQ)
Mercury, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	0.13	J (DNQ*)
Nickel, dissolved	µg/L	-	Additional/Year	NA	-	Composite	ND < 5.0	U
Selenium, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.50	U
Silver, dissolved	µg/L	-	Additional/Year	NA	-	Composite	ND < 0.50	U
Thallium, dissolved	µg/L	-	Additional/Year	NA	-	Composite	ND < 0.20	U
Vanadium, dissolved	µg/L	-	Additional/Year	NA	-	Composite	3.2	J (DNQ)
Zinc, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 12	U

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/27/2021 13:20 - 12/28/2021 13:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	1/Quarter	-	Meas	1.6414	*
CONVENTIONAL POLLUTANTS								
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	mg/L	30	1/Discharge	NA	-	Composite	11	*
Oil & Grease	mg/L	15	1/Discharge	NA	-	Grab	ND < 0.57	U*
pH (Field)	s.u.	6.5-8.5	1/Discharge	1/Quarter	6.5-8.5	Grab	6.83	*
Total Suspended Solids[#]	mg/L	45	1/Discharge	1/Year	-	Composite	1.7[(d)]	*
PRIORITY POLLUTANTS								
1,1-Dichloroethene	µg/L	6.0	1/Discharge	1/5 Years	-	Grab	ND < 0.33	U*
1,2-Dichloroethane	µg/L	0.5	1/Discharge	1/5 Years	-	Grab	ND < 0.15	U*
2,4,6-Trichlorophenol	µg/L	13	1/Discharge	1/5 Years	-	Composite	ND < 0.070	U*
2,4-Dinitrotoluene	µg/L	18	1/Discharge	1/5 Years	-	Composite	ND < 0.11	U*
alpha-BHC	µg/L	0.03	1/Discharge	1/5 Years	-	Composite	ND < 0.00080	U*
Antimony	µg/L	6.0	1/Year	1/5 Years	-	ANR	ANR	ANR
Arsenic	µg/L	10.0	1/Year	1/5 Years	-	Composite	ND < 8.9[(p)]	U*
Beryllium	µg/L	4.0	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Ethylhexyl) Phthalate	µg/L	4.0	1/Discharge	1/5 Years	-	Composite	ND < 1.9	U*
Cadmium	µg/L	(4.0) 3.1	1/Discharge	1/5 Years	-	Composite	ND < 0.25	U*
Chromium VI (Hexavalent)	µg/L	16	1/Year	1/5 Years	-	ANR	ANR	ANR
Copper	µg/L	14	1/Discharge	1/5 Years	-	Composite	1.6	J (DNQ*)
Cyanide	µg/L	8.5	1/Discharge	1/5 Years	-	Composite	ND < 1.4	U*
Lead	µg/L	5.2	1/Discharge	1/5 Years	-	Composite	ND < 0.50	U*
Mercury	µg/L	0.1	1/Discharge	1/5 Years	-	Composite	ND < 0.12	U*
Nickel	µg/L	94	1/Year	1/5 Years	-	ANR	ANR	ANR
N-Nitrosodimethylamine	µg/L	16	1/Discharge	1/5 Years	-	Composite	ND < 0.15	U*
Pentachlorophenol	µg/L	16.5	1/Discharge	1/5 Years	-	Composite	0.51	J (DNQ*)
Selenium	µg/L	(5) 8.2	1/Discharge	1/5 Years	-	Composite	ND < 0.50	U*
Silver	µg/L	4.1	1/Year	1/5 Years	-	ANR	ANR	ANR
Thallium	µg/L	2.0	1/Year	1/5 Years	-	ANR	ANR	ANR
Trichloroethene	µg/L	5.0	1/Discharge	1/5 Years	-	Grab	0.32	J (DNQ*)
Zinc	µg/L	119	1/Discharge	1/5 Years	-	Composite	ND < 12	U*
NON-CONVENTIONAL POLLUTANTS								
Ammonia - N	mg/L	10.1	1/Discharge	NA	-	Composite	ND < 0.100	U*
Barium	mg/L	1.0	1/Year	NA	-	ANR	ANR	ANR
Chloride	mg/L	150	1/Discharge	NA	-	Composite	7.1	*
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	-	Composite	Pass, -5.64	*
Detergents (as MBAS)	mg/L	0.5	1/Discharge	NA	-	Composite	ND < 0.15	U*

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/27/2021 13:20 - 12/28/2021 13:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Fluoride	mg/L	1.6	1/Year	NA	-	ANR	ANR	ANR
Iron	mg/L	0.3	1/Discharge[r]	NA	-	Composite	ND < 0.050	U*
Manganese	µg/L	50	1/Year	NA	-	Composite	ND < 6.8[p]	U*
Nitrate - N	mg/L	8	1/Discharge	NA	-	Composite	2.9	*
Nitrate + Nitrite as Nitrogen (N)	mg/L	8	1/Discharge	NA	-	Composite	2.9	*
Nitrite - N	mg/L	1	1/Discharge	NA	-	Composite	ND < 0.018	U*
Perchlorate	µg/L	6.0	1/Discharge	NA	-	Composite	ND < 0.91	U*
Settleable Solids[#]	ml/L	0.3	1/Discharge	NA	-	Grab	ND < 0.10	U*
Sulfate	mg/L	300	1/Discharge	NA	-	Composite	140	*
Temperature (Field)	Deg F	86	1/Discharge	1/Quarter	-	Grab	48.8	*
Total Dissolved Solids	mg/L	950	1/Discharge	NA	-	Composite	270	*
REMAINING PRIORITY POLLUTANTS								
1,1,1-Trichloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,1,2,2-Tetrachloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,1,2-Trichloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,1-Dichloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2,4-Trichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Dichloropropane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Diphenylhydrazine/Azobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,3-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,3-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,4-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,4-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,4-Dichlorophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,4-Dimethylphenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,4-Dinitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,6-Dinitrotoluene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Chloroethyl vinyl ether[q]	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Chloronaphthalene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Chlorophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Methyl-4,6-dinitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Nitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
3,3'-Dichlorobenzidine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4,4'-DDD	µg/L	-	1/Year	1/Quarter	0.0014	ANR	ANR	ANR
4,4'-DDE	µg/L	-	1/Year	1/Quarter	0.001	ANR	ANR	ANR
4,4'-DDT	µg/L	-	1/Year	1/Quarter	0.001	ANR	ANR	ANR

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/27/2021 13:20 - 12/28/2021 13:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
4-Bromophenyl phenyl ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4-Chloro-3-methylphenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4-Chlorophenyl phenyl ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4-Nitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acenaphthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acenaphthylene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acrolein	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acrylonitrile	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Aldrin	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
alpha-Endosulfan	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Anthracene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Aroclor 1016	µg/L	-	1/Year	1/Quarter	0.0003	ANR	ANR	ANR
Aroclor 1221	µg/L	-	1/Year	1/Quarter	0.0003	ANR	ANR	ANR
Aroclor 1232	µg/L	-	1/Year	1/Quarter	0.0003	ANR	ANR	ANR
Aroclor 1242	µg/L	-	1/Year	1/Quarter	0.0003	ANR	ANR	ANR
Aroclor 1248	µg/L	-	1/Year	1/Quarter	0.0003	ANR	ANR	ANR
Aroclor 1254	µg/L	-	1/Year	1/Quarter	0.0003	ANR	ANR	ANR
Aroclor 1260	µg/L	-	1/Year	1/Quarter	0.0003	ANR	ANR	ANR
Benzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzidine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(a)anthracene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(a)pyrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(b)fluoranthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(g,h,i)perylene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(k)fluoranthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
beta-BHC	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
beta-Endosulfan	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Chloroethoxy) Methane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Chloroethyl) Ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Chloroisopropyl) Ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bromoform	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bromomethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Butyl benzylphthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Carbon tetrachloride	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chlordane	µg/L	-	1/Year	1/Quarter	0.001	ANR	ANR	ANR
Chlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chlorodibromomethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/27/2021 13:20 - 12/28/2021 13:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Chloroform	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chloromethane (Methyl Chloride)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chromium	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chromium III (Trivalent)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chrysene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
cis-1,3-Dichloropropene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
delta-BHC	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dibenzo(a,h)anthracene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dichlorobromomethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dieldrin	µg/L	-	1/Year	1/Quarter	0.0002	ANR	ANR	ANR
Diethyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dimethyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Di-n-butyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Di-n-octyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Endosulfan sulfate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Endrin	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Endrin aldehyde	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Ethylbenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Fluoranthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Fluorene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
gamma-BHC (Lindane)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Heptachlor	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Heptachlor epoxide	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachlorobutadiene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachlorocyclopentadiene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Indeno(1,2,3-cd)pyrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Isophorone	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
m,p-Xylenes	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Methylene chloride	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Naphthalene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Naphthalene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Nitrobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
N-Nitroso-di-n-propylamine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
N-Nitrosodiphenylamine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
o-Xylene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Phenanthrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/27/2021 13:20 - 12/28/2021 13:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Phenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Pyrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Tetrachloroethene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Toluene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Toxaphene	µg/L	-	1/Year	1/Quarter	0.0003	ANR	ANR	ANR
trans-1,2-Dichloroethene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
trans-1,3-Dichloropropene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Trichlorofluoromethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Vinyl chloride	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Xylenes (Total)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS								
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	-	1/Quarter	NA	-	ANR	ANR	ANR
1,2-Dichloro-1,1,2-trifluoroethane	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
1,4-Dioxane	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Boron	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
cis-1,2-Dichloroethene	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Cobalt	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Conductivity	µmhos/cm	-	1/Discharge	NA	-	Grab	400	*
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	9.08	*
E. Coli	mpn/100mL	-	1/Year	1/Year	235	ANR	ANR	ANR
Gasoline Range Organics (GRO C4-C12)	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
Hardness (as CaCO3)	mg/L	-	1/Year	1/Quarter	-	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	1.7	*
Vanadium	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
ADDITIONAL POLLUTANTS[2]								
Antimony, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Arsenic, dissolved	µg/L	-	Additional/Year	NA	-	Composite	ND < 8.9[p]	U*
Barium, dissolved	mg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Beryllium, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Boron, dissolved	mg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Cadmium, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.25	U*
Chromium, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Cobalt, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Copper, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	1.7	J (DNQ*)

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/27/2021 13:20 - 12/28/2021 13:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Hardness, Dissolved (as CaCO3)	mg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Iron, dissolved	mg/L	-	Additional/Discharge[r]	NA	-	Composite	ND < 0.050	U*
Lead, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.50	U*
Manganese, dissolved	µg/L	-	Additional/Year	NA	-	Composite	ND < 6.8[p]	U*
Mercury, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	0.14	J (DNQ*)
Nickel, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Selenium, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 0.50	U*
Silver, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Thallium, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Vanadium, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Zinc, dissolved	µg/L	-	Additional/Discharge	NA	-	Composite	ND < 12	U*

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/30/2021 11:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	1/Quarter	-	ANR	ANR	ANR
CONVENTIONAL POLLUTANTS								
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	mg/L	30	1/Discharge	NA	-	ANR	ANR	ANR
Oil & Grease	mg/L	15	1/Discharge	NA	-	ANR	ANR	ANR
pH (Field)	s.u.	6.5-8.5	1/Discharge	1/Quarter	6.5-8.5	ANR	ANR	ANR
Total Suspended Solids[#]	mg/L	45	1/Discharge	1/Year	-	ANR	ANR	ANR
PRIORITY POLLUTANTS								
1,1-Dichloroethene	µg/L	6.0	1/Discharge	1/5 Years	-	ANR	ANR	ANR
1,2-Dichloroethane	µg/L	0.5	1/Discharge	1/5 Years	-	ANR	ANR	ANR
2,4,6-Trichlorophenol	µg/L	13	1/Discharge	1/5 Years	-	ANR	ANR	ANR
2,4-Dinitrotoluene	µg/L	18	1/Discharge	1/5 Years	-	ANR	ANR	ANR
alpha-BHC	µg/L	0.03	1/Discharge	1/5 Years	-	ANR	ANR	ANR
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	-	ANR	ANR	ANR
Cadmium	µg/L	(4.0) 3.1	1/Discharge	1/5 Years	-	ANR	ANR	ANR
Chromium VI (Hexavalent)	µg/L	16	1/Year	1/5 Years	-	ANR	ANR	ANR
Copper	µg/L	14	1/Discharge	1/5 Years	-	ANR	ANR	ANR
Cyanide	µg/L	8.5	1/Discharge	1/5 Years	-	ANR	ANR	ANR
Lead	µg/L	5.2	1/Discharge	1/5 Years	-	ANR	ANR	ANR
Mercury	µg/L	0.1	1/Discharge	1/5 Years	-	ANR	ANR	ANR
Nickel	µg/L	94	1/Year	1/5 Years	-	ANR	ANR	ANR
N-Nitrosodimethylamine	µg/L	16	1/Discharge	1/5 Years	-	ANR	ANR	ANR
Pentachlorophenol	µg/L	16.5	1/Discharge	1/5 Years	-	ANR	ANR	ANR
Selenium	µg/L	(5) 8.2	1/Discharge	1/5 Years	-	ANR	ANR	ANR
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	-	ANR	ANR	ANR
Zinc	µg/L	119	1/Discharge	1/5 Years	-	ANR	ANR	ANR
NON-CONVENTIONAL POLLUTANTS								
Ammonia - N	mg/L	10.1	1/Discharge	NA	-	ANR	ANR	ANR
Barium	mg/L	1.0	1/Year	NA	-	ANR	ANR	ANR
Chloride	mg/L	150	1/Discharge	NA	-	ANR	ANR	ANR
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	-	ANR	ANR	ANR

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/30/2021 11:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Fluoride	mg/L	1.6	1/Year	NA	-	ANR	ANR	ANR
Iron	mg/L	0.3	1/Discharge[r]	NA	-	ANR	ANR	ANR
Manganese	µg/L	50	1/Year	NA	-	ANR	ANR	ANR
Nitrate - N	mg/L	8	1/Discharge	NA	-	ANR	ANR	ANR
Nitrate + Nitrite as Nitrogen (N)	mg/L	8	1/Discharge	NA	-	ANR	ANR	ANR
Nitrite - N	mg/L	1	1/Discharge	NA	-	ANR	ANR	ANR
Perchlorate	µg/L	6.0	1/Discharge	NA	-	ANR	ANR	ANR
Settleable Solids[#]	ml/L	0.3	1/Discharge	NA	-	ANR	ANR	ANR
Sulfate	mg/L	300	1/Discharge	NA	-	ANR	ANR	ANR
Temperature (Field)	Deg F	86	1/Discharge	1/Quarter	-	ANR	ANR	ANR
Total Dissolved Solids	mg/L	950	1/Discharge	NA	-	ANR	ANR	ANR
REMAINING PRIORITY POLLUTANTS								
1,1,1-Trichloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,1,2,2-Tetrachloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,1,2-Trichloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,1-Dichloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2,4-Trichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Dichloropropane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,2-Diphenylhydrazine/Azobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,3-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,3-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,4-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
1,4-Dichlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,4-Dichlorophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,4-Dimethylphenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,4-Dinitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2,6-Dinitrotoluene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Chloroethyl vinyl ether[q]	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Chloronaphthalene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Chlorophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Methyl-4,6-dinitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
2-Nitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
3,3'-Dichlorobenzidine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4,4'-DDD	µg/L	-	1/Year	1/Quarter	0.0014	ANR	ANR	ANR
4,4'-DDE	µg/L	-	1/Year	1/Quarter	0.001	ANR	ANR	ANR
4,4'-DDT	µg/L	-	1/Year	1/Quarter	0.001	ANR	ANR	ANR

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/30/2021 11:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
4-Bromophenyl phenyl ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4-Chloro-3-methylphenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4-Chlorophenyl phenyl ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
4-Nitrophenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acenaphthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acenaphthylene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acrolein	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Acrylonitrile	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Aldrin	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
alpha-Endosulfan	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Anthracene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Aroclor 1016	µg/L	-	1/Year	1/Quarter	0.0003	ANR	ANR	ANR
Aroclor 1221	µg/L	-	1/Year	1/Quarter	0.0003	ANR	ANR	ANR
Aroclor 1232	µg/L	-	1/Year	1/Quarter	0.0003	ANR	ANR	ANR
Aroclor 1242	µg/L	-	1/Year	1/Quarter	0.0003	ANR	ANR	ANR
Aroclor 1248	µg/L	-	1/Year	1/Quarter	0.0003	ANR	ANR	ANR
Aroclor 1254	µg/L	-	1/Year	1/Quarter	0.0003	ANR	ANR	ANR
Aroclor 1260	µg/L	-	1/Year	1/Quarter	0.0003	ANR	ANR	ANR
Benzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzidine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(a)anthracene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(a)pyrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(b)fluoranthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(g,h,i)perylene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Benzo(k)fluoranthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
beta-BHC	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
beta-Endosulfan	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Chloroethoxy) Methane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Chloroethyl) Ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bis (2-Chloroisopropyl) Ether	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bromoform	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Bromomethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Butyl benzylphthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Carbon tetrachloride	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chlordane	µg/L	-	1/Year	1/Quarter	0.001	ANR	ANR	ANR
Chlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chlorodibromomethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/30/2021 11:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Chloroform	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chloromethane (Methyl Chloride)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chromium	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chromium III (Trivalent)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Chrysene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
cis-1,3-Dichloropropene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
delta-BHC	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dibenzo(a,h)anthracene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dichlorobromomethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dieldrin	µg/L	-	1/Year	1/Quarter	0.0002	ANR	ANR	ANR
Diethyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Dimethyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Di-n-butyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Di-n-octyl phthalate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Endosulfan sulfate	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Endrin	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Endrin aldehyde	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Ethylbenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Fluoranthene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Fluorene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
gamma-BHC (Lindane)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Heptachlor	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Heptachlor epoxide	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachlorobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachlorobutadiene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachlorocyclopentadiene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Hexachloroethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Indeno(1,2,3-cd)pyrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Isophorone	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
m,p-Xylenes	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Methylene chloride	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Naphthalene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Naphthalene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Nitrobenzene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
N-Nitroso-di-n-propylamine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
N-Nitrosodiphenylamine	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
o-Xylene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Phenanthrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/30/2021 11:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Phenol	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Pyrene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Tetrachloroethene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Toluene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Toxaphene	µg/L	-	1/Year	1/Quarter	0.0003	ANR	ANR	ANR
trans-1,2-Dichloroethene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
trans-1,3-Dichloropropene	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Trichlorofluoromethane	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Vinyl chloride	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
Xylenes (Total)	µg/L	-	1/Year	1/5 Years	-	ANR	ANR	ANR
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS								
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	-	1/Quarter	NA	-	ANR	ANR	ANR
1,2-Dichloro-1,1,2-trifluoroethane	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
1,4-Dioxane	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Boron	mg/L	-	1/Year	NA	-	ANR	ANR	ANR
cis-1,2-Dichloroethene	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Cobalt	µg/L	-	1/Year	NA	-	ANR	ANR	ANR
Conductivity	µmhos/cm	-	1/Discharge	NA	-	ANR	ANR	ANR
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	-	ANR	ANR	ANR
E. Coli	mpn/100mL	-	1/Year	1/Year	235	Grab	210	--
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	-	ANR	ANR	ANR
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	-	ANR	ANR	ANR
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	-	ANR	ANR	ANR

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/30/2021 11:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Hardness, Dissolved (as CaCO3)	mg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Iron, dissolved	mg/L	-	Additional/Discharge[r]	NA	-	ANR	ANR	ANR
Lead, dissolved	µg/L	-	Additional/Discharge	NA	-	ANR	ANR	ANR
Manganese, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Mercury, dissolved	µg/L	-	Additional/Discharge	NA	-	ANR	ANR	ANR
Nickel, dissolved	µg/L	-	Additional/Year	NA	-	ANR	ANR	ANR
Selenium, dissolved	µg/L	-	Additional/Discharge	NA	-	ANR	ANR	ANR
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	-	ANR	ANR	ANR

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/26/2021 10:00 (Composite)			
ANALYTE	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**1998 WHO TEF**	**BEF GREAT LAKES WATER QUALITY INITIATIVE**	**UNITS**	**LAB MDL**	**LAB RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**TCDD EQUIVALENT (w/out DNQ Values)**
1,2,3,4,6,7,8-HpCDD	1/Discharge	1/Year	0.01	0.05	µg/L	2.5E-07	1.4E-05	J (DNQ)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	1/Year	0.01	0.01	µg/L	2.7E-07	4.7E-06	J (DNQ)	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	1/Year	0.01	0.4	µg/L	3.0E-07	ND	U	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	1/Year	0.1	0.3	µg/L	3.3E-07	2.4E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	1/Year	0.1	0.08	µg/L	2.3E-07	8.6E-07	J (DNQ)	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	1/Year	0.1	0.1	µg/L	3.6E-07	9.6E-07	UJ (*III)	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	1/Year	0.1	0.2	µg/L	2.5E-07	7.3E-07	J (DNQ)	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	1/Year	0.1	0.1	µg/L	3.0E-07	1.1E-06	J (DNQ)	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	1/Year	0.1	0.6	µg/L	2.2E-07	7.3E-07	UJ (*III)	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1/Year	1.0	0.9	µg/L	3.3E-07	1.1E-06	J (DNQ)	**ND**
1,2,3,7,8-PeCDF	1/Discharge	1/Year	0.05	0.2	µg/L	2.8E-07	9.5E-07	UJ (*III)	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	1/Year	0.1	0.7	µg/L	2.1E-07	6.5E-07	J (DNQ)	**ND**
2,3,4,7,8-PeCDF	1/Discharge	1/Year	0.5	1.6	µg/L	2.8E-07	5.8E-07	UJ (*III)	**ND**
2,3,7,8-TCDD	1/Discharge	1/Year	1.0	1.0	µg/L	3.3E-07	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	1/Year	0.1	0.8	µg/L	2.8E-06	ND	U	**ND**
OCDD	1/Discharge	1/Year	0.0001	0.01	µg/L	3.8E-07	9.2E-05	J (DNQ)	**ND**
OCDF	1/Discharge	1/Year	0.0001	0.02	µg/L	3.4E-07	7.9E-06	J (DNQ)	**ND**

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

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

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/28/2021 13:30 (Composite)			
ANALYTE	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**1998 WHO TEF**	**BEF GREAT LAKES WATER QUALITY INITIATIVE**	**UNITS**	**LAB MDL**	**LAB RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**TCDD EQUIVALENT (w/out DNQ Values)**
1,2,3,4,6,7,8-HpCDD	1/Discharge	1/Year	0.01	0.05	µg/L	4.6E-07	1.6E-05	UJ (B*III)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	1/Year	0.01	0.01	µg/L	4.7E-07	6.4E-06	UJ (B*III)	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	1/Year	0.01	0.4	µg/L	5.0E-07	1.7E-06	UJ (B*III)	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	1/Year	0.1	0.3	µg/L	5.7E-07	3.6E-06	UJ (B*III)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	1/Year	0.1	0.08	µg/L	4.8E-07	ND	UJ (*III)	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	1/Year	0.1	0.1	µg/L	5.6E-07	3.0E-06	UJ (B*III)	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	1/Year	0.1	0.2	µg/L	4.8E-07	ND	UJ (*III)	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	1/Year	0.1	0.1	µg/L	5.5E-07	2.8E-06	UJ (B*III)	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	1/Year	0.1	0.6	µg/L	4.5E-07	2.5E-06	UJ (B*III)	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1/Year	1.0	0.9	µg/L	8.7E-07	ND	UJ (*III)	**ND**
1,2,3,7,8-PeCDF	1/Discharge	1/Year	0.05	0.2	µg/L	7.1E-07	ND	UJ (*III)	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	1/Year	0.1	0.7	µg/L	3.8E-07	1.7E-06	UJ (B*III)	**ND**
2,3,4,7,8-PeCDF	1/Discharge	1/Year	0.5	1.6	µg/L	7.1E-07	ND	UJ (*III)	**ND**
2,3,7,8-TCDD	1/Discharge	1/Year	1.0	1.0	µg/L	1.0E-06	ND	UJ (*III)	**ND**
2,3,7,8-TCDF	1/Discharge	1/Year	0.1	0.8	µg/L	5.2E-07	ND	UJ (*III)	**ND**
OCDD	1/Discharge	1/Year	0.0001	0.01	µg/L	9.3E-07	6.8E-05	UJ (B*III)	**ND**
OCDF	1/Discharge	1/Year	0.0001	0.02	µg/L	8.0E-07	1.3E-05	UJ (B*III)	**ND**

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

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

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/26/2021 10:00 (Composite)		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS								
Gross Alpha	pCi/L	15	1/Discharge	NA	-/-	6.33+/-2.37	2.61	*
Gross Beta	pCi/L	50	1/Discharge	NA	-/-	6.29+/-1.19	0.952	*
Combined Radium-226 & Radium-228	pCi/L	5.0	1/Discharge	NA	-/-	1.06+/-0.667	NM	U*
Strontium-90	pCi/L	8.0	1/Discharge	NA	-/-	0.311+/-0.431	0.719	U*
Tritium	pCi/L	20,000	1/Discharge	NA	-/-	-130+/-163	315	U*
ADDITIONAL POLLUTANTS								
Cesium-137	pCi/L	200	1/Discharge	NA	-/-	-2.41+/-11	13.2	U*
Uranium	pCi/L	20	1/Discharge	NA	-/-	0.174+/-0.274	0.376	U*
ADDITIONAL POLLUTANTS WITHOUT LIMITS								
Potassium-40	pCi/L	-	1/Discharge	NA	-/-	4.54+/-171	178	U*

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

OUTFALL 002
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

						12/28/2021 13:30 (Composite)		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**OUTFALL SAMPLE FREQUENCY**	**RECEIVING WATER SAMPLE FREQUENCY**	**RECEIVING WATER LIMIT**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS								
Gross Alpha	pCi/L	15	1/Discharge	NA	-/-	1.62 ± 1.61	2.53	U*
Gross Beta	pCi/L	50	1/Discharge	NA	-/-	4.33 ± 1.14	1.23	*
Combined Radium-226 & Radium-228	pCi/L	5.0	1/Discharge	NA	-/-	0.598 ± 0.384	NM	U*
Strontium-90	pCi/L	8.0	1/Discharge	NA	-/-	0.463 ± 0.447	0.720	U*
Tritium	pCi/L	20,000	1/Discharge	NA	-/-	-144 ± 199	374	U*
ADDITIONAL POLLUTANTS								
Cesium-137	pCi/L	200	1/Discharge	NA	-/-	7.38 ± 5.87	6.15	*
Uranium	pCi/L	20	1/Discharge	NA	-/-	0.0490 ± 0.05767	0.0985	U*
ADDITIONAL POLLUTANTS WITHOUT LIMITS								
Potassium-40	pCi/L	-	1/Discharge	NA	-/-	116 ± 57.9	50.2	*

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

OUTFALL 002
DISCHARGE MONITORING MASS SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/24/2021 09:30 - 12/26/2021 10:00			12/27/2021 13:20 - 12/28/2021 13:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM BENCHMARK LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	0.39616	*	Meas	1.6414	*
CONVENTIONAL POLLUTANTS									
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	LBS/DAY	29,481	1/Discharge	Composite	13	*	Composite	151	*
Oil & Grease	LBS/DAY	14,741	1/Discharge	Grab	ND	U*	Grab	ND	U*
Total Suspended Solids#	LBS/DAY	44,222	1/Discharge	Composite	330(c)	*	Composite	23(d)	*
PRIORITY POLLUTANTS									
1,1-Dichloroethene	LBS/DAY	5.9	1/Discharge	Grab	ND	U*	Grab	ND	U*
1,2-Dichloroethane	LBS/DAY	0.49	1/Discharge	Grab	ND	U*	Grab	ND	U*
2,4,6-Trichlorophenol	LBS/DAY	12.8	1/Discharge	Composite	ND	U*	Composite	ND	U*
2,4-Dinitrotoluene	LBS/DAY	17.7	1/Discharge	Composite	ND	U*	Composite	ND	U*
alpha-BHC	LBS/DAY	0.03	1/Discharge	Composite	ND	U*	Composite	ND	U*
Antimony	LBS/DAY	5.9	1/Year	Composite	ND	U	ANR	ANR	ANR
Arsenic	LBS/DAY	9.83	1/Year	Composite	ND	U	Composite	ND(p)	U*
Beryllium	LBS/DAY	3.93	1/Year	Composite	ND	U	ANR	ANR	ANR
Bis (2-Ethylhexyl) Phthalate	LBS/DAY	3.93	1/Discharge	Composite	ND	U*	Composite	ND	U*
Cadmium	LBS/DAY	(3.93) 3.05	1/Discharge	Composite	ND	U	Composite	ND	U*
Chromium VI (Hexavalent)	LBS/DAY	15.72	1/Year	Composite	ND	U*	ANR	ANR	ANR
Copper	LBS/DAY	13.76	1/Discharge	Composite	0.015	*	Composite	0.022	J (DNQ*)
Cyanide	LBS/DAY	8.35	1/Discharge	Composite	ND	U*	Composite	ND	U*
Lead	LBS/DAY	5.11	1/Discharge	Composite	0.0046	*	Composite	ND	U*
Mercury	LBS/DAY	0.1	1/Discharge	Composite	ND	U*	Composite	ND	U*
Nickel	LBS/DAY	92.4	1/Year	Composite	ND	U	ANR	ANR	ANR
N-Nitrosodimethylamine	LBS/DAY	15.72	1/Discharge	Composite	ND	U*	Composite	ND	U*
Pentachlorophenol	LBS/DAY	16.22	1/Discharge	Composite	ND	U*	Composite	0.0070	J (DNQ*)
Selenium	LBS/DAY	(4.91) 8.06	1/Discharge	Composite	ND	U	Composite	ND	U*
Silver	LBS/DAY	4.03	1/Year	Composite	ND	U	ANR	ANR	ANR
TCDD TEQ_NoDNQ(4)	LBS/DAY	2.75E-08	1/Discharge	Composite	ND	U*	Composite	ND	U*
Thallium	LBS/DAY	1.97	1/Year	Composite	ND	U	ANR	ANR	ANR
Trichloroethene	LBS/DAY	4.91	1/Discharge	Grab	ND	U*	Grab	0.0044	J (DNQ*)
Zinc	LBS/DAY	117	1/Discharge	Composite	ND	U	Composite	ND	U*
NON-CONVENTIONAL POLLUTANTS									
Ammonia - N	LBS/DAY	9,925.3	1/Discharge	Composite	1.33	*	Composite	ND	U*
Barium	LBS/DAY	983	1/Year	Composite	0.09	*	ANR	ANR	ANR
Chloride	LBS/DAY	147,405	1/Discharge	Composite	18	*	Composite	97	*
Chlorine, Total Residual (Field)	LBS/DAY	98.3	1/Year	Grab	0.0	*	ANR	ANR	ANR
Detergents (as MBAS)	LBS/DAY	491.4	1/Discharge	Composite	ND	U*	Composite	ND	U*
Fluoride	LBS/DAY	1,572.3	1/Year	Composite	ND	U*	ANR	ANR	ANR
Iron	LBS/DAY	295	1/Discharge(r)	Composite	8.3	*	Composite	ND	U*

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

OUTFALL 008
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/24/2021 10:45 - 12/26/2021 09:10[m]		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	7.21	1/Discharge	Meas	0.024025	*
CONVENTIONAL POLLUTANTS						
Oil & Grease	mg/L	15	1/Discharge	Grab	0.73	J (DNQ*)
pH (Field)	s.u	6.5-8.5	1/Discharge	Grab	7.19	*
PRIORITY POLLUTANTS						
Antimony	ug/L	6	1/Discharge	Composite	0.87	J (DNQ*)
Cadmium	ug/L	(4.0) 3.1	1/Discharge	Composite	ND < 0.25	U*
Copper	ug/L	14	1/Discharge	Composite	2.4	*
Cyanide	ug/L	9.5	1/Discharge	Composite	ND < 1.4	U*
Lead	ug/L	5.2	1/Discharge	Composite	ND < 0.50	U*
Mercury	ug/L	0.13	1/Discharge	Composite	ND < 0.12	U*
Nickel	ug/L	86	1/Discharge	Composite	ND < 5.0	U*
Selenium	ug/L	5	1/Discharge	Composite	ND < 0.50	U*
Thallium	ug/L	2.0	1/Discharge	Composite	ND < 0.20	U*
Zinc	ug/L	120	1/Discharge	Composite	ND < 12	U*
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	mg/L	10.1	1/Discharge	Composite	0.139	J (DNQ*)
Boron	mg/L	1.0	1/Year	Composite	0.089	*
Chloride	mg/L	150	1/Discharge	Composite	4.8	J (DNQ*)
Chronic Toxicity	Pass or Fail and % Effect	Pass or % Effect <50	1st & 2nd rain event/Year	Composite	Pass, -3.86	*
Fluoride	mg/L	1.6	1/Year	Composite	ND < 0.23	U*
Nitrate - N	mg/L	8	1/Discharge	Composite	4.2	*
Nitrate + Nitrite as Nitrogen (N)	mg/L	8	1/Discharge	Composite	4.4	*
Nitrite - N	mg/L	1	1/Discharge	Composite	0.18	J (DNQ*)
Perchlorate	ug/L	6.0	1/Discharge	Composite	ND < 9.1	U*
Sulfate	mg/L	300	1/Discharge	Composite	3.2	J (DNQ*)
Temperature (Field)	Deg F	86	1/Discharge	Grab	53	*
Total Dissolved Solids	mg/L	950	1/Discharge	Composite	120	*
REMAINING PRIORITY POLLUTANTS						
1,1,1-Trichloroethane	ug/L	-	1/Year	Grab	ND < 0.25	U*
1,1,2,2-Tetrachloroethane	ug/L	-	1/Year	Grab	ND < 0.20	U*
1,1,2-Trichloroethane	ug/L	-	1/Year	Grab	ND < 0.17	U*
1,1-Dichloroethane	ug/L	-	1/Year	Grab	ND < 0.39	U*
1,1-Dichloroethene	ug/L	-	1/Year	Grab	ND < 0.33	U*
1,2,4-Trichlorobenzene	ug/L	-	1/Year	Composite	ND < 0.14	U*
1,2-Dichlorobenzene	ug/L	-	1/Year	Composite	ND < 0.14	U*
1,2-Dichlorobenzene	ug/L	-	1/Year	Grab	ND < 0.16	U*
1,2-Dichloroethane	ug/L	-	1/Year	Grab	ND < 0.15	U*
1,2-Dichloropropane	ug/L	-	1/Year	Grab	ND < 0.17	U*
1,2-Diphenylhydrazine/Azobenzene	ug/L	-	1/Year	Composite	ND < 0.074	U*
1,3-Dichlorobenzene	ug/L	-	1/Year	Composite	ND < 0.14	U*
1,3-Dichlorobenzene	ug/L	-	1/Year	Grab	ND < 0.16	U*
1,4-Dichlorobenzene	ug/L	-	1/Year	Composite	ND < 0.14	U*
1,4-Dichlorobenzene	ug/L	-	1/Year	Grab	ND < 0.11	U*
2,4,6-Trichlorophenol	ug/L	-	1/Year	Composite	ND < 0.072	U*
2,4-Dichlorophenol	ug/L	-	1/Year	Composite	ND < 0.10	U*
2,4-Dimethylphenol	ug/L	-	1/Year	Composite	ND < 0.14	U*
2,4-Dinitrophenol	ug/L	-	1/Year	Composite	ND < 1.1	U*
2,4-Dinitrotoluene	ug/L	-	1/Year	Composite	ND < 0.11	U*
2,6-Dinitrotoluene	ug/L	-	1/Year	Composite	ND < 0.14	U*
2-Chloroethyl vinyl ether[q]	ug/L	-	1/Year	Grab	ND < 1.1	U*
2-Chloronaphthalene	ug/L	-	1/Year	Composite	ND < 0.15	U*
2-Chlorophenol	ug/L	-	1/Year	Composite	ND < 0.088	U*
2-Methyl-4,6-dinitrophenol	ug/L	-	1/Year	Composite	ND < 4.2	U*
2-Nitrophenol	ug/L	-	1/Year	Composite	ND < 1.5	U*

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

OUTFALL 008
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/24/2021 10:45 - 12/26/2021 09:10[m]		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
3,3'-Dichlorobenzidine	ug/L	-	1/Year	Composite	ND < 1.7	U*
4,4'-DDD	ug/L	-	1/Year	Composite	ND < 0.00080	U*
4,4'-DDE	ug/L	-	1/Year	Composite	ND < 0.00050	U*
4,4'-DDT	ug/L	-	1/Year	Composite	ND < 0.0016	U*
4-Bromophenyl phenyl ether	ug/L	-	1/Year	Composite	ND < 0.082	U*
4-Chloro-3-methylphenol	ug/L	-	1/Year	Composite	ND < 0.12	U*
4-Chlorophenyl phenyl ether	ug/L	-	1/Year	Composite	ND < 0.096	U*
4-Nitrophenol	ug/L	-	1/Year	Composite	ND < 1.2	U*
Acenaphthene	ug/L	-	1/Year	Composite	ND < 0.092	U*
Acenaphthylene	ug/L	-	1/Year	Composite	ND < 0.090	U*
Acrolein	ug/L	-	1/Year	Grab	ND < 4.6	U*
Acrylonitrile	ug/L	-	1/Year	Grab	ND < 1.4	U*
Aldrin	ug/L	-	1/Year	Composite	ND < 0.00070	U*
alpha-BHC	ug/L	-	1/Year	Composite	ND < 0.00080	U*
alpha-Endosulfan	ug/L	-	1/Year	Composite	ND < 0.00070	U*
Anthracene	ug/L	-	1/Year	Composite	ND < 0.077	U*
Aroclor 1016	ug/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1221	ug/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1232	ug/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1242	ug/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1248	ug/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1254	ug/L	-	1/Year	Composite	ND < 0.052	U*
Aroclor 1260	ug/L	-	1/Year	Composite	ND < 0.052	U*
Arsenic	ug/L	-	1/Year	Composite	ND < 8.9	U*
Asbestos, >=0.5 um	MFL	-	1/Year	Composite	ND < 5.00	U*
Asbestos, >10 um only	MFL	-	1/Year	Composite	ND < 5.00	U*
Benzene	ug/L	-	1/Year	Grab	ND < 0.28	U*
Benzidine	ug/L	-	1/Year	Composite	ND < 2.4	U*
Benzo(a)anthracene	ug/L	-	1/Year	Composite	ND < 0.074	U*
Benzo(a)pyrene	ug/L	-	1/Year	Composite	ND < 0.077	U*
Benzo(b)fluoranthene	ug/L	-	1/Year	Composite	ND < 0.11	U*
Benzo(g,h,i)perylene	ug/L	-	1/Year	Composite	ND < 0.13	U*
Benzo(k)fluoranthene	ug/L	-	1/Year	Composite	ND < 0.082	U*
Beryllium	ug/L	-	1/Year	Composite	ND < 0.44	U*
beta-BHC	ug/L	-	1/Year	Composite	ND < 0.0017	U*
beta-Endosulfan	ug/L	-	1/Year	Composite	ND < 0.00050	U*
Bis (2-Chloroethoxy) Methane	ug/L	-	1/Year	Composite	ND < 0.15	U*
Bis (2-Chloroethyl) Ether	ug/L	-	1/Year	Composite	ND < 0.10	U*
Bis (2-Chloroisopropyl) Ether	ug/L	-	1/Year	Composite	ND < 0.098	U*
Bis (2-Ethylhexyl) Phthalate	ug/L	-	1/Year	Composite	ND < 1.9	U*
Bromoform	ug/L	-	1/Year	Grab	ND < 0.25	U*
Bromomethane	ug/L	-	1/Year	Grab	ND < 0.22	U*
Butyl benzylphthalate	ug/L	-	1/Year	Composite	ND < 0.60	U*
Carbon tetrachloride	ug/L	-	1/Year	Grab	ND < 0.28	U*
Chlordane	ug/L	-	1/Year	Composite	ND < 0.0065	U*
Chlorobenzene	ug/L	-	1/Year	Grab	ND < 0.19	U*
Chlorodibromomethane	ug/L	-	1/Year	Grab	ND < 0.15	U*
Chloroethane	ug/L	-	1/Year	Grab	ND < 0.29	U*
Chloroform	ug/L	-	1/Year	Grab	ND < 0.19	U*
Chloromethane (Methyl Chloride)	ug/L	-	1/Year	Grab	ND < 0.30	U*
Chromium	ug/L	-	1/Year	Composite	ND < 2.5	U*
Chromium III (Trivalent)	ug/L	-	1/Year	Composite	ND < 6.9	U*
Chromium VI (Hexavalent)	ug/L	-	1/Year	Composite	ND < 0.19	U*
Chrysene	ug/L	-	1/Year	Composite	ND < 0.061	U*
cis-1,3-Dichloropropene	ug/L	-	1/Year	Grab	ND < 0.30	U*
delta-BHC	ug/L	-	1/Year	Composite	ND < 0.0011	U*

OUTFALL 008
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/24/2021 10:45 - 12/26/2021 09:10[m]		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Dibenzo(a,h)anthracene	ug/L	-	1/Year	Composite	ND < 0.15	U*
Dichlorobromomethane	ug/L	-	1/Year	Grab	ND < 0.19	U*
Dieldrin	ug/L	-	1/Year	Composite	ND < 0.00050	U*
Diethyl phthalate	ug/L	-	1/Year	Composite	ND < 0.14	U*
Dimethyl phthalate	ug/L	-	1/Year	Composite	ND < 0.077	U*
Di-n-butyl phthalate	ug/L	-	1/Year	Composite	ND < 0.73	U*
Di-n-octyl phthalate	ug/L	-	1/Year	Composite	ND < 0.68	U*
Endosulfan sulfate	ug/L	-	1/Year	Composite	ND < 0.00060	U*
Endrin	ug/L	-	1/Year	Composite	ND < 0.00070	U*
Endrin aldehyde	ug/L	-	1/Year	Composite	ND < 0.0051	U*
Ethylbenzene	ug/L	-	1/Year	Grab	ND < 0.25	U*
Fluoranthene	ug/L	-	1/Year	Composite	ND < 0.10	U*
Fluorene	ug/L	-	1/Year	Composite	ND < 0.086	U*
gamma-BHC (Lindane)	ug/L	-	1/Year	Composite	ND < 0.00090	U*
Heptachlor	ug/L	-	1/Year	Composite	ND < 0.00070	U*
Heptachlor epoxide	ug/L	-	1/Year	Composite	ND < 0.00040	U*
Hexachlorobenzene	ug/L	-	1/Year	Composite	ND < 0.10	U*
Hexachlorobutadiene	ug/L	-	1/Year	Composite	ND < 0.18	U*
Hexachlorocyclopentadiene	ug/L	-	1/Year	Composite	ND < 0.10	U*
Hexachloroethane	ug/L	-	1/Year	Composite	ND < 0.16	U*
Indeno(1,2,3-cd)pyrene	ug/L	-	1/Year	Composite	ND < 0.13	U*
Isophorone	ug/L	-	1/Year	Composite	ND < 0.094	U*
m,p-Xylenes	ug/L	-	1/Year	Grab	ND < 0.17	U*
Methylene chloride	ug/L	-	1/Year	Grab	ND < 0.57	U*
Naphthalene	ug/L	-	1/Year	Composite	ND < 0.10	U*
Naphthalene	ug/L	-	1/Year	Grab	ND < 0.33	U*
Nitrobenzene	ug/L	-	1/Year	Composite	ND < 0.10	U*
N-Nitrosodimethylamine	ug/L	-	1/Year	Composite	ND < 0.15	U*
N-Nitroso-di-n-propylamine	ug/L	-	1/Year	Composite	ND < 0.066	U*
N-Nitrosodiphenylamine	ug/L	-	1/Year	Composite	ND < 0.10	U*
o-Xylene	ug/L	-	1/Year	Grab	ND < 0.15	U*
Pentachlorophenol	ug/L	-	1/Year	Composite	ND < 0.11	U*
Phenanthrene	ug/L	-	1/Year	Composite	ND < 0.079	U*
Phenol	ug/L	-	1/Year	Composite	ND < 0.081	U*
Pyrene	ug/L	-	1/Year	Composite	ND < 0.085	U*
Tetrachloroethene	ug/L	-	1/Year	Grab	ND < 0.21	U*
Toluene	ug/L	-	1/Year	Grab	ND < 0.23	U*
Toxaphene	ug/L	-	1/Year	Composite	ND < 0.013	U*
trans-1,2-Dichloroethene	ug/L	-	1/Year	Grab	ND < 0.24	U*
trans-1,3-Dichloropropene	ug/L	-	1/Year	Grab	ND < 0.18	U*
Trichloroethene	ug/L	-	1/Year	Grab	ND < 0.17	U*
Trichlorofluoromethane	ug/L	-	1/Year	Grab	ND < 0.29	U*
Vinyl chloride	ug/L	-	1/Year	Grab	ND < 0.47	U*
Xylenes (Total)	ug/L	-	1/Year	Grab	ND < 0.17	U*
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS						
Aluminum	ug/L	-	1/Year	Composite	100	*
Chlorpyrifos	ug/L	-	1/Year	Composite	ND < 0.0069	U*
Diazinon	ug/L	-	1/Year	Composite	ND < 0.0052	U*
E. Coli	mpn/100mL	-	1/Year	Grab	3.1	J (H)
Hardness (as CaCO3)	mg/L	-	1/Year	Composite	44	*
Iron	mg/L	-	1/Year	Composite	0.099	J (DNQ*)
Silver	ug/L	-	1/Discharge	Composite	ND < 0.50	U*
Total Suspended Solids	mg/L	-	1/Year	Composite	5.7	*
Vanadium	ug/L	-	1/Year	Composite	ND < 2.1	U*
ADDITIONAL POLLUTANTS[2)]						
Aluminum, dissolved	ug/L	-	Additional/Year	Composite	ND < 50	U*

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

OUTFALL 008
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/24/2021 10:45 - 12/26/2021 09:10[m]		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Antimony, dissolved	ug/L	-	Additional/Discharge	Composite	ND < 0.50	U*
Arsenic, dissolved	ug/L	-	Additional/Year	Composite	ND < 8.9	U*
Beryllium, dissolved	ug/L	-	Additional/Year	Composite	0.80	J (DNQ*)
Boron, dissolved	mg/L	-	Additional/Year	Composite	0.076	*
Cadmium, dissolved	ug/L	-	Additional/Discharge	Composite	ND < 0.25	U*
Chromium, dissolved	ug/L	-	Additional/Year	Composite	3.5	J (DNQ*)
cis-1,2-Dichloroethene	ug/L	-	Additional/Year	Grab	ND < 0.21	U*
Copper, dissolved	ug/L	-	Additional/Discharge	Composite	1.8	J (DNQ*)
Hardness, Dissolved (as CaCO3)	mg/L	-	Additional/Year	Composite	37	*
Iron, dissolved	mg/L	-	Additional/Year	Composite	ND < 0.050	U*
Lead, dissolved	ug/L	-	Additional/Discharge	Composite	ND < 0.50	U*
Mercury, dissolved	ug/L	-	Additional/Discharge	Composite	ND < 0.12	U*
Nickel, dissolved	ug/L	-	Additional/Discharge	Composite	ND < 5.0	U*
Selenium, dissolved	ug/L	-	Additional/Discharge	Composite	ND < 0.50	U*
Silver, dissolved	ug/L	-	Additional/Discharge	Composite	ND < 0.50	U*
Thallium, dissolved	ug/L	-	Additional/Discharge	Composite	ND < 0.20	U*
Vanadium, dissolved	ug/L	-	Additional/Year	Composite	2.4	J (DNQ*)
Zinc, dissolved	ug/L	-	Additional/Discharge	Composite	ND < 12	U*

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

OUTFALL 008
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

					12/26/2021 09:10 (Composite)[m]			
ANALYTE	**SAMPLE FREQUENCY**	**1998 WHO TEF**	**BEF GREAT LAKES WATER QUALITY INITIATIVE**	**UNITS**	**LAB MDL**	**LAB RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**TCDD EQUIVALENT (w/out DNQ Values)**
1,2,3,4,6,7,8-HpCDD	1/Discharge	0.01	0.05	µg/L	1.6E-07	1.8E-06	U (B)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	0.01	0.01	µg/L	2.1E-07	6.9E-07	U (B)	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	0.01	0.4	µg/L	2.3E-07	ND	U	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	0.1	0.3	µg/L	2.8E-07	1.7E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	0.1	0.08	µg/L	1.7E-07	2.8E-07	UJ (*III)	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	0.1	0.1	µg/L	3.1E-07	ND	U	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	0.1	0.2	µg/L	1.9E-07	ND	U	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	0.1	0.1	µg/L	2.5E-07	ND	U	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	0.1	0.6	µg/L	1.7E-07	5.2E-07	J (DNQ)	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1.0	0.9	µg/L	3.5E-07	ND	U	**ND**
1,2,3,7,8-PeCDF	1/Discharge	0.05	0.2	µg/L	3.0E-07	5.0E-07	J (DNQ)	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	0.1	0.7	µg/L	1.5E-07	2.4E-07	UJ (*III)	**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	3.2E-07	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	0.1	0.8	µg/L	1.5E-06	ND	U	**ND**
OCDD	1/Discharge	0.0001	0.01	µg/L	2.8E-07	7.0E-06	U (B)	**ND**
OCDF	1/Discharge	0.0001	0.02	µg/L	2.8E-07	7.2E-07	UJ (*III)	**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 008
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/26/2021 09:10 (Composite)[m]		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS						
Gross Alpha	pCi/L	15	1/Discharge	2.10 ± 1.09	1.35	*
Gross Beta	pCi/L	50	1/Discharge	4.10 ± 0.906	0.812	*
Combined Radium-226 & Radium-228	pCi/L	5.0	1/Discharge	0.690 ± 0.433	NM	U*
Strontium-90	pCi/L	8.0	1/Discharge	-0.391 ± 0.336	0.685	U*
Tritium	pCi/L	20,000	1/Discharge	-34.7 ± 174	319	U*
ADDITIONAL POLLUTANTS						
Cesium-137	pCi/L	200	1/Discharge	-4.98 ± 12.9	15	U*
Uranium	pCi/L	20	1/Discharge	0.0433 ± 0.180	0.307	U*
ADDITIONAL POLLUTANTS WITHOUT LIMITS						
Potassium-40	pCi/L	-	1/Discharge	54.8 ± 93.8	98.4	U*

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

OUTFALL 008
DISCHARGE MONITORING MASS SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/24/2021 10:45 - 12/26/2021 09:10[(m)]		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	7.21	1/Discharge	Meas	0.024025	*
CONVENTIONAL POLLUTANTS						
Oil & Grease	LBS/DAY	902	1/Discharge	Grab	0.15	J (DNQ*)
PRIORITY POLLUTANTS						
Antimony	LBS/DAY	0.36	1/Discharge	Composite	1.7E-04	J (DNQ*)
Cadmium	LBS/DAY	(0.24) 0.19	1/Discharge	Composite	ND	U*
Copper	LBS/DAY	0.84	1/Discharge	Composite	4.8E-04	*
Cyanide	LBS/DAY	0.57	1/Discharge	Composite	ND	U*
Lead	LBS/DAY	0.31	1/Discharge	Composite	ND	U*
Mercury	LBS/DAY	0.008	1/Discharge	Composite	ND	U*
Nickel	LBS/DAY	5.2	1/Discharge	Composite	ND	U*
Selenium	LBS/DAY	0.3	1/Discharge	Composite	ND	U*
TCDD TEQ_NoDNQ[(4)]	LBS/DAY	1.7E-09	1/Discharge	Composite	ND	U*
Thallium	LBS/DAY	0.12	1/Discharge	Composite	ND	U*
Zinc	LBS/DAY	7.22	1/Discharge	Composite	ND	U*
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	LBS/DAY	607.3	1/Discharge	Composite	0.0279	J (DNQ*)
Boron	LBS/DAY	60	1/Year	Composite	0.018	*
Chloride	LBS/DAY	9,020	1/Discharge	Composite	0.96	J (DNQ*)
Fluoride	LBS/DAY	96.2	1/Year	Composite	ND	U*
Nitrate - N	LBS/DAY	481	1/Discharge	Composite	0.84	*
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	481	1/Discharge	Composite	0.88	*
Nitrite - N	LBS/DAY	60	1/Discharge	Composite	0.036	J (DNQ*)
Perchlorate	LBS/DAY	0.36	1/Discharge	Composite	ND	U*
Sulfate	LBS/DAY	18,039	1/Discharge	Composite	0.64	J (DNQ*)
Total Dissolved Solids	LBS/DAY	57,124	1/Discharge	Composite	24.0	*

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

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/15/2021 09:45 - 12/15/2021 11:30[g]		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	64.33	1/Discharge	Meas	0.057808	*
CONVENTIONAL POLLUTANTS						
Oil & Grease	mg/L	15	1/Discharge	Grab	1.1	*
pH (Field)	s.u.	6.5-8.5	1/Discharge	Grab	6.58	*
PRIORITY POLLUTANTS						
Antimony	µg/L	6.0	1/Discharge	Composite	0.91	J (DNQ)
Antimony[t]	µg/L	6.0	1/Discharge	Composite	2.2	--
Cadmium	µg/L	4.0	1/Discharge	Composite	ND < 0.25	U
Cadmium[t]	µg/L	4.0	1/Discharge	Composite	ND < 0.25	U
Copper	µg/L	13	1/Discharge	Composite	15	--
Copper[t]	µg/L	13	1/Discharge	Composite	6.5	--
Cyanide	µg/L	9.5	1/Discharge	Composite	ND < 1.4	U*
Lead	µg/L	5.2	1/Discharge	Composite	0.81	J (DNQ)
Lead[t]	µg/L	5.2	1/Discharge	Composite	0.87	J (DNQ)
Mercury	µg/L	0.13	1/Discharge	Composite	0.11	J (DNQ*)
Nickel	µg/L	86	1/Discharge	Composite	ND < 5.0	U
Thallium	µg/L	2.0	1/Discharge	Composite	ND < 0.20	U
Thallium[t]	µg/L	2.0	1/Discharge	Composite	ND < 0.20	U
Zinc	µg/L	120	1/Discharge	Composite	ND < 12	U
NON-CONVENTIONAL POLLUTANTS						
Boron	mg/L	1.0	1/Year	Composite	0.061	--
Chloride	mg/L	150	1/Discharge	Composite	3.5	*
Chronic Toxicity	Pass or Fail and % Effect	Pass or % Effect <50	1st & 2nd rain event/Year	Composite	Pass, 21.37	*
Chronic Toxicity, Confirmation for TIE	Pass or Fail and % Effect	Pass or % Effect <50	1st & 2nd rain event/Year	ANR	ANR	ANR
Fluoride	mg/L	1.6	1/Year	Composite	0.19	*
Nitrate + Nitrite as Nitrogen (N)	mg/L	10	1/Discharge	Composite	2.2	*
Perchlorate	µg/L	6.0	1/Semiannual	Composite	ND < 0.95	U*
Sulfate	mg/L	250	1/Discharge	Composite	4.7	*
Temperature (Field)	Deg F	86	1/Discharge	Grab	42.8	*
Total Dissolved Solids	mg/L	850	1/Discharge	Composite	100	*
REMAINING PRIORITY POLLUTANTS						
1,1,1-Trichloroethane	µg/L	-	1/Year	Grab	ND < 0.25	U*
1,1,2,2-Tetrachloroethane	µg/L	-	1/Year	Grab	ND < 0.25	U*
1,1,2-Trichloroethane	µg/L	-	1/Year	Grab	ND < 0.25	U*
1,1-Dichloroethane	µg/L	-	1/Year	Grab	ND < 0.25	U*
1,1-Dichloroethene	µg/L	-	1/Year	Grab	ND < 0.25	U*
1,2,4-Trichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.14	U*
1,2-Dichlorobenzene	µg/L	-	1/Year	Grab	ND < 0.25	U*
1,2-Dichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.14	U*
1,2-Dichloroethane	µg/L	-	1/Year	Grab	ND < 0.25	U*
1,2-Dichloropropane	µg/L	-	1/Year	Grab	ND < 0.25	U*
1,2-Diphenylhydrazine/Azobenzene	µg/L	-	1/Year	Composite	ND < 0.073	U*
1,3-Dichlorobenzene	µg/L	-	1/Year	Grab	ND < 0.25	U*
1,3-Dichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.13	U*
1,4-Dichlorobenzene	µg/L	-	1/Year	Grab	ND < 0.25	U*
1,4-Dichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.13	U*
2,4,6-Trichlorophenol	µg/L	-	1/Year	Composite	ND < 0.071	U*
2,4-Dichlorophenol	µg/L	-	1/Year	Composite	ND < 0.10	U*
2,4-Dimethylphenol	µg/L	-	1/Year	Composite	ND < 0.14	U*
2,4-Dinitrophenol	µg/L	-	1/Year	Composite	ND < 1.0	U*
2,4-Dinitrotoluene	µg/L	-	1/Year	Composite	ND < 0.11	U*
2,6-Dinitrotoluene	µg/L	-	1/Year	Composite	ND < 0.14	U*
2-Chloroethyl vinyl ether[q]	µg/L	-	1/Year	Grab	ND < 1.0	U*
2-Chloronaphthalene	µg/L	-	1/Year	Composite	ND < 0.14	U*
2-Chlorophenol	µg/L	-	1/Year	Composite	ND < 0.087	U*

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

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/15/2021 09:45 - 12/15/2021 11:30[g]		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
2-Methyl-4,6-dinitrophenol	µg/L	-	1/Year	Composite	ND < 4.2	U*
2-Nitrophenol	µg/L	-	1/Year	Composite	ND < 1.5	U*
3,3'-Dichlorobenzidine	µg/L	-	1/Year	Composite	ND < 1.7	U*
4,4'-DDD	µg/L	-	1/Year	Composite	ND < 0.00080	U*
4,4'-DDE	µg/L	-	1/Year	Composite	ND < 0.00050	U*
4,4'-DDT	µg/L	-	1/Year	Composite	ND < 0.0016	U*
4-Bromophenyl phenyl ether	µg/L	-	1/Year	Composite	ND < 0.082	U*
4-Chloro-3-methylphenol	µg/L	-	1/Year	Composite	ND < 0.12	U*
4-Chlorophenyl phenyl ether	µg/L	-	1/Year	Composite	ND < 0.095	U*
4-Nitrophenol	µg/L	-	1/Year	Composite	ND < 1.2	U*
Acenaphthene	µg/L	-	1/Year	Composite	ND < 0.091	U*
Acenaphthylene	µg/L	-	1/Year	Composite	ND < 0.089	U*
Acrolein	µg/L	-	1/Year	Grab	ND < 2.5	U*
Acrylonitrile	µg/L	-	1/Year	Grab	ND < 1.0	U*
Aldrin	µg/L	-	1/Year	Composite	ND < 0.00070	U*
alpha-BHC	µg/L	-	1/Year	Composite	ND < 0.00080	U*
alpha-Endosulfan	µg/L	-	1/Year	Composite	ND < 0.00070	U*
Anthracene	µg/L	-	1/Year	Composite	ND < 0.076	U*
Aroclor 1016	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1221	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1232	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1242	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1248	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1254	µg/L	-	1/Year	Composite	ND < 0.052	U*
Aroclor 1260	µg/L	-	1/Year	Composite	ND < 0.052	U*
Arsenic	µg/L	-	1/Year	Composite	ND < 8.9	U*
Asbestos, >=0.5 um	MFL	-	1/Year	Composite	1.00	*
Asbestos, > 10 um only	MFL	-	1/Year	Composite	ND < 1.00	U*
Benzene	µg/L	-	1/Year	Grab	ND < 0.25	U*
Benzidine	µg/L	-	1/Year	Composite	ND < 2.4	U*
Benzo(a)anthracene	µg/L	-	1/Year	Composite	ND < 0.074	U*
Benzo(a)pyrene	µg/L	-	1/Year	Composite	ND < 0.076	U*
Benzo(b)fluoranthene	µg/L	-	1/Year	Composite	ND < 0.11	U*
Benzo(g,h,i)perylene	µg/L	-	1/Year	Composite	ND < 0.13	U*
Benzo(k)fluoranthene	µg/L	-	1/Year	Composite	ND < 0.081	U*
Beryllium	µg/L	-	1/Year	Composite	ND < 0.44	U*
beta-BHC	µg/L	-	1/Year	Composite	ND < 0.0017	U*
beta-Endosulfan	µg/L	-	1/Year	Composite	ND < 0.00050	U*
Bis (2-Chloroethoxy) Methane	µg/L	-	1/Year	Composite	ND < 0.15	U*
Bis (2-Chloroethyl) Ether	µg/L	-	1/Year	Composite	ND < 0.10	U*
Bis (2-Chloroisopropyl) Ether	µg/L	-	1/Year	Composite	ND < 0.097	U*
Bis (2-Ethylhexyl) Phthalate	µg/L	-	1/Year	Composite	ND < 1.9	U*
Bromoform	µg/L	-	1/Year	Grab	ND < 0.40	U*
Bromomethane	µg/L	-	1/Year	Grab	ND < 0.25	U*
Butyl benzylphthalate	µg/L	-	1/Year	Composite	ND < 0.60	U*
Carbon tetrachloride	µg/L	-	1/Year	Grab	ND < 0.25	U*
Chlordane	µg/L	-	1/Year	Composite	ND < 0.0065	U*
Chlorobenzene	µg/L	-	1/Year	Grab	ND < 0.25	U*
Chlorodibromomethane	µg/L	-	1/Year	Grab	ND < 0.25	U*
Chloroethane	µg/L	-	1/Year	Grab	ND < 0.40	U*
Chloroform	µg/L	-	1/Year	Grab	ND < 0.25	U*
Chloromethane (Methyl Chloride)	µg/L	-	1/Year	Grab	ND < 0.25	U*
Chromium	µg/L	-	1/Year	Composite	ND < 2.5	U
Chromium III (Trivalent), Total	µg/L	-	1/Year	Composite	ND < 6.9	U
Chromium VI (Hexavalent)	µg/L	-	1/Year	Composite	0.043	J (DNQ)
Chrysene	µg/L	-	1/Year	Composite	ND < 0.061	U*

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/15/2021 09:45 - 12/15/2021 11:30[g]		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
cis-1,3-Dichloropropene	µg/L	-	1/Year	Grab	ND < 0.25	U*
delta-BHC	µg/L	-	1/Year	Composite	ND < 0.0011	U*
Dibenzo(a,h)anthracene	µg/L	-	1/Year	Composite	ND < 0.15	U*
Dichlorobromomethane	µg/L	-	1/Year	Grab	ND < 0.25	U*
Dieldrin	µg/L	-	1/Year	Composite	ND < 0.00050	U*
Diethyl phthalate	µg/L	-	1/Year	Composite	ND < 0.14	U*
Dimethyl phthalate	µg/L	-	1/Year	Composite	ND < 0.076	U*
Di-n-butyl phthalate	µg/L	-	1/Year	Composite	ND < 0.73	U*
Di-n-octyl phthalate	µg/L	-	1/Year	Composite	ND < 0.68	U*
Endosulfan sulfate	µg/L	-	1/Year	Composite	ND < 0.00060	U*
Endrin	µg/L	-	1/Year	Composite	ND < 0.00070	U*
Endrin aldehyde	µg/L	-	1/Year	Composite	ND < 0.0051	U*
Ethylbenzene	µg/L	-	1/Year	Grab	ND < 0.25	U*
Fluoranthene	µg/L	-	1/Year	Composite	ND < 0.10	U*
Fluorene	µg/L	-	1/Year	Composite	ND < 0.085	U*
gamma-BHC (Lindane)	µg/L	-	1/Year	Composite	ND < 0.00090	U*
Heptachlor	µg/L	-	1/Year	Composite	ND < 0.00070	U*
Heptachlor epoxide	µg/L	-	1/Year	Composite	ND < 0.00040	U*
Hexachlorobenzene	µg/L	-	1/Year	Composite	ND < 0.099	U*
Hexachlorobutadiene	µg/L	-	1/Year	Composite	ND < 0.18	U*
Hexachlorocyclopentadiene	µg/L	-	1/Year	Composite	ND < 0.10	U*
Hexachloroethane	µg/L	-	1/Year	Composite	ND < 0.16	U*
Indeno(1,2,3-cd)pyrene	µg/L	-	1/Year	Composite	ND < 0.13	U*
Isophorone	µg/L	-	1/Year	Composite	ND < 0.093	U*
m,p-Xylenes	µg/L	-	1/Year	Grab	ND < 0.50	U*
Methylene chloride	µg/L	-	1/Year	Grab	ND < 0.88	U*
Naphthalene	µg/L	-	1/Year	Grab	ND < 0.40	U*
Naphthalene	µg/L	-	1/Year	Composite	ND < 0.10	U*
Nitrobenzene	µg/L	-	1/Year	Composite	ND < 0.10	U*
N-Nitrosodimethylamine	µg/L	-	1/Year	Composite	ND < 0.15	U*
N-Nitroso-di-n-propylamine	µg/L	-	1/Year	Composite	ND < 0.066	U*
N-Nitrosodiphenylamine	µg/L	-	1/Year	Composite	ND < 0.10	U*
o-Xylene	µg/L	-	1/Year	Grab	ND < 0.25	U*
Pentachlorophenol	µg/L	-	1/Year	Composite	ND < 0.11	U*
Phenanthrene	µg/L	-	1/Year	Composite	ND < 0.078	U*
Phenol	µg/L	-	1/Year	Composite	ND < 0.080	U*
Pyrene	µg/L	-	1/Year	Composite	ND < 0.084	U*
Tetrachloroethene	µg/L	-	1/Year	Grab	ND < 0.25	U*
Toluene	µg/L	-	1/Year	Grab	ND < 0.25	U*
Toxaphene	µg/L	-	1/Year	Composite	ND < 0.013	U*
trans-1,2-Dichloroethene	µg/L	-	1/Year	Grab	ND < 0.25	U*
trans-1,3-Dichloropropene	µg/L	-	1/Year	Grab	ND < 0.25	U*
Trichloroethene	µg/L	-	1/Year	Grab	ND < 0.25	U*
Trichlorofluoromethane	µg/L	-	1/Year	Grab	ND < 0.25	U*
Vinyl chloride	µg/L	-	1/Year	Grab	ND < 0.25	U*
Xylenes (Total)	µg/L	-	1/Year	Grab	ND < 0.50	U*
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS						
Aluminum	µg/L	-	1/Year	Composite	280	--
Chlorpyrifos	µg/L	-	1/Year	Composite	ND < 0.0069	U*
Diazinon	µg/L	-	1/Year	Composite	ND < 0.0052	U*
E. Coli	mpn/100mL	-	1/Year	Grab	280	J (H)
Hardness (as CaCO3)	mg/L	-	1/Year	Composite	33	*
Iron	mg/L	-	1/Year	Composite	0.31	--
Selenium	µg/L	-	1/Discharge	Composite	0.54	J (DNQ)
Selenium[t]	µg/L	-	1/Discharge	Composite	ND < 0.50	U
Silver	µg/L	-	1/Discharge	Composite	ND < 0.50	U

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

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/15/2021 09:45 - 12/15/2021 11:30[g]		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Silver[t]	µg/L	-	1/Discharge	Composite	ND < 0.50	U
Total Suspended Solids	mg/L	-	1/Year	Composite	3.2	*
Vanadium	µg/L	-	1/Year	Composite	2.1	J (DNQ)
ADDITIONAL POLLUTANTS[2)(p)]						
Aluminum, dissolved	µg/L	-	Additional/Year	Composite	260	--
Antimony, dissolved	µg/L	-	Additional/Discharge	Composite	0.81	J (DNQ)
Arsenic, dissolved	µg/L	-	Additional/Year	Composite	ND < 8.9	U*
Beryllium, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.44	U*
Boron, dissolved	mg/L	-	Additional/Year	Composite	0.055	--
Cadmium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.25	U
Chromium, dissolved	µg/L	-	Additional/Year	Composite	ND < 2.5	U
cis-1,2-Dichloroethene	µg/L	-	Additional/Year	Grab	ND < 0.25	U*
Copper, dissolved	µg/L	-	Additional/Discharge	Composite	5.9	--
Hardness, dissolved (as CaCO3)	mg/L	-	Additional/Year	Composite	29	*
Iron, dissolved	mg/L	-	Additional/Year	Composite	0.2	--
Lead, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U
Mercury, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.10	U*
Nickel, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 5.0	U
Nitrate - N	mg/L	-	Additional	Composite	2.2	*
Nitrite - N	mg/L	-	Additional	Composite	0.036	J (DNQ*)
Selenium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U
Silver, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U
Thallium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.20	U
Vanadium, dissolved	µg/L	-	Additional/Year	Composite	2.4	J (DNQ)
Zinc, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 12	U

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/24/2021 08:10 - 12/26/2021 07:45		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	64.33	1/Discharge	Meas	2.4598	*
CONVENTIONAL POLLUTANTS						
Oil & Grease	mg/L	15	1/Discharge	Grab	ND < 0.55	U*
pH (Field)	s.u.	6.5-8.5	1/Discharge	Grab	7.40	*
PRIORITY POLLUTANTS						
Antimony	µg/L	6.0	1/Discharge	Composite	0.64	J (DNQ)
Antimony[(t)]	µg/L	6.0	1/Discharge	ANR	ANR	ANR
Cadmium	µg/L	4.0	1/Discharge	Composite	ND < 0.25	U
Cadmium[(t)]	µg/L	4.0	1/Discharge	ANR	ANR	ANR
Copper	µg/L	13	1/Discharge	Composite	3.6	--
Copper[(t)]	µg/L	13	1/Discharge	ANR	ANR	ANR
Cyanide	µg/L	9.5	1/Discharge	Composite	ND < 1.4	U*
Lead	µg/L	5.2	1/Discharge	Composite	2.0	--
Lead[(t)]	µg/L	5.2	1/Discharge	ANR	ANR	ANR
Mercury	µg/L	0.13	1/Discharge	Composite	ND < 0.12	U*
Nickel	µg/L	86	1/Discharge	Composite	ND < 5.0	U
Thallium	µg/L	2.0	1/Discharge	Composite	ND < 0.20	U
Thallium[(t)]	µg/L	2.0	1/Discharge	ANR	ANR	ANR
Zinc	µg/L	120	1/Discharge	Composite	14	J (DNQ)
NON-CONVENTIONAL POLLUTANTS						
Boron	mg/L	1.0	1/Year	ANR	ANR	ANR
Chloride	mg/L	150	1/Discharge	Composite	4.7	J (DNQ*)
Chronic Toxicity	Pass or Fail and % Effect	Pass or % Effect <50	1st & 2nd rain event/Year	Composite	Fail, 57.52	J (H)
Chronic Toxicity, Confirmation for TIE	Pass or Fail and % Effect	Pass or % Effect <50	1st & 2nd rain event/Year	Composite	Pass, 20.49	*
Fluoride	mg/L	1.6	1/Year	ANR	ANR	ANR
Nitrate + Nitrite as Nitrogen (N)	mg/L	10	1/Discharge	Composite	3.1	*
Perchlorate	µg/L	6.0	1/Semiannual	ANR	ANR	ANR
Sulfate	mg/L	250	1/Discharge	Composite	3.7	J (DNQ*)
Temperature (Field)	Deg F	86	1/Discharge	Grab	50.2	*
Total Dissolved Solids	mg/L	850	1/Discharge	Composite	89	*
REMAINING PRIORITY POLLUTANTS						
1,1,1-Trichloroethane	µg/L	-	1/Year	ANR	ANR	ANR
1,1,2,2-Tetrachloroethane	µg/L	-	1/Year	ANR	ANR	ANR
1,1,2-Trichloroethane	µg/L	-	1/Year	ANR	ANR	ANR
1,1-Dichloroethane	µg/L	-	1/Year	ANR	ANR	ANR
1,1-Dichloroethene	µg/L	-	1/Year	ANR	ANR	ANR
1,2,4-Trichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Dichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Dichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Dichloroethane	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Dichloropropane	µg/L	-	1/Year	ANR	ANR	ANR
1,2-Diphenylhydrazine/Azobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,3-Dichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,3-Dichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,4-Dichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
1,4-Dichlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
2,4,6-Trichlorophenol	µg/L	-	1/Year	ANR	ANR	ANR
2,4-Dichlorophenol	µg/L	-	1/Year	ANR	ANR	ANR
2,4-Dimethylphenol	µg/L	-	1/Year	ANR	ANR	ANR
2,4-Dinitrophenol	µg/L	-	1/Year	ANR	ANR	ANR
2,4-Dinitrotoluene	µg/L	-	1/Year	ANR	ANR	ANR
2,6-Dinitrotoluene	µg/L	-	1/Year	ANR	ANR	ANR
2-Chloroethyl vinyl ether[(q)]	µg/L	-	1/Year	ANR	ANR	ANR
2-Chloronaphthalene	µg/L	-	1/Year	ANR	ANR	ANR
2-Chlorophenol	µg/L	-	1/Year	ANR	ANR	ANR

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

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/24/2021 08:10 - 12/26/2021 07:45		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
2-Methyl-4,6-dinitrophenol	µg/L	-	1/Year	ANR	ANR	ANR
2-Nitrophenol	µg/L	-	1/Year	ANR	ANR	ANR
3,3'-Dichlorobenzidine	µg/L	-	1/Year	ANR	ANR	ANR
4,4'-DDD	µg/L	-	1/Year	ANR	ANR	ANR
4,4'-DDE	µg/L	-	1/Year	ANR	ANR	ANR
4,4'-DDT	µg/L	-	1/Year	ANR	ANR	ANR
4-Bromophenyl phenyl ether	µg/L	-	1/Year	ANR	ANR	ANR
4-Chloro-3-methylphenol	µg/L	-	1/Year	ANR	ANR	ANR
4-Chlorophenyl phenyl ether	µg/L	-	1/Year	ANR	ANR	ANR
4-Nitrophenol	µg/L	-	1/Year	ANR	ANR	ANR
Acenaphthene	µg/L	-	1/Year	ANR	ANR	ANR
Acenaphthylene	µg/L	-	1/Year	ANR	ANR	ANR
Acrolein	µg/L	-	1/Year	ANR	ANR	ANR
Acrylonitrile	µg/L	-	1/Year	ANR	ANR	ANR
Aldrin	µg/L	-	1/Year	ANR	ANR	ANR
alpha-BHC	µg/L	-	1/Year	ANR	ANR	ANR
alpha-Endosulfan	µg/L	-	1/Year	ANR	ANR	ANR
Anthracene	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1016	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1221	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1232	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1242	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1248	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1254	µg/L	-	1/Year	ANR	ANR	ANR
Aroclor 1260	µg/L	-	1/Year	ANR	ANR	ANR
Arsenic	µg/L	-	1/Year	ANR	ANR	ANR
Asbestos, >=0.5 um	MFL	-	1/Year	ANR	ANR	ANR
Asbestos, > 10 um only	MFL	-	1/Year	ANR	ANR	ANR
Benzene	µg/L	-	1/Year	ANR	ANR	ANR
Benzidine	µg/L	-	1/Year	ANR	ANR	ANR
Benzo(a)anthracene	µg/L	-	1/Year	ANR	ANR	ANR
Benzo(a)pyrene	µg/L	-	1/Year	ANR	ANR	ANR
Benzo(b)fluoranthene	µg/L	-	1/Year	ANR	ANR	ANR
Benzo(g,h,i)perylene	µg/L	-	1/Year	ANR	ANR	ANR
Benzo(k)fluoranthene	µg/L	-	1/Year	ANR	ANR	ANR
Beryllium	µg/L	-	1/Year	ANR	ANR	ANR
beta-BHC	µg/L	-	1/Year	ANR	ANR	ANR
beta-Endosulfan	µg/L	-	1/Year	ANR	ANR	ANR
Bis (2-Chloroethoxy) Methane	µg/L	-	1/Year	ANR	ANR	ANR
Bis (2-Chloroethyl) Ether	µg/L	-	1/Year	ANR	ANR	ANR
Bis (2-Chloroisopropyl) Ether	µg/L	-	1/Year	ANR	ANR	ANR
Bis (2-Ethylhexyl) Phthalate	µg/L	-	1/Year	ANR	ANR	ANR
Bromoform	µg/L	-	1/Year	ANR	ANR	ANR
Bromomethane	µg/L	-	1/Year	ANR	ANR	ANR
Butyl benzylphthalate	µg/L	-	1/Year	ANR	ANR	ANR
Carbon tetrachloride	µg/L	-	1/Year	ANR	ANR	ANR
Chlordane	µg/L	-	1/Year	ANR	ANR	ANR
Chlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
Chlorodibromomethane	µg/L	-	1/Year	ANR	ANR	ANR
Chloroethane	µg/L	-	1/Year	ANR	ANR	ANR
Chloroform	µg/L	-	1/Year	ANR	ANR	ANR
Chloromethane (Methyl Chloride)	µg/L	-	1/Year	ANR	ANR	ANR
Chromium	µg/L	-	1/Year	ANR	ANR	ANR
Chromium III (Trivalent), Total	µg/L	-	1/Year	ANR	ANR	ANR
Chromium VI (Hexavalent)	µg/L	-	1/Year	ANR	ANR	ANR
Chrysene	µg/L	-	1/Year	ANR	ANR	ANR

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

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/24/2021 08:10 - 12/26/2021 07:45		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
cis-1,3-Dichloropropene	µg/L	-	1/Year	ANR	ANR	ANR
delta-BHC	µg/L	-	1/Year	ANR	ANR	ANR
Dibenzo(a,h)anthracene	µg/L	-	1/Year	ANR	ANR	ANR
Dichlorobromomethane	µg/L	-	1/Year	ANR	ANR	ANR
Dieldrin	µg/L	-	1/Year	ANR	ANR	ANR
Diethyl phthalate	µg/L	-	1/Year	ANR	ANR	ANR
Dimethyl phthalate	µg/L	-	1/Year	ANR	ANR	ANR
Di-n-butyl phthalate	µg/L	-	1/Year	ANR	ANR	ANR
Di-n-octyl phthalate	µg/L	-	1/Year	ANR	ANR	ANR
Endosulfan sulfate	µg/L	-	1/Year	ANR	ANR	ANR
Endrin	µg/L	-	1/Year	ANR	ANR	ANR
Endrin aldehyde	µg/L	-	1/Year	ANR	ANR	ANR
Ethylbenzene	µg/L	-	1/Year	ANR	ANR	ANR
Fluoranthene	µg/L	-	1/Year	ANR	ANR	ANR
Fluorene	µg/L	-	1/Year	ANR	ANR	ANR
gamma-BHC (Lindane)	µg/L	-	1/Year	ANR	ANR	ANR
Heptachlor	µg/L	-	1/Year	ANR	ANR	ANR
Heptachlor epoxide	µg/L	-	1/Year	ANR	ANR	ANR
Hexachlorobenzene	µg/L	-	1/Year	ANR	ANR	ANR
Hexachlorobutadiene	µg/L	-	1/Year	ANR	ANR	ANR
Hexachlorocyclopentadiene	µg/L	-	1/Year	ANR	ANR	ANR
Hexachloroethane	µg/L	-	1/Year	ANR	ANR	ANR
Indeno(1,2,3-cd)pyrene	µg/L	-	1/Year	ANR	ANR	ANR
Isophorone	µg/L	-	1/Year	ANR	ANR	ANR
m,p-Xylenes	µg/L	-	1/Year	ANR	ANR	ANR
Methylene chloride	µg/L	-	1/Year	ANR	ANR	ANR
Naphthalene	µg/L	-	1/Year	ANR	ANR	ANR
Naphthalene	µg/L	-	1/Year	ANR	ANR	ANR
Nitrobenzene	µg/L	-	1/Year	ANR	ANR	ANR
N-Nitrosodimethylamine	µg/L	-	1/Year	ANR	ANR	ANR
N-Nitroso-di-n-propylamine	µg/L	-	1/Year	ANR	ANR	ANR
N-Nitrosodiphenylamine	µg/L	-	1/Year	ANR	ANR	ANR
o-Xylene	µg/L	-	1/Year	ANR	ANR	ANR
Pentachlorophenol	µg/L	-	1/Year	ANR	ANR	ANR
Phenanthrene	µg/L	-	1/Year	ANR	ANR	ANR
Phenol	µg/L	-	1/Year	ANR	ANR	ANR
Pyrene	µg/L	-	1/Year	ANR	ANR	ANR
Tetrachloroethene	µg/L	-	1/Year	ANR	ANR	ANR
Toluene	µg/L	-	1/Year	ANR	ANR	ANR
Toxaphene	µg/L	-	1/Year	ANR	ANR	ANR
trans-1,2-Dichloroethene	µg/L	-	1/Year	ANR	ANR	ANR
trans-1,3-Dichloropropene	µg/L	-	1/Year	ANR	ANR	ANR
Trichloroethene	µg/L	-	1/Year	ANR	ANR	ANR
Trichlorofluoromethane	µg/L	-	1/Year	ANR	ANR	ANR
Vinyl chloride	µg/L	-	1/Year	ANR	ANR	ANR
Xylenes (Total)	µg/L	-	1/Year	ANR	ANR	ANR
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS						
Aluminum	µg/L	-	1/Year	ANR	ANR	ANR
Chlorpyrifos	µg/L	-	1/Year	ANR	ANR	ANR
Diazinon	µg/L	-	1/Year	ANR	ANR	ANR
E. Coli	mpn/100mL	-	1/Year	ANR	ANR	ANR
Hardness (as CaCO3)	mg/L	-	1/Year	ANR	ANR	ANR
Iron	mg/L	-	1/Year	ANR	ANR	ANR
Selenium	µg/L	-	1/Discharge	Composite	ND < 0.50	U
Selenium[(t)]	µg/L	-	1/Discharge	ANR	ANR	ANR
Silver	µg/L	-	1/Discharge	Composite	ND < 0.50	U

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

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/24/2021 08:10 - 12/26/2021 07:45		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Silver[(t)]	µg/L	-	1/Discharge	ANR	ANR	ANR
Total Suspended Solids	mg/L	-	1/Year	Composite	31	*
Vanadium	µg/L	-	1/Year	ANR	ANR	ANR
ADDITIONAL POLLUTANTS[(2)(p)]						
Aluminum, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Antimony, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U
Arsenic, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Beryllium, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Boron, dissolved	mg/L	-	Additional/Year	ANR	ANR	ANR
Cadmium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.25	U
Chromium, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
cis-1,2-Dichloroethene	µg/L	-	Additional/Year	ANR	ANR	ANR
Copper, dissolved	µg/L	-	Additional/Discharge	Composite	2.8	--
Hardness, dissolved (as CaCO3)	mg/L	-	Additional/Year	ANR	ANR	ANR
Iron, dissolved	mg/L	-	Additional/Year	ANR	ANR	ANR
Lead, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U
Mercury, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.12	U*
Nickel, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 5.0	U
Nitrate - N	mg/L	-	Additional	Composite	3.1	*
Nitrite - N	mg/L	-	Additional	Composite	ND < 0.090	U*
Selenium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U
Silver, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U
Thallium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.20	U
Vanadium, dissolved	µg/L	-	Additional/Year	ANR	ANR	ANR
Zinc, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 12	U

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

					12/15/2021 11:30 (Composite)[g]			
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	3.8E-07	1.4E-05	U (B)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	0.01	0.01	µg/L	4.6E-07	4.4E-06	U (B)	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	0.01	0.4	µg/L	4.5E-07	1.2E-06	UJ (*III)	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	0.1	0.3	µg/L	4.3E-07	3.1E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	0.1	0.08	µg/L	3.8E-07	1.9E-06	J (DNQ)	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	0.1	0.1	µg/L	4.3E-07	1.9E-06	J (DNQ)	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	0.1	0.2	µg/L	3.8E-07	1.5E-06	UJ (*III)	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	0.1	0.1	µg/L	4.0E-07	2.6E-06	J (DNQ)	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	0.1	0.6	µg/L	3.6E-07	2.4E-06	U (B)	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1.0	0.9	µg/L	5.8E-07	ND	U	**ND**
1,2,3,7,8-PeCDF	1/Discharge	0.05	0.2	µg/L	3.8E-07	ND	U	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	0.1	0.7	µg/L	3.6E-07	1.6E-06	U (B)	**ND**
2,3,4,7,8-PeCDF	1/Discharge	0.5	1.6	µg/L	3.9E-07	1.1E-06	UJ (*III)	**ND**
2,3,7,8-TCDD	1/Discharge	1.0	1.0	µg/L	9.2E-07	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	0.1	0.8	µg/L	3.8E-07	ND	U	**ND**
OCDD	1/Discharge	0.0001	0.01	µg/L	8.2E-07	9.9E-05	J (DNQ)	**ND**
OCDF	1/Discharge	0.0001	0.02	µg/L	6.2E-07	9.6E-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 009
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

					12/26/2021 07:45 (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	3.6E-07	2.7E-05	J (DNQ)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	0.01	0.01	µg/L	3.2E-07	4.6E-06	J (DNQ)	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	0.01	0.4	µg/L	3.6E-07	ND	U	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	0.1	0.3	µg/L	3.6E-07	2.0E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	0.1	0.08	µg/L	2.6E-07	6.3E-07	UJ (*III)	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	0.1	0.1	µg/L	3.7E-07	1.8E-06	J (DNQ)	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	0.1	0.2	µg/L	2.9E-07	4.6E-07	UJ (*III)	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	0.1	0.1	µg/L	3.2E-07	1.2E-06	J (DNQ)	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	0.1	0.6	µg/L	2.5E-07	5.0E-07	J (DNQ)	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1.0	0.9	µg/L	3.9E-07	ND	U	**ND**
1,2,3,7,8-PeCDF	1/Discharge	0.05	0.2	µg/L	3.1E-07	ND	U	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	0.1	0.7	µg/L	2.5E-07	4.7E-07	J (DNQ)	**ND**
2,3,4,7,8-PeCDF	1/Discharge	0.5	1.6	µg/L	3.1E-07	ND	U	**ND**
2,3,7,8-TCDD	1/Discharge	1.0	1.0	µg/L	4.2E-07	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	0.1	0.8	µg/L	2.2E-06	ND	U	**ND**
OCDD	1/Discharge	0.0001	0.01	µg/L	4.8E-07	1.9E-04	--	**1.9E-10**
OCDF	1/Discharge	0.0001	0.02	µg/L	3.7E-07	9.9E-06	J (DNQ)	**ND**

TCDD TEQ w/out DNQ Values[4]	**1.9E-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

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/15/2021 11:30 (Composite)[g]		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS						
Gross Alpha	pCi/L	15	1/Discharge	1.27 ± 1.25	1.99	U*
Gross Beta	pCi/L	50	1/Discharge	2.70 ± 0.804	0.945	*
Combined Radium-226 & Radium-228	pCi/L	5.0	1/Discharge	0.880 ± 0.578	NM	U*
Strontium-90	pCi/L	8.0	1/Discharge	0.465 ± 0.442	0.710	U*
Tritium	pCi/L	20,000	1/Discharge	-126 ± 220	431	U*
ADDITIONAL POLLUTANTS						
Cesium-137	pCi/L	200	1/Discharge	4.40 ± 8.20	9.70	U*
Uranium	pCi/L	20	1/Discharge	0.276 ± 0.295	0.345	U*
ADDITIONAL POLLUTANTS WITHOUT LIMITS						
Potassium-40	pCi/L	-	1/Discharge	54.8 ± 93.8	98.4	U*

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

OUTFALL 009
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/26/2021 07:45 (Composite)		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS						
Gross Alpha	pCi/L	15	1/Discharge	1.30+/-0.825	1.10	*
Gross Beta	pCi/L	50	1/Discharge	2.64+/-0.760	0.845	*
Combined Radium-226 & Radium-228	pCi/L	5.0	1/Discharge	0.702+/-0.430	NM	U*
Strontium-90	pCi/L	8.0	1/Discharge	0.214+/-0.404	0.690	U*
Tritium	pCi/L	20,000	1/Discharge	-125+/-161	308	U*
ADDITIONAL POLLUTANTS						
Cesium-137	pCi/L	200	1/Discharge	-1.12+/-9.98	12.1	U*
Uranium	pCi/L	20	1/Discharge	0.232+/-0.456	0.650	U*
ADDITIONAL POLLUTANTS WITHOUT LIMITS						
Potassium-40	pCi/L	-	1/Discharge	45.4+/-92.4	98.4	U*

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

OUTFALL 009
DISCHARGE MONITORING MASS SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/15/2021 09:45 - 12/15/2021 11:30[g]		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	64.33	1/Discharge	Meas	0.057808	*
CONVENTIONAL POLLUTANTS						
Oil & Grease	LBS/DAY	8,048	1/Discharge	Grab	0.53	*
PRIORITY POLLUTANTS						
Antimony	LBS/DAY	3.22	1/Discharge	Composite	0.00044	J (DNQ)
Antimony[t]	LBS/DAY	3.22	1/Discharge	Composite	0.0011	--
Cadmium	LBS/DAY	2.15	1/Discharge	Composite	ND	U
Cadmium[t]	LBS/DAY	2.15	1/Discharge	Composite	ND	U
Copper	LBS/DAY	7	1/Discharge	Composite	0.0072	--
Copper[t]	LBS/DAY	7	1/Discharge	Composite	0.0031	--
Cyanide	LBS/DAY	5.1	1/Discharge	Composite	ND	U*
Lead	LBS/DAY	2.8	1/Discharge	Composite	0.00039	J (DNQ)
Lead[t]	LBS/DAY	2.8	1/Discharge	Composite	0.00042	J (DNQ)
Mercury	LBS/DAY	0.07	1/Discharge	Composite	0.000053	J (DNQ*)
Nickel	LBS/DAY	46.14	1/Discharge	Composite	ND	U
TCDD TEQ_NoDNQ[4]	LBS/DAY	1.5E-08	1/Discharge	Composite	ND	U*
Thallium	LBS/DAY	1.1	1/Discharge	Composite	ND	U
Thallium[t]	LBS/DAY	1.1	1/Discharge	Composite	ND	U
Zinc	LBS/DAY	64.4	1/Discharge	Composite	ND	U
NON-CONVENTIONAL POLLUTANTS						
Boron	LBS/DAY	537	1/Year	Composite	0.029	--
Chloride	LBS/DAY	80,477	1/Discharge	Composite	1.7	*
Fluoride	LBS/DAY	858	1/Year	Composite	0.09	*
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	5,365	1/Discharge	Composite	1.06	*
Perchlorate	LBS/DAY	3.22	1/Semiannual	Composite	ND	U*
Sulfate	LBS/DAY	134,128	1/Discharge	Composite	2.3	*
Total Dissolved Solids	LBS/DAY	456,034	1/Discharge	Composite	48.2	*

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

OUTFALL 009
DISCHARGE MONITORING MASS SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/24/2021 08:10 - 12/26/2021 07:45		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	64.33	1/Discharge	Meas	2.4598	*
CONVENTIONAL POLLUTANTS						
Oil & Grease	LBS/DAY	8,048	1/Discharge	Grab	ND	U*
PRIORITY POLLUTANTS						
Antimony	LBS/DAY	3.22	1/Discharge	Composite	0.013	J (DNQ)
Antimony[(t)]	LBS/DAY	3.22	1/Discharge	ANR	ANR	ANR
Cadmium	LBS/DAY	2.15	1/Discharge	Composite	ND	U
Cadmium[(t)]	LBS/DAY	2.15	1/Discharge	ANR	ANR	ANR
Copper	LBS/DAY	7	1/Discharge	Composite	0.074	--
Copper[(t)]	LBS/DAY	7	1/Discharge	ANR	ANR	ANR
Cyanide	LBS/DAY	5.1	1/Discharge	Composite	ND	U*
Lead	LBS/DAY	2.8	1/Discharge	Composite	0.041	--
Lead[(t)]	LBS/DAY	2.8	1/Discharge	ANR	ANR	ANR
Mercury	LBS/DAY	0.07	1/Discharge	Composite	ND	U*
Nickel	LBS/DAY	46.14	1/Discharge	Composite	ND	U
TCDD TEQ_NoDNQ[(4)]	LBS/DAY	1.5E-08	1/Discharge	Composite	3.9E-12	*
Thallium	LBS/DAY	1.1	1/Discharge	Composite	ND	U
Thallium[(t)]	LBS/DAY	1.1	1/Discharge	ANR	ANR	ANR
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	96	J (DNQ*)
Fluoride	LBS/DAY	858	1/Year	ANR	ANR	ANR
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	5,365	1/Discharge	Composite	64	*
Perchlorate	LBS/DAY	3.22	1/Semiannual	ANR	ANR	ANR
Sulfate	LBS/DAY	134,128	1/Discharge	Composite	76	J (DNQ*)
Total Dissolved Solids	LBS/DAY	456,034	1/Discharge	Composite	1,826	*

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

OUTFALL 011
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/30/2021 10:00 - 12/30/2021 11:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	12.373	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	mg/L	30	1/Discharge	Composite	ND < 1.8	U*
Oil & Grease	mg/L	15	1/Discharge	Grab	ND < 0.53	U*
pH (Field)	s.u.	6.5-8.5	1/Discharge	Grab	7.90	*
Total Suspended Solids#	mg/L	45	1/Discharge	Composite	110(c)	*
PRIORITY POLLUTANTS						
1,1-Dichloroethene	µg/L	6.0	1/Discharge	Grab	ND < 0.33	U*
1,2-Dichloroethane	µg/L	0.5	1/Discharge	Grab	ND < 0.15	U*
2,4,6-Trichlorophenol	µg/L	13	1/Discharge	Composite	ND < 0.081	U*
2,4-Dinitrotoluene	µg/L	18	1/Discharge	Composite	ND < 0.13	U*
alpha-BHC	µg/L	0.03	1/Discharge	Composite	ND < 0.00080	U*
Antimony	µg/L	6.0	1/Year	Composite	ND < 0.50	U
Arsenic	µg/L	10.0	1/Discharge(r)	Composite	ND < 8.9	U
Beryllium	µg/L	4.0	1/Year	Composite	ND < 0.44	U
Bis (2-Ethylhexyl) Phthalate	µg/L	4.0	1/Discharge	Composite	ND < 2.2	U*
Cadmium	µg/L	(4.0) 3.1	1/Discharge	Composite	ND < 0.25	U
Chromium VI (Hexavalent)	µg/L	16	1/Year	Composite	ND < 0.039	U*
Copper	µg/L	14	1/Discharge	Composite	4.6	--
Cyanide	µg/L	8.5	1/Discharge	Composite	ND < 2.5	U*
Lead	µg/L	5.2	1/Discharge	Composite	3.5	--
Mercury	µg/L	0.1	1/Discharge	Composite	ND < 0.12	U*
Nickel	µg/L	94	1/Year	Composite	ND < 5.0	U
N-Nitrosodimethylamine	µg/L	16	1/Discharge	Composite	ND < 0.17	U*
Pentachlorophenol	µg/L	16.5	1/Discharge	Composite	ND < 0.13	U*
Selenium	µg/L	(5) 8.2	1/Discharge	Composite	ND < 0.50	U
Silver	µg/L	4.1	1/Year	Composite	ND < 0.50	U
Thallium	µg/L	2.0	1/Year	Composite	ND < 0.20	U
Trichloroethene	µg/L	5.0	1/Discharge	Grab	ND < 0.17	U*
Zinc	µg/L	119	1/Discharge	Composite	28	--
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	mg/L	10.1	1/Discharge	Composite	0.199	J (DNQ*)
Barium	mg/L	1.0	1/Year	Composite	0.043	--
Chloride	mg/L	150	1/Discharge	Composite	3.4	*
Chlorine, Total Residual (Field)	mg/L	0.1	1/Year	Grab	0.0	*
Chronic Toxicity	Pass or Fail and % Effect	Pass or % Effect <50	1st & 2nd rain event/Year	Composite	Fail, 29.68	*
Detergents (as MBAS)	mg/L	0.5	1/Discharge	Composite	ND < 0.15	U*
Fluoride	mg/L	1.6	1/Year	Composite	0.10	J (DNQ*)
Iron	mg/L	0.3	1/Discharge(r)	Composite	5.1	--
Manganese	µg/L	50	1/Discharge(r)	Composite	100	--
Nitrate - N	mg/L	8	1/Discharge	Composite	3.7	*
Nitrate + Nitrite as Nitrogen (N)	mg/L	8	1/Discharge	Composite	3.7	*
Nitrite - N	mg/L	1	1/Discharge	Composite	ND < 0.036	U*
Perchlorate	µg/L	6.0	1/Discharge	Composite	0.95	J (DNQ*)
Settleable Solids#	ml/L	0.3	1/Discharge	Grab	0.40(c)	*
Sulfate	mg/L	300	1/Discharge	Composite	3.4	*
Temperature (Field)	Deg F	86	1/Discharge	Grab	46.7	*
Total Dissolved Solids	mg/L	950	1/Discharge	Composite	80	*
REMAINING PRIORITY POLLUTANTS						
1,1,1-Trichloroethane	µg/L	-	1/Year	Grab	ND < 0.25	U*
1,1,2,2-Tetrachloroethane	µg/L	-	1/Year	Grab	ND < 0.20	U*
1,1,2-Trichloroethane	µg/L	-	1/Year	Grab	ND < 0.17	U*
1,1-Dichloroethane	µg/L	-	1/Year	Grab	ND < 0.39	U*
1,2,4-Trichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.16	U*
1,2-Dichlorobenzene	µg/L	-	1/Year	Grab	ND < 0.16	U*

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

OUTFALL 011
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/30/2021 10:00 - 12/30/2021 11:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
1,2-Dichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.16	U*
1,2-Dichloropropane	µg/L	-	1/Year	Grab	ND < 0.17	U*
1,2-Diphenylhydrazine/Azobenzene	µg/L	-	1/Year	Composite	ND < 0.084	U*
1,3-Dichlorobenzene	µg/L	-	1/Year	Grab	ND < 0.16	U*
1,3-Dichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.15	U*
1,4-Dichlorobenzene	µg/L	-	1/Year	Grab	ND < 0.11	U*
1,4-Dichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.15	U*
2,4-Dichlorophenol	µg/L	-	1/Year	Composite	ND < 0.12	U*
2,4-Dimethylphenol	µg/L	-	1/Year	Composite	ND < 0.16	U*
2,4-Dinitrophenol	µg/L	-	1/Year	Composite	ND < 1.2	U*
2,6-Dinitrotoluene	µg/L	-	1/Year	Composite	ND < 0.16	U*
2-Chloroethyl vinyl ether[q]	µg/L	-	1/Year	Grab	ND < 1.1	U*
2-Chloronaphthalene	µg/L	-	1/Year	Composite	ND < 0.16	U*
2-Chlorophenol	µg/L	-	1/Year	Composite	ND < 0.099	U*
2-Methyl-4,6-dinitrophenol	µg/L	-	1/Year	Composite	ND < 4.8	U*
2-Nitrophenol	µg/L	-	1/Year	Composite	ND < 1.7	U*
3,3'-Dichlorobenzidine	µg/L	-	1/Year	Composite	ND < 1.9	U*
4,4'-DDD	µg/L	-	1/Year	Composite	ND < 0.00080	U*
4,4'-DDE	µg/L	-	1/Year	Composite	ND < 0.00050	U*
4,4'-DDT	µg/L	-	1/Year	Composite	ND < 0.0016	U*
4-Bromophenyl phenyl ether	µg/L	-	1/Year	Composite	ND < 0.093	U*
4-Chloro-3-methylphenol	µg/L	-	1/Year	Composite	ND < 0.14	U*
4-Chlorophenyl phenyl ether	µg/L	-	1/Year	Composite	ND < 0.11	U*
4-Nitrophenol	µg/L	-	1/Year	Composite	ND < 1.4	U*
Acenaphthene	µg/L	-	1/Year	Composite	ND < 0.10	U*
Acenaphthylene	µg/L	-	1/Year	Composite	ND < 0.10	U*
Acrolein	µg/L	-	1/Year	Grab	ND < 4.6	U*
Acrylonitrile	µg/L	-	1/Year	Grab	ND < 1.4	U*
Aldrin	µg/L	-	1/Year	Composite	ND < 0.00070	U*
alpha-Endosulfan	µg/L	-	1/Year	Composite	ND < 0.00070	U*
Anthracene	µg/L	-	1/Year	Composite	ND < 0.087	U*
Aroclor 1016	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1221	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1232	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1242	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1248	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1254	µg/L	-	1/Year	Composite	ND < 0.052	U*
Aroclor 1260	µg/L	-	1/Year	Composite	ND < 0.052	U*
Benzene	µg/L	-	1/Year	Grab	ND < 0.28	U*
Benzidine	µg/L	-	1/Year	Composite	ND < 2.7	U*
Benzo(a)anthracene	µg/L	-	1/Year	Composite	ND < 0.084	U*
Benzo(a)pyrene	µg/L	-	1/Year	Composite	ND < 0.087	U*
Benzo(b)fluoranthene	µg/L	-	1/Year	Composite	ND < 0.12	U*
Benzo(g,h,i)perylene	µg/L	-	1/Year	Composite	ND < 0.15	U*
Benzo(k)fluoranthene	µg/L	-	1/Year	Composite	ND < 0.093	U*
beta-BHC	µg/L	-	1/Year	Composite	ND < 0.0017	U*
beta-Endosulfan	µg/L	-	1/Year	Composite	ND < 0.00050	U*
Bis (2-Chloroethoxy) Methane	µg/L	-	1/Year	Composite	ND < 0.17	U*
Bis (2-Chloroethyl) Ether	µg/L	-	1/Year	Composite	ND < 0.12	U*
Bis (2-Chloroisopropyl) Ether	µg/L	-	1/Year	Composite	ND < 0.11	U*
Bromoform	µg/L	-	1/Year	Grab	ND < 0.25	U*
Bromomethane	µg/L	-	1/Year	Grab	ND < 0.22	U*
Butyl benzylphthalate	µg/L	-	1/Year	Composite	0.68	J (DNQ*)
Carbon tetrachloride	µg/L	-	1/Year	Grab	ND < 0.28	U*
Chlordane	µg/L	-	1/Year	Composite	ND < 0.0065	U*
Chlorobenzene	µg/L	-	1/Year	Grab	ND < 0.19	U*

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

OUTFALL 011
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/30/2021 10:00 - 12/30/2021 11:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Chlorodibromomethane	µg/L	-	1/Year	Grab	ND < 0.15	U*
Chloroethane	µg/L	-	1/Year	Grab	ND < 0.29	U*
Chloroform	µg/L	-	1/Year	Grab	ND < 0.19	U*
Chloromethane (Methyl Chloride)	µg/L	-	1/Year	Grab	ND < 0.30	U*
Chromium	µg/L	-	1/Year	Composite	6.1	--
Chromium III (Trivalent)	µg/L	-	1/Year	Composite	9.9	J (DNQ*)
Chrysene	µg/L	-	1/Year	Composite	ND < 0.070	U*
cis-1,3-Dichloropropene	µg/L	-	1/Year	Grab	ND < 0.30	U*
delta-BHC	µg/L	-	1/Year	Composite	ND < 0.0011	U*
Dibenzo(a,h)anthracene	µg/L	-	1/Year	Composite	ND < 0.17	U*
Dichlorobromomethane	µg/L	-	1/Year	Grab	ND < 0.19	U*
Dieldrin	µg/L	-	1/Year	Composite	ND < 0.00050	U*
Diethyl phthalate	µg/L	-	1/Year	Composite	ND < 0.16	U*
Dimethyl phthalate	µg/L	-	1/Year	Composite	ND < 0.087	U*
Di-n-butyl phthalate	µg/L	-	1/Year	Composite	ND < 0.83	U*
Di-n-octyl phthalate	µg/L	-	1/Year	Composite	ND < 0.77	U*
Endosulfan sulfate	µg/L	-	1/Year	Composite	ND < 0.00060	U*
Endrin	µg/L	-	1/Year	Composite	ND < 0.00070	U*
Endrin aldehyde	µg/L	-	1/Year	Composite	ND < 0.0051	U*
Ethylbenzene	µg/L	-	1/Year	Grab	ND < 0.25	U*
Fluoranthene	µg/L	-	1/Year	Composite	ND < 0.12	U*
Fluorene	µg/L	-	1/Year	Composite	ND < 0.097	U*
gamma-BHC (Lindane)	µg/L	-	1/Year	Composite	ND < 0.00090	U*
Heptachlor	µg/L	-	1/Year	Composite	ND < 0.00070	U*
Heptachlor epoxide	µg/L	-	1/Year	Composite	ND < 0.00040	U*
Hexachlorobenzene	µg/L	-	1/Year	Composite	ND < 0.11	U*
Hexachlorobutadiene	µg/L	-	1/Year	Composite	ND < 0.20	U*
Hexachlorocyclopentadiene	µg/L	-	1/Year	Composite	ND < 0.12	U*
Hexachloroethane	µg/L	-	1/Year	Composite	ND < 0.18	U*
Indeno(1,2,3-cd)pyrene	µg/L	-	1/Year	Composite	ND < 0.15	U*
Isophorone	µg/L	-	1/Year	Composite	ND < 0.11	U*
m,p-Xylenes	µg/L	-	1/Year	Grab	ND < 0.17	U*
Methylene chloride	µg/L	-	1/Year	Grab	ND < 0.57	U*
Naphthalene	µg/L	-	1/Year	Composite	ND < 0.12	U*
Naphthalene	µg/L	-	1/Year	Grab	ND < 0.33	U*
Nitrobenzene	µg/L	-	1/Year	Composite	ND < 0.12	U*
N-Nitroso-di-n-propylamine	µg/L	-	1/Year	Composite	ND < 0.075	U*
N-Nitrosodiphenylamine	µg/L	-	1/Year	Composite	ND < 0.12	U*
o-Xylene	µg/L	-	1/Year	Grab	ND < 0.15	U*
Phenanthrene	µg/L	-	1/Year	Composite	ND < 0.089	U*
Phenol	µg/L	-	1/Year	Composite	ND < 0.091	U*
Pyrene	µg/L	-	1/Year	Composite	ND < 0.096	U*
Tetrachloroethene	µg/L	-	1/Year	Grab	ND < 0.21	U*
Toluene	µg/L	-	1/Year	Grab	ND < 0.23	U*
Toxaphene	µg/L	-	1/Year	Composite	ND < 0.013	U*
trans-1,2-Dichloroethene	µg/L	-	1/Year	Grab	ND < 0.24	U*
trans-1,3-Dichloropropene	µg/L	-	1/Year	Grab	ND < 0.18	U*
Trichlorofluoromethane	µg/L	-	1/Year	Grab	ND < 0.29	U*
Vinyl chloride	µg/L	-	1/Year	Grab	ND < 0.47	U*
Xylenes (Total)	µg/L	-	1/Year	Grab	ND < 0.17	U*
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS						
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	-	1/Quarter	Grab	ND < 0.33	U*
1,2-Dichloro-1,1,2-trifluoroethane	µg/L	-	1/Year	Grab	ND < 0.58	U*
1,4-Dioxane	µg/L	-	1/Year	Composite	ND < 1.1	U*
Boron	mg/L	-	1/Year	Composite	0.053	--
cis-1,2-Dichloroethene	µg/L	-	1/Year	Grab	ND < 0.21	U*

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

OUTFALL 011
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/30/2021 10:00 - 12/30/2021 11:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Cobalt	µg/L	-	1/Year	Composite	2.9	J (DNQ)
Conductivity	µmhos/cm	-	1/Discharge	Grab	96	*
Cyclohexane	µg/L	-	1/Year	Grab	ND < 0.79	U*
Diesel Range Organics (DRO C13-C28)	mg/L	-	1/Year	Grab	0.044	J (DNQ*)
Dissolved Oxygen (Field)	mg/L	-	1/Discharge	Grab	5.45	*
E. Coli	mpn/100mL	-	1/Year	Grab	140	--
Gasoline Range Organics (GRO C4-C12)	mg/L	-	1/Year	Grab	ND < 0.030	U*
Hardness (as CaCO3)	mg/L	-	1/Year	Composite	41	*
Monomethyl hydrazine	µg/L	-	1/Year	Composite	ND < 0.31	U*
Total Organic Carbon	mg/L	-	1/Year	Composite	10	*
Turbidity	NTU	-	1/Discharge	Composite	160	*
Vanadium	µg/L	-	1/Year	Composite	17	--
ADDITIONAL POLLUTANTS[2]						
Antimony, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.50	U
Arsenic, dissolved	µg/L	-	Additional/Discharge[r]	Composite	ND < 8.9	U
Barium, dissolved	mg/L	-	Additional/Year	Composite	0.0099	J (DNQ)
Beryllium, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.44	U
Boron, dissolved	mg/L	-	Additional/Year	Composite	0.046	J (DNQ)
Cadmium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.25	U
Chromium, dissolved	µg/L	-	Additional/Year	Composite	ND < 2.5	U
Cobalt, dissolved	µg/L	-	Additional/Year	Composite	ND < 2.8	U
Copper, dissolved	µg/L	-	Additional/Discharge	Composite	2.6	--
Hardness, Dissolved (as CaCO3)	mg/L	-	Additional/Year	Composite	31	*
Human Bacteroides	CEs/100mL	-	Additional/Year	Grab	102	J (DNQ*)
Iron, dissolved	mg/L	-	Additional/Discharge[r]	Composite	0.140	--
Lead, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U
Manganese, dissolved	µg/L	-	Additional/Discharge[r]	Composite	ND < 6.8	U
Mercury, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.12	U*
Nickel, dissolved	µg/L	-	Additional/Year	Composite	ND < 5.0	U
Selenium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U
Silver, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.50	U
Thallium, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.20	U
Vanadium, dissolved	µg/L	-	Additional/Year	Composite	ND < 2.1	U
Zinc, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 12	U

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

OUTFALL 011
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

					12/30/2021 11:00 (Composite)			
ANALYTE	**SAMPLE FREQUENCY**	**1998 WHO TEF**	**BEF GREAT LAKES WATER QUALITY INITIATIVE**	**UNITS**	**LAB MDL**	**LAB RESULT**	**LABORATORY/ VALIDATION QUALIFIER**	**TCDD EQUIVALENT (w/out DNQ Values)**
1,2,3,4,6,7,8-HpCDD	1/Discharge	0.01	0.05	µg/L	1.5E-06	7.8E-05	--	**3.9E-08**
1,2,3,4,6,7,8-HpCDF	1/Discharge	0.01	0.01	µg/L	1.4E-06	2.3E-05	U (B)	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	0.01	0.4	µg/L	1.5E-06	ND	U	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	0.1	0.3	µg/L	8.0E-07	3.4E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	0.1	0.08	µg/L	8.8E-07	ND	U	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	0.1	0.1	µg/L	8.3E-07	3.6E-06	U (B)	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	0.1	0.2	µg/L	8.8E-07	ND	U	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	0.1	0.1	µg/L	7.9E-07	4.2E-06	U (B)	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	0.1	0.6	µg/L	8.7E-07	ND	U	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1.0	0.9	µg/L	1.7E-06	ND	U	**ND**
1,2,3,7,8-PeCDF	1/Discharge	0.05	0.2	µg/L	1.1E-06	ND	U	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	0.1	0.7	µg/L	7.8E-07	ND	U	**ND**
2,3,4,7,8-PeCDF	1/Discharge	0.5	1.6	µg/L	1.2E-06	ND	U	**ND**
2,3,7,8-TCDD	1/Discharge	1.0	1.0	µg/L	2.2E-06	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	0.1	0.8	µg/L	1.0E-06	ND	U	**ND**
OCDD	1/Discharge	0.0001	0.01	µg/L	4.1E-06	4.5E-04	--	**4.5E-10**
OCDF	1/Discharge	0.0001	0.02	µg/L	3.5E-06	4.6E-05	U (B)	**ND**

TCDD TEQ w/out DNQ Values[4]	**3.9E-08**

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

See Reporting Summary Notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 011
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/30/2021 11:00 (Composite)		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS						
Gross Alpha	pCi/L	15	1/Discharge	5.56 ± 1.95	2.23	*
Gross Beta	pCi/L	50	1/Discharge	4.75 ± 1.08	1.08	*
Combined Radium-226 & Radium-228	pCi/L	5.0	1/Discharge	1.33 ± 0.787	NM	U*
Strontium-90	pCi/L	8.0	1/Discharge	0.438 ± 0.394	0.629	U*
Tritium	pCi/L	20,000	1/Discharge	243 ± 215	342	U*
ADDITIONAL POLLUTANTS						
Cesium-137	pCi/L	200	1/Discharge	-0.565 ± 11.8	15.0	U*
Uranium	pCi/L	20	1/Discharge	0.536 ± 0.411	0.401	*
ADDITIONAL POLLUTANTS WITHOUT LIMITS						
Potassium-40	pCi/L	-	1/Discharge	-75.2 ± 166	217	U*

See Reporting Summary Notes for abbreviations, definitions, and other explanations for the data presented.

OUTFALL 011
DISCHARGE MONITORING MASS SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/30/2021 10:00 - 12/30/2021 11:00		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	12.373	*
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	11,351(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	Composite	ND	U
Arsenic	LBS/DAY	9.83	1/Discharge(r)	Composite	ND	U
Beryllium	LBS/DAY	3.93	1/Year	Composite	ND	U
Bis (2-Ethylhexyl) Phthalate	LBS/DAY	3.93	1/Discharge	Composite	ND	U*
Cadmium	LBS/DAY	(3.93) 3.05	1/Discharge	Composite	ND	U
Chromium VI (Hexavalent)	LBS/DAY	15.72	1/Year	Composite	ND	U*
Copper	LBS/DAY	13.76	1/Discharge	Composite	0.47	--
Cyanide	LBS/DAY	8.35	1/Discharge	Composite	ND	U*
Lead	LBS/DAY	5.11	1/Discharge	Composite	0.36	--
Mercury	LBS/DAY	0.1	1/Discharge	Composite	ND	U*
Nickel	LBS/DAY	92.4	1/Year	Composite	ND	U
N-Nitrosodimethylamine	LBS/DAY	15.72	1/Discharge	Composite	ND	U*
Pentachlorophenol	LBS/DAY	16.22	1/Discharge	Composite	ND	U*
Selenium	LBS/DAY	(4.91) 8.06	1/Discharge	Composite	ND	U
Silver	LBS/DAY	4.03	1/Year	Composite	ND	U
TCDD TEQ_NoDNQ(4)	LBS/DAY	2.75E-08	1/Discharge	Composite	4.0E-09	*
Thallium	LBS/DAY	1.97	1/Year	Composite	ND	U
Trichloroethene	LBS/DAY	4.91	1/Discharge	Grab	ND	U*
Zinc	LBS/DAY	117	1/Discharge	Composite	2.9	--
NON-CONVENTIONAL POLLUTANTS						
Ammonia – N	LBS/DAY	9,925.3	1/Discharge	Composite	20.5	J (DNQ*)
Barium	LBS/DAY	983	1/Year	Composite	4.4	--
Chloride	LBS/DAY	147,405	1/Discharge	Composite	351	*
Chlorine, Total Residual (Field)	LBS/DAY	98.3	1/Year	Grab	0.0	*
Detergents (as MBAS)	LBS/DAY	491.4	1/Discharge	Composite	ND	U*
Fluoride	LBS/DAY	1,572.3	1/Year	Composite	10	J (DNQ*)
Iron	LBS/DAY	295	1/Discharge(r)	Composite	526	--
Manganese	LBS/DAY	49.1	1/Discharge(r)	Composite	10.3	--
Nitrate - N	LBS/DAY	7,862	1/Discharge	Composite	382	*
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	7,862	1/Discharge	Composite	382	*
Nitrite - N	LBS/DAY	983	1/Discharge	Composite	ND	U*
Perchlorate	LBS/DAY	5.9	1/Discharge	Composite	0.098	J (DNQ*)
Sulfate	LBS/DAY	294,810	1/Discharge	Composite	351	*
Total Dissolved Solids	LBS/DAY	933,567	1/Discharge	Composite	8,255	*

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

OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/26/2021 15:00 - 12/28/2021 09:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	1.7412	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	mg/L	30	1/Discharge	Composite	66	J (H)
Oil & Grease	mg/L	15	1/Discharge	Grab	ND < 0.54	U*
pH (Field)	s.u.	6.5-8.5	1/Discharge	Grab	6.88	*
Total Suspended Solids[#]	mg/L	45	1/Discharge	Composite	1.0[(c)]	*
PRIORITY POLLUTANTS						
1,1-Dichloroethene	µg/L	6.0	1/Discharge	Grab	ND < 0.33	U*
1,2-Dichloroethane	µg/L	0.5	1/Discharge	Grab	ND < 0.15	U*
2,4,6-Trichlorophenol	µg/L	13	1/Discharge	Composite	ND < 0.072	U*
2,4-Dinitrotoluene	µg/L	18	1/Discharge	Composite	ND < 0.11	U*
alpha-BHC	µg/L	0.03	1/Discharge	Composite	ND < 0.00080	U*
Antimony	µg/L	6.0	1/Year	Composite	ND < 0.50	U*
Arsenic	µg/L	10.0	1/Year	Composite	ND < 8.9	U*
Beryllium	µg/L	4.0	1/Year	Composite	ND < 0.44	U*
Bis (2-Ethylhexyl) Phthalate	µg/L	4.0	1/Discharge	Composite	ND < 1.9	U*
Cadmium	µg/L	(4.0) 3.1	1/Discharge	Composite	ND < 0.25	U*
Chromium VI (Hexavalent)	µg/L	16	1/Year	Composite	1.1	*
Copper	µg/L	14	1/Discharge	Composite	2.4	*
Cyanide	µg/L	8.5	1/Discharge	Composite	ND < 1.4	U*
Lead	µg/L	5.2	1/Discharge	Composite	ND < 0.50	U*
Mercury	µg/L	0.1	1/Discharge	Composite	ND < 0.12	U*
Nickel	µg/L	94	1/Year	Composite	ND < 5.0	U*
N-Nitrosodimethylamine	µg/L	16	1/Discharge	Composite	ND < 0.15	U*
Pentachlorophenol	µg/L	16.5	1/Discharge	Composite	0.55	J (DNQ*)
Selenium	µg/L	(5) 8.2	1/Discharge	Composite	ND < 0.50	U*
Silver	µg/L	4.1	1/Year	Composite	ND < 0.50	U*
Thallium	µg/L	2.0	1/Year	Composite	ND < 0.20	U*
Trichloroethene	µg/L	5.0	1/Discharge	Grab	ND < 0.17	U*
Zinc	µg/L	119	1/Discharge	Composite	ND < 12	U*
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	mg/L	10.1	1/Discharge	Composite	0.125	J (DNQ*)
Barium	mg/L	1.0	1/Year	Composite	0.0097	J (DNQ*)
Chloride	mg/L	150	1/Discharge	Composite	5.3	*
Chlorine, Total Residual (Field)	mg/L	0.1	1/Year	Grab	0[(k)]	*
Chronic Toxicity	Pass or Fail and % Effect	Pass or % Effect <50	1st & 2nd rain event/Year	Composite	Pass, -0.63	*
Detergents (as MBAS)	mg/L	0.5	1/Discharge	Composite	0.35	*
Fluoride	mg/L	1.6	1/Year	Composite	ND < 0.046	U*
Iron	mg/L	0.3	1/Year	Composite	ND < 0.050	U*
Manganese	µg/L	50	1/Year	Composite	15	J (DNQ*)
Nitrate - N	mg/L	8	1/Discharge	Composite	2.9	*
Nitrate + Nitrite as Nitrogen (N)	mg/L	8	1/Discharge	Composite	2.9	*
Nitrite - N	mg/L	1	1/Discharge	Composite	ND < 0.018	U*
Perchlorate	µg/L	6.0	1/Discharge	Composite	ND < 0.91	U*
Settleable Solids[#]	mL/L	0.3	1/Discharge	Grab	ND < 0.10	U*
Sulfate	mg/L	300	1/Discharge	Composite	130	*
Temperature (Field)	Deg F	86	1/Discharge	Grab	52.2	*
Total Dissolved Solids	mg/L	950	1/Discharge	Composite	240	*
REMAINING PRIORITY POLLUTANTS[(p)]						
1,1,1-Trichloroethane	µg/L	-	1/Year	Grab	ND < 0.25	U*
1,1,2,2-Tetrachloroethane	µg/L	-	1/Year	Grab	ND < 0.20	U*
1,1,2-Trichloroethane	µg/L	-	1/Year	Grab	ND < 0.17	U*
1,1-Dichloroethane	µg/L	-	1/Year	Grab	ND < 0.39	U*
1,2,4-Trichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.14	U*
1,2-Dichlorobenzene	µg/L	-	1/Year	Grab	ND < 0.16	U*

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

OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/26/2021 15:00 - 12/28/2021 09:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
1,2-Dichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.14	U*
1,2-Dichloropropane	µg/L	-	1/Year	Grab	ND < 0.17	U*
1,2-Diphenylhydrazine/Azobenzene	µg/L	-	1/Year	Composite	ND < 0.073	U*
1,3-Dichlorobenzene	µg/L	-	1/Year	Grab	ND < 0.16	U*
1,3-Dichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.13	U*
1,4-Dichlorobenzene	µg/L	-	1/Year	Grab	ND < 0.11	U*
1,4-Dichlorobenzene	µg/L	-	1/Year	Composite	ND < 0.13	U*
2,4-Dichlorophenol	µg/L	-	1/Year	Composite	ND < 0.10	U*
2,4-Dimethylphenol	µg/L	-	1/Year	Composite	ND < 0.14	U*
2,4-Dinitrophenol	µg/L	-	1/Year	Composite	ND < 1.1	U*
2,6-Dinitrotoluene	µg/L	-	1/Year	Composite	ND < 0.14	U*
2-Chloroethyl vinyl ether[q]	µg/L	-	1/Year	Grab	ND < 1.1	U*
2-Chloronaphthalene	µg/L	-	1/Year	Composite	ND < 0.14	U*
2-Chlorophenol	µg/L	-	1/Year	Composite	ND < 0.087	U*
2-Methyl-4,6-dinitrophenol	µg/L	-	1/Year	Composite	ND < 4.2	U*
2-Nitrophenol	µg/L	-	1/Year	Composite	ND < 1.5	U*
3,3'-Dichlorobenzidine	µg/L	-	1/Year	Composite	ND < 1.7	U*
4,4'-DDD	µg/L	-	1/Year	Composite	ND < 0.00080	U*
4,4'-DDE	µg/L	-	1/Year	Composite	ND < 0.00050	U*
4,4'-DDT	µg/L	-	1/Year	Composite	ND < 0.0016	U*
4-Bromophenyl phenyl ether	µg/L	-	1/Year	Composite	ND < 0.082	U*
4-Chloro-3-methylphenol	µg/L	-	1/Year	Composite	ND < 0.12	U*
4-Chlorophenyl phenyl ether	µg/L	-	1/Year	Composite	ND < 0.096	U*
4-Nitrophenol	µg/L	-	1/Year	Composite	ND < 1.2	U*
Acenaphthene	µg/L	-	1/Year	Composite	ND < 0.091	U*
Acenaphthylene	µg/L	-	1/Year	Composite	ND < 0.089	U*
Acrolein	µg/L	-	1/Year	Grab	ND < 4.6	U*
Acrylonitrile	µg/L	-	1/Year	Grab	ND < 1.4	U*
Aldrin	µg/L	-	1/Year	Composite	ND < 0.00070	U*
alpha-Endosulfan	µg/L	-	1/Year	Composite	ND < 0.00070	U*
Anthracene	µg/L	-	1/Year	Composite	ND < 0.077	U*
Aroclor 1016	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1221	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1232	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1242	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1248	µg/L	-	1/Year	Composite	ND < 0.044	U*
Aroclor 1254	µg/L	-	1/Year	Composite	ND < 0.052	U*
Aroclor 1260	µg/L	-	1/Year	Composite	ND < 0.052	U*
Benzene	µg/L	-	1/Year	Grab	ND < 0.28	U*
Benzidine	µg/L	-	1/Year	Composite	ND < 2.4	U*
Benzo(a)anthracene	µg/L	-	1/Year	Composite	ND < 0.074	U*
Benzo(a)pyrene	µg/L	-	1/Year	Composite	ND < 0.077	U*
Benzo(b)fluoranthene	µg/L	-	1/Year	Composite	ND < 0.11	U*
Benzo(g,h,i)perylene	µg/L	-	1/Year	Composite	ND < 0.13	U*
Benzo(k)fluoranthene	µg/L	-	1/Year	Composite	ND < 0.082	U*
beta-BHC	µg/L	-	1/Year	Composite	ND < 0.0017	U*
beta-Endosulfan	µg/L	-	1/Year	Composite	ND < 0.00050	U*
Bis (2-Chloroethoxy) Methane	µg/L	-	1/Year	Composite	ND < 0.15	U*
Bis (2-Chloroethyl) Ether	µg/L	-	1/Year	Composite	ND < 0.10	U*
Bis (2-Chloroisopropyl) Ether	µg/L	-	1/Year	Composite	ND < 0.097	U*
Bromoform	µg/L	-	1/Year	Grab	ND < 0.25	U*
Bromomethane	µg/L	-	1/Year	Grab	ND < 0.22	U*
Butyl benzylphthalate	µg/L	-	1/Year	Composite	ND < 0.60	U*
Carbon tetrachloride	µg/L	-	1/Year	Grab	ND < 0.28	U*
Chlordane	µg/L	-	1/Year	Composite	ND < 0.0065	U*
Chlorobenzene	µg/L	-	1/Year	Grab	ND < 0.19	U*

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

OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/26/2021 15:00 - 12/28/2021 09:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Chlorodibromomethane	µg/L	-	1/Year	Grab	ND < 0.15	U*
Chloroethane	µg/L	-	1/Year	Grab	ND < 0.29	U*
Chloroform	µg/L	-	1/Year	Grab	ND < 0.19	U*
Chloromethane (Methyl Chloride)	µg/L	-	1/Year	Grab	ND < 0.30	U*
Chromium	µg/L	-	1/Year	Composite	ND < 2.5	U*
Chromium III (Trivalent)	µg/L	-	1/Year	Composite	ND < 6.9	U*
Chrysene	µg/L	-	1/Year	Composite	ND < 0.061	U*
cis-1,3-Dichloropropene	µg/L	-	1/Year	Grab	ND < 0.30	U*
delta-BHC	µg/L	-	1/Year	Composite	ND < 0.0011	U*
Dibenz(a,h)anthracene	µg/L	-	1/Year	Composite	ND < 0.15	U*
Dichlorobromomethane	µg/L	-	1/Year	Grab	ND < 0.19	U*
Dieldrin	µg/L	-	1/Year	Composite	ND < 0.00050	U*
Diethyl phthalate	µg/L	-	1/Year	Composite	ND < 0.14	U*
Dimethyl phthalate	µg/L	-	1/Year	Composite	ND < 0.076	U*
Di-n-butyl phthalate	µg/L	-	1/Year	Composite	ND < 0.73	U*
Di-n-octyl phthalate	µg/L	-	1/Year	Composite	ND < 0.68	U*
Endosulfan sulfate	µg/L	-	1/Year	Composite	ND < 0.00060	U*
Endrin	µg/L	-	1/Year	Composite	ND < 0.00070	U*
Endrin aldehyde	µg/L	-	1/Year	Composite	ND < 0.0051	U*
Ethylbenzene	µg/L	-	1/Year	Grab	ND < 0.25	U*
Fluoranthene	µg/L	-	1/Year	Composite	ND < 0.10	U*
Fluorene	µg/L	-	1/Year	Composite	ND < 0.085	U*
gamma-BHC (Lindane)	µg/L	-	1/Year	Composite	ND < 0.00090	U*
Heptachlor	µg/L	-	1/Year	Composite	ND < 0.00070	U*
Heptachlor epoxide	µg/L	-	1/Year	Composite	ND < 0.00040	U*
Hexachlorobenzene	µg/L	-	1/Year	Composite	ND < 0.10	U*
Hexachlorobutadiene	µg/L	-	1/Year	Composite	ND < 0.18	U*
Hexachlorocyclopentadiene	µg/L	-	1/Year	Composite	ND < 0.10	U*
Hexachloroethane	µg/L	-	1/Year	Composite	ND < 0.16	U*
Indeno(1,2,3-cd)pyrene	µg/L	-	1/Year	Composite	ND < 0.13	U*
Isophorone	µg/L	-	1/Year	Composite	ND < 0.094	U*
m,p-Xylenes	µg/L	-	1/Year	Grab	ND < 0.17	U*
Methylene chloride	µg/L	-	1/Year	Grab	ND < 0.57	U*
Naphthalene	µg/L	-	1/Year	Grab	ND < 0.33	U*
Naphthalene	µg/L	-	1/Year	Composite	ND < 0.10	U*
Nitrobenzene	µg/L	-	1/Year	Composite	ND < 0.10	U*
N-Nitroso-di-n-propylamine	µg/L	-	1/Year	Composite	ND < 0.066	U*
N-Nitrosodiphenylamine	µg/L	-	1/Year	Composite	ND < 0.10	U*
o-Xylene	µg/L	-	1/Year	Grab	ND < 0.15	U*
Phenanthrene	µg/L	-	1/Year	Composite	ND < 0.079	U*
Phenol	µg/L	-	1/Year	Composite	ND < 0.080	U*
Pyrene	µg/L	-	1/Year	Composite	ND < 0.085	U*
Tetrachloroethene	µg/L	-	1/Year	Grab	ND < 0.21	U*
Toluene	µg/L	-	1/Year	Grab	ND < 0.23	U*
Toxaphene	µg/L	-	1/Year	Composite	ND < 0.013	U*
trans-1,2-Dichloroethene	µg/L	-	1/Year	Grab	ND < 0.24	U*
trans-1,3-Dichloropropene	µg/L	-	1/Year	Grab	ND < 0.18	U*
Trichlorofluoromethane	µg/L	-	1/Year	Grab	ND < 0.29	U*
Vinyl chloride	µg/L	-	1/Year	Grab	ND < 0.47	U*
Xylenes (Total)	µg/L	-	1/Year	Grab	ND < 0.17	U*
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS						
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	-	1/Quarter	Grab	ND < 0.33	U*
1,2-Dichloro-1,1,2-trifluoroethane	µg/L	-	1/Year	Grab	ND < 0.58	U*
1,4-Dioxane	µg/L	-	1/Year	Composite	ND < 0.55	U*
Boron	mg/L	-	1/Year	Composite	0.044	J (DNQ*)
cis-1,2-Dichloroethene	µg/L	-	1/Year	Grab	ND < 0.21	U*

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

OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/26/2021 15:00 - 12/28/2021 09:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Cobalt	µg/L	-	1/Year	Composite	ND < 2.8	U*
Conductivity	µmhos/cm	-	1/Discharge	Grab	400	*
Cyclohexane	µg/L	-	1/Year	Grab	ND < 0.79	U*
Diesel Range Organics (DRO C13-C28)	mg/L	-	1/Year	Grab	0.21	*
Dissolved Oxygen (Field)	mg/L	-	1/Discharge	Grab	7.96	*
E. Coli	mpn/100mL	-	1/Year	Grab	ND < 1.0	UJ (H)
Gasoline Range Organics (GRO C4-C12)	mg/L	-	1/Year	Grab	ND < 0.030	U*
Hardness (as CaCO3)	mg/L	-	1/Year	Composite	53	*
Monomethyl hydrazine	µg/L	-	1/Year	Composite	ND < 0.31	U*
Total Organic Carbon	mg/L	-	1/Year	Composite	5.0	*
Turbidity	NTU	-	1/Discharge	Composite	0.40	*
Vanadium	µg/L	-	1/Year	Composite	ND < 2.1	U*
ADDITIONAL POLLUTANTS[2]						
Antimony, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.50	U*
Arsenic, dissolved	µg/L	-	Additional/Year	Composite	ND < 8.9	U*
Barium, dissolved	mg/L	-	Additional/Year	Composite	0.0089	J (DNQ*)
Beryllium, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.44	U*
Boron, dissolved	mg/L	-	Additional/Year	Composite	0.039	J (DNQ*)
Cadmium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.25	U*
Chromium, dissolved	µg/L	-	Additional/Year	Composite	ND < 2.5	U*
Cobalt, dissolved	µg/L	-	Additional/Year	Composite	ND < 2.8	U*
Copper, dissolved	µg/L	-	Additional/Discharge	Composite	1.6	J (DNQ*)
Hardness, Dissolved (as CaCO3)	mg/L	-	Additional/Year	Composite	50	*
Iron, dissolved	mg/L	-	Additional/Year	Composite	ND < 0.050	U*
Lead, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U*
Manganese, dissolved	µg/L	-	Additional/Year	Composite	13	J (DNQ*)
Mercury, dissolved	µg/L	-	Additional/Discharge	Composite	0.14	J (DNQ*)
Nickel, dissolved	µg/L	-	Additional/Year	Composite	ND < 5.0	U*
Selenium, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 0.50	U*
Silver, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.50	U*
Thallium, dissolved	µg/L	-	Additional/Year	Composite	ND < 0.20	U*
Vanadium, dissolved	µg/L	-	Additional/Year	Composite	ND < 2.1	U*
Zinc, dissolved	µg/L	-	Additional/Discharge	Composite	ND < 12	U*

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

OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

					12/28/2021 09:30 (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	5.5E-07	4.1E-06	U (B)	**ND**
1,2,3,4,6,7,8-HpCDF	1/Discharge	0.01	0.01	µg/L	4.8E-07	ND	U	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	0.01	0.4	µg/L	5.2E-07	ND	U	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	0.1	0.3	µg/L	3.1E-07	2.2E-06	U (B)	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	0.1	0.08	µg/L	2.5E-07	ND	U	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	0.1	0.1	µg/L	3.1E-07	1.4E-06	U (B)	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	0.1	0.2	µg/L	2.7E-07	ND	U	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	0.1	0.1	µg/L	3.0E-07	ND	U	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	0.1	0.6	µg/L	2.6E-07	1.9E-06	U (B)	**ND**
1,2,3,7,8-PeCDD	1/Discharge	1.0	0.9	µg/L	9.0E-07	ND	U	**ND**
1,2,3,7,8-PeCDF	1/Discharge	0.05	0.2	µg/L	7.0E-07	ND	U	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	0.1	0.7	µg/L	2.1E-07	ND	U	**ND**
2,3,4,7,8-PeCDF	1/Discharge	0.5	1.6	µg/L	7.4E-07	ND	U	**ND**
2,3,7,8-TCDD	1/Discharge	1.0	1.0	µg/L	7.9E-07	ND	U	**ND**
2,3,7,8-TCDF	1/Discharge	0.1	0.8	µg/L	4.2E-07	ND	U	**ND**
OCDD	1/Discharge	0.0001	0.01	µg/L	9.3E-07	2.5E-05	U (B)	**ND**
OCDF	1/Discharge	0.0001	0.02	µg/L	1.2E-06	ND	U	**ND**

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

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

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

OUTFALL 018
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/28/2021 09:30 (Composite)		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**RESULT**	**MDA**	**LABORATORY/ VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS						
Gross Alpha	pCi/L	15	1/Discharge	2.10 ± 1.82	2.81	U*
Gross Beta	pCi/L	50	1/Discharge	4.07 ± 1.12	1.25	*
Combined Radium-226 & Radium-228	pCi/L	5	1/Discharge	0.429 ± 0.366	NM	U*
Strontium-90	pCi/L	8	1/Discharge	0.947 ± 0.468	0.667	*
Tritium	pCi/L	20,000	1/Discharge	-187 ± 189	358	U*
ADDITIONAL POLLUTANTS						
Cesium-137	pCi/L	200	1/Discharge	2.57 ± 9.11	11.0	U*
Uranium	pCi/L	20	1/Discharge	0.117 ± 0.09246	0.0810	*
ADDITIONAL POLLUTANTS WITHOUT LIMITS						
Potassium-40	pCi/L	-	1/Discharge	54.8 ± 93.8	98.4	U*

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

OUTFALL 018
DISCHARGE MONITORING MASS SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/26/2021 15:00 - 12/28/2021 09:30		
ANALYTE	**UNITS**	**DAILY MAXIMUM PERMIT LIMIT**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**LABORATORY/ VALIDATION QUALIFIER**
Flow**	MGD	117.83	1/Discharge	Meas	1.7412	*
CONVENTIONAL POLLUTANTS						
Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	LBS/DAY	29,481	1/Discharge	Composite	958	J (H)
Oil & Grease	LBS/DAY	14,741	1/Discharge	Grab	ND	U*
Total Suspended Solids#	LBS/DAY	44,222	1/Discharge	Composite	15 (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	Composite	ND	U*
Arsenic	LBS/DAY	9.83	1/Year	Composite	ND	U*
Beryllium	LBS/DAY	3.93	1/Year	Composite	ND	U*
Bis (2-Ethylhexyl) Phthalate	LBS/DAY	3.93	1/Discharge	Composite	ND	U*
Cadmium	LBS/DAY	(3.93) 3.05	1/Discharge	Composite	ND	U*
Chromium VI (Hexavalent)	LBS/DAY	15.72	1/Year	Composite	0.016	*
Copper	LBS/DAY	13.76	1/Discharge	Composite	0.035	*
Cyanide	LBS/DAY	8.35	1/Discharge	Composite	ND	U*
Lead	LBS/DAY	5.11	1/Discharge	Composite	ND	U*
Mercury	LBS/DAY	0.1	1/Discharge	Composite	ND	U*
Nickel	LBS/DAY	92.4	1/Year	Composite	ND	U*
N-Nitrosodimethylamine	LBS/DAY	15.72	1/Discharge	Composite	ND	U*
Pentachlorophenol	LBS/DAY	16.22	1/Discharge	Composite	0.0080	J (DNQ*)
Selenium	LBS/DAY	(4.91) 8.06	1/Discharge	Composite	ND	U*
Silver	LBS/DAY	4.03	1/Year	Composite	ND	U*
TCDD TEQ_NoDNQ(4)	LBS/DAY	2.75E-08	1/Discharge	Composite	ND	U*
Thallium	LBS/DAY	1.97	1/Year	Composite	ND	U*
Trichloroethene	LBS/DAY	4.91	1/Discharge	Grab	ND	U*
Zinc	LBS/DAY	117	1/Discharge	Composite	ND	U*
NON-CONVENTIONAL POLLUTANTS						
Ammonia - N	LBS/DAY	9,925.3	1/Discharge	Composite	1.82	J (DNQ*)
Barium	LBS/DAY	983	1/Year	Composite	0.14	J (DNQ*)
Chloride	LBS/DAY	147,405	1/Discharge	Composite	77	*
Chlorine, Total Residual (Field)	LBS/DAY	98.3	1/Year	Grab	0 (k)	*
Detergents (as MBAS)	LBS/DAY	491.4	1/Discharge	Composite	5.1	*
Fluoride	LBS/DAY	1,572.3	1/Year	Composite	ND	U*
Iron	LBS/DAY	295	1/Year	Composite	ND	U*
Manganese	LBS/DAY	49.1	1/Year	Composite	0.22	J (DNQ*)
Nitrate - N	LBS/DAY	7,862	1/Discharge	Composite	42	*
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	7,862	1/Discharge	Composite	42	*
Nitrite - N	LBS/DAY	983	1/Discharge	Composite	ND	U*
Perchlorate	LBS/DAY	5.9	1/Discharge	Composite	ND	U*
Sulfate	LBS/DAY	294,810	1/Discharge	Composite	1,888	*
Total Dissolved Solids	LBS/DAY	933,567	1/Discharge	Composite	3,485	*

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

ARROYO SIMI
DISCHARGE MONITORING DATA SUMMARY TABLE

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

				12/16/2021 08:00		
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 < 0.00080	U*
4,4'-DDE	µg/L	0.001	1/Quarter	Grab	ND < 0.00050	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 < 0.0065	U*
Chlorpyrifos	µg/L	0.02	1/Quarter	Grab	ND < 0.0069	U*
Diazinon	µg/L	0.16	1/Quarter	Grab	ND < 0.0052	U*
Dieldrin	µg/L	0.0002	1/Quarter	Grab	ND < 0.00050	U*
E. coli	mpn/100mL	235	1/Year	ANR	ANR	ANR
pH (Field)	s.u.	6.5-8.5	1/Quarter	Grab	6.72	*
Toxaphene	µg/L	0.0003	1/Quarter	Grab	ND < 0.013	U*
POLLUTANTS WITHOUT LIMITS						
Hardness (as CaCO3)	mg/L	-	1/Quarter	Grab	380	*
Priority Pollutants	NA	-	1/5 Years	ANR	ANR	ANR
Temperature (Field)	Deg F	-	1/Quarter	Grab	41.5	*
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.

APPENDIX D

Fourth Quarter 2021 Summary of Permit Limit Exceedances, and/or Non-Compliance

APPENDIX D

TABLE OF CONTENTS

Table D – Summary of Permit Limit Exceedances and/or Non Compliance

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

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

DAILY MAXIMUM BENCHMARK EXCEEDANCES AND/OR NON-COMPLIANCE							
OUTFALL	**SAMPLE DATE**	**SAMPLE TYPE**	**ANALYTE**	**DAILY MAXIMUM BENCHMARK LIMIT**	**RESULT**	**UNITS**	**LABORATORY/ VALIDATION QUALIFIER**
Outfall 001	12/26/2021	Comp[(m)]	Manganese	50	110	µg/L	--
Outfall 001	12/26/2021	Comp[(m)]	Iron	0.3	7.1	mg/L	--
Outfall 001	12/26/2021	Comp[(m)]	TCDD TEQ w/out DNQ	2.8E-08	2.9E-08	µg/L	*
Outfall 002	12/26/2021	Comp	Iron	0.3	2.5	mg/L	--

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	12/15/2021	Comp[(g)]	Copper	13	15	µg/L	--
Outfall 009	12/26/2021	Comp	Chronic Toxicity	Pass or % Effect<50	Fail, 57.52	Pass or % Effect	J (H)
Outfall 011	12/30/2021	Comp	Iron	0.3	5.1	mg/L	--
Outfall 011	12/30/2021	Comp	Iron	295	526	LBS/DAY	--
Outfall 011	12/30/2021	Comp	Manganese	50	100	µg/L	--
Outfall 011	12/30/2021	Comp	TCDD TEQ w/out DNQ	2.8E-08	3.9E-08	µg/L	*
Outfall 018	12/28/2021	Comp	Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C)	30	66	mg/L	J (H)

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

APPENDIX E

Fourth Quarter 2021 Analytical Laboratory Reports, Chain of Custody Forms, and Validation Reports

APPENDIX E

TABLE OF CONTENTS

Section No.	
1	Arroyo Simi – 570-79022-1 – December 16, 2021, Eurofins Calscience Analytical Report
2	Arroyo Simi – 570-79022-2 – December 16, 2021, Eurofins Calscience Analytical Report
3	Outfall 001 – 570-80124-1 – December 26, 2021, Eurofins Calscience Analytical Report
4	Outfall 001 – 570-80124-2 – December 26, 2021, Eurofins Calscience Analytical Report
5	Outfall 001 – 570-80124-3 – December 26, 2021, Eurofins Calscience Analytical Report
6	Outfall 001 – 570-80124-4 – December 26, 2021, Eurofins Calscience Analytical Report
7	Outfall 001 – 570-80141-1 – December 24, 2021, Eurofins Calscience Analytical Report
8	Outfall 002 – 570-80129-1 – December 24, 2021, Eurofins Calscience Analytical Report
9	Outfall 002 – 570-80132-1 – December 26, 2021, Eurofins Calscience Analytical Report
10	Outfall 002 – 570-80132-2 – December 26, 2021, Eurofins Calscience Analytical Report
11	Outfall 002 – 570-80132-3 – December 26, 2021, Eurofins Calscience Analytical Report
12	Outfall 002 – 570-80132-4 – December 26, 2021, Eurofins Calscience Analytical Report
13	Outfall 002 – 570-80230-1 – December 27, 2021, Eurofins Calscience Analytical Report
14	Outfall 002 – 570-80241-1 – December 28, 2021, Eurofins Calscience Analytical Report
15	Outfall 002 – 570-80241-2 – December 28, 2021, Eurofins Calscience Analytical Report
16	Outfall 002 – 570-80241-3 – December 28, 2021, Eurofins Calscience Analytical Report
17	Outfall 002 – 570-80412-1 – December 30, 2021, Eurofins Calscience Analytical Report
18	Outfall 008 – 570-80133-1 – December 24, 2021, Eurofins Calscience Analytical Report
19	Outfall 008 – 570-80145-1 – December 26, 2021, Eurofins Calscience Analytical Report
20	Outfall 008 – 570-80145-2 – December 26, 2021, Eurofins Calscience Analytical Report
21	Outfall 008 – 570-80145-3 – December 26, 2021, Eurofins Calscience Analytical Report
22	Outfall 008 – 570-80145-4 – December 26, 2021, Eurofins Calscience Analytical Report
23	Outfall 009 – 570-78854-1 – December 15, 2021, Eurofins Calscience Analytical Report
24	Outfall 009 – 570-78864-1 – December 15, 2021, Eurofins Calscience Analytical Report
25	Outfall 009 – 570-78864-2 – December 15, 2021, Eurofins Calscience Analytical Report
26	Outfall 009 – 570-78864-3 – December 15, 2021, Eurofins Calscience Analytical Report
27	Outfall 009 – 570-78864-4 – December 15, 2021, Eurofins Calscience Analytical Report
28	Outfall 009 – 570-78864-5 – December 15, 2021, Eurofins Calscience Analytical Report
29	Outfall 009 – 570-80139-1 – December 24, 2021, Eurofins Calscience Analytical Report
30	Outfall 009 – 570-80142-1 – December 26, 2021, Eurofins Calscience Analytical Report
31	Outfall 009 – 570-80142-2 – December 26, 2021, Eurofins Calscience Analytical Report
32	Outfall 009 – 570-80142-3 – December 26, 2021, Eurofins Calscience Analytical Report
33	Outfall 011 – 570-80406-1 – December 30, 2021, Eurofins Calscience Analytical Report
34	Outfall 011 – 570-80408-1 – December 30, 2021, Eurofins Calscience Analytical Report
35	Outfall 011 – 570-80408-2 – December 30, 2021, Eurofins Calscience Analytical Report
36	Outfall 011 – 570-80408-3 – December 30, 2021, Eurofins Calscience Analytical Report
37	Outfall 011 – 570-80408-4 – December 30, 2021, Eurofins Calscience Analytical Report
38	Outfall 011 – 570-80408-5 – December 30, 2021, Eurofins Calscience Analytical Report
39	Outfall 011 – SM22A04141 – December 30, 2021, LuminUltra Test Results Report
40	Outfall 018 – 570-80140-1– December 26, 2021, Eurofins Calscience Analytical Report
41	Outfall 018 – 570-80231-1 – December 28, 2021, Eurofins Calscience Analytical Report

APPENDIX E
Table of Contents (continued)

Section No.

42 Outfall 018 – 570-80231-2 – December 28, 2021, Eurofins Calscience Analytical Report
43 Outfall 018 – 570-80231-3 – December 28, 2021, Eurofins Calscience Analytical Report
44 Outfall 018 – 570-80231-4 – December 28, 2021, Eurofins Calscience Analytical Report
45 Outfall 018 – 570-80231-5 – December 28, 2021, Eurofins Calscience Analytical Report

46 Data Usability Summary Report

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-79022-1
Client Project/Site: Boeing NPDES SSFL Outfall - Arroyo Dry

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

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/9/2022 9:21:34 AM

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

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Client Sample Results 6
Surrogate Summary 9
QC Sample Results 10
QC Association Summary 12
Lab Chronicle 13
Certification Summary 14
Method Summary 15
Sample Summary 16
Chain of Custody 17
Receipt Checklists 18

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-79022-1
Project/Site: Boeing NPDES SSFL Outfall - Arroyo Dry

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: 570-79022-1
Project/Site: Boeing NPDES SSFL Outfall - Arroyo Dry

Job ID: 570-79022-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-79022-1

Comments
No additional comments.

Receipt
The samples were received on 12/16/2021 4:12 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.5º 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.

Organic Prep
Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-202537. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 608.1

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

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-79022-1
Project/Site: Boeing NPDES SSFL Outfall - Arroyo Dry

Client Sample ID: Arroyo Simi_20211216_Grab
Lab Sample ID: 570-79022-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Hardness as calcium carbonate	380		7.1	1.0	mg/L	1		SM 2340B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-79022-1
Project/Site: Boeing NPDES SSFL Outfall - Arroyo Dry

Method: 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Arroyo Simi_20211216_Grab
Lab Sample ID: 570-79022-1
Date Collected: 12/16/21 08:00
Matrix: Water
Date Received: 12/16/21 16:12

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.010	0.0065	ug/L		12/21/21 05:37	12/22/21 14:23	1
4,4'-DDD	ND		0.0013	0.00080	ug/L		12/21/21 05:37	12/22/21 14:23	1
4,4'-DDE	ND		0.0013	0.00050	ug/L		12/21/21 05:37	12/22/21 14:23	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		12/21/21 05:37	12/22/21 14:23	1
Dieldrin	ND		0.0013	0.00050	ug/L		12/21/21 05:37	12/22/21 14:23	1
Toxaphene	ND		0.10	0.013	ug/L		12/21/21 05:37	12/22/21 14:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*60*		*20 - 139*	*12/21/21 05:37*	*12/22/21 14:23*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-79022-1
Project/Site: Boeing NPDES SSFL Outfall - Arroyo Dry

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

Client Sample ID: Arroyo Simi_20211216_Grab
Lab Sample ID: 570-79022-1
Date Collected: 12/16/21 08:00
Matrix: Water
Date Received: 12/16/21 16:12

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		12/21/21 05:37	12/22/21 18:43	1
Aroclor 1221	ND		0.10	0.044	ug/L		12/21/21 05:37	12/22/21 18:43	1
Aroclor 1232	ND		0.10	0.044	ug/L		12/21/21 05:37	12/22/21 18:43	1
Aroclor 1242	ND		0.10	0.044	ug/L		12/21/21 05:37	12/22/21 18:43	1
Aroclor 1248	ND		0.10	0.044	ug/L		12/21/21 05:37	12/22/21 18:43	1
Aroclor 1254	ND		0.10	0.052	ug/L		12/21/21 05:37	12/22/21 18:43	1
Aroclor 1260	ND		0.10	0.052	ug/L		12/21/21 05:37	12/22/21 18:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*63*		*20 - 139*	*12/21/21 05:37*	*12/22/21 18:43*	*1*
DCB Decachlorobiphenyl (Surr)	*93*		*20 - 154*	*12/21/21 05:37*	*12/22/21 18:43*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-79022-1
Project/Site: Boeing NPDES SSFL Outfall - Arroyo Dry

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Client Sample ID: Arroyo Simi_20211216_Grab
Lab Sample ID: 570-79022-1
Date Collected: 12/16/21 08:00
Matrix: Water
Date Received: 12/16/21 16:12

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	380		7.1	1.0	mg/L			01/03/22 18:47	1

Surrogate Summary

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

Job ID: 570-79022-1

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)
570-79022-1	Arroyo Simi_20211216_Grab	60
LCS 570-202537/2-A	Lab Control Sample	58
LCSD 570-202537/3-A	Lab Control Sample Dup	56
MB 570-202537/1-A	Method Blank	59

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)
570-79022-1	Arroyo Simi_20211216_Grab	63	93
LCS 570-202537/6-A	Lab Control Sample	75	55
LCSD 570-202537/7-A	Lab Control Sample Dup	54	47
MB 570-202537/1-A	Method Blank	71	77

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)

DCB = DCB Decachlorobiphenyl (Surr)

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-202537/1-A
Matrix: Water
Analysis Batch: 202345

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 202537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.010	0.0065	ug/L		12/20/21 13:25	12/21/21 11:14	1
4,4'-DDD	ND		0.0013	0.00080	ug/L		12/20/21 13:25	12/21/21 11:14	1
4,4'-DDE	ND		0.0013	0.00050	ug/L		12/20/21 13:25	12/21/21 11:14	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		12/20/21 13:25	12/21/21 11:14	1
Dieldrin	ND		0.0013	0.00050	ug/L		12/20/21 13:25	12/21/21 11:14	1
Toxaphene	ND		0.10	0.013	ug/L		12/20/21 13:25	12/21/21 11:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*59*		*20 - 139*	*12/20/21 13:25*	*12/21/21 11:14*	*1*

Lab Sample ID: LCS 570-202537/2-A
Matrix: Water
Analysis Batch: 202345

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 202537

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
4,4'-DDD			0.0333	0.0234		ug/L		70	31 - 141		
4,4'-DDE			0.0333	0.0225		ug/L		68	30 - 145		
4,4'-DDT			0.0333	0.0272		ug/L		82	25 - 160		
Dieldrin			0.0333	0.0227		ug/L		68	36 - 146		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*58*		*20 - 139*

Lab Sample ID: LCSD 570-202537/3-A
Matrix: Water
Analysis Batch: 202345

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 202537

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD			0.0333	0.0234		ug/L		70	31 - 141	0	39
4,4'-DDE			0.0333	0.0232		ug/L		70	30 - 145	3	35
4,4'-DDT			0.0333	0.0274		ug/L		82	25 - 160	1	42
Dieldrin			0.0333	0.0234		ug/L		70	36 - 146	3	49

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*56*		*20 - 139*

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

Lab Sample ID: MB 570-202537/1-A
Matrix: Water
Analysis Batch: 203050

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 202537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		12/20/21 13:25	12/22/21 17:50	1
Aroclor 1221	ND		0.10	0.044	ug/L		12/20/21 13:25	12/22/21 17:50	1
Aroclor 1232	ND		0.10	0.044	ug/L		12/20/21 13:25	12/22/21 17:50	1
Aroclor 1242	ND		0.10	0.044	ug/L		12/20/21 13:25	12/22/21 17:50	1
Aroclor 1248	ND		0.10	0.044	ug/L		12/20/21 13:25	12/22/21 17:50	1

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

Lab Sample ID: MB 570-202537/1-A
Matrix: Water
Analysis Batch: 203050

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 202537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1254	ND		0.10	0.052	ug/L		12/20/21 13:25	12/22/21 17:50	1
Aroclor 1260	ND		0.10	0.052	ug/L		12/20/21 13:25	12/22/21 17:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*71*		*20 - 139*	*12/20/21 13:25*	*12/22/21 17:50*	*1*
DCB Decachlorobiphenyl (Surr)	*77*		*20 - 154*	*12/20/21 13:25*	*12/22/21 17:50*	*1*

Lab Sample ID: LCS 570-202537/6-A
Matrix: Water
Analysis Batch: 203050

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 202537

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor 1016			0.133	0.161		ug/L		121	50 - 140		
Aroclor 1260			0.133	0.132		ug/L		99	8 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*75*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*55*		*20 - 154*

Lab Sample ID: LCSD 570-202537/7-A
Matrix: Water
Analysis Batch: 203050

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 202537

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016			0.133	0.131		ug/L		98	50 - 140	21	36
Aroclor 1260			0.133	0.115		ug/L		87	8 - 140	14	38

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*54*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*47*		*20 - 154*

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-79022-1
Project/Site: Boeing NPDES SSFL Outfall - Arroyo Dry

GC Semi VOA

Analysis Batch: 202345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-202537/1-A	Method Blank	Total/NA	Water	608.3	202537
LCS 570-202537/2-A	Lab Control Sample	Total/NA	Water	608.3	202537
LCSD 570-202537/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	202537

Prep Batch: 202537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-79022-1	Arroyo Simi_20211216_Grab	Total/NA	Water	608	
MB 570-202537/1-A	Method Blank	Total/NA	Water	608	
LCS 570-202537/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 570-202537/6-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-202537/3-A	Lab Control Sample Dup	Total/NA	Water	608	
LCSD 570-202537/7-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 202910

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-79022-1	Arroyo Simi_20211216_Grab	Total/NA	Water	608.3	202537

Analysis Batch: 203050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-79022-1	Arroyo Simi_20211216_Grab	Total/NA	Water	608.3	202537
MB 570-202537/1-A	Method Blank	Total/NA	Water	608.3	202537
LCS 570-202537/6-A	Lab Control Sample	Total/NA	Water	608.3	202537
LCSD 570-202537/7-A	Lab Control Sample Dup	Total/NA	Water	608.3	202537

Metals

Analysis Batch: 205203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-79022-1	Arroyo Simi_20211216_Grab	Total Recoverable	Water	SM 2340B	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-79022-1
Project/Site: Boeing NPDES SSFL Outfall - Arroyo Dry

Client Sample ID: Arroyo Simi_20211216_Grab
Lab Sample ID: 570-79022-1
Date Collected: 12/16/21 08:00
Matrix: Water
Date Received: 12/16/21 16:12

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	202537	12/21/21 05:37	H1SH	ECL 1
Total/NA	Analysis	608.3		1			202910	12/22/21 14:23	UHHN	ECL 1
	Instrument ID: GC51									
Total/NA	Prep	608			1500 mL	1 mL	202537	12/21/21 05:37	H1SH	ECL 1
Total/NA	Analysis	608.3		1			203050	12/22/21 18:43	UHHN	ECL 1
	Instrument ID: GC58									
Total Recoverable	Analysis	SM 2340B		1			205203	01/03/22 18:47	UIAS	ECL 1
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-79022-1
Project/Site: Boeing NPDES SSFL Outfall - Arroyo Dry

Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

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

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-79022-1
Project/Site: Boeing NPDES SSFL Outfall - Arroyo Dry

Method	Method Description	Protocol	Laboratory
608.3	Organochlorine Pesticides in Water	40CFR136A	ECL 1
608.3	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	ECL 1
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	ECL 1
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	ECL 1

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-79022-1
Project/Site: Boeing NPDES SSFL Outfall - Arroyo Dry

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-79022-1	Arroyo Simi_20211216_Grab	Water	12/16/21 08:00	12/16/21 16:12

79022

Test America

CHAIN OF CUSTODY FORM

570-79022 Chain of Custody

EDBPJ0UX

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2015 **Quarterly Arroyo Simi-Frontier Park** **Dry Weather**
Eurofins Calscience Irvine Contact: Virendra Patel - ECI Project#44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520 904.6944 (cell)
Sampler:	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 $CaCO_3$, 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_20211216_Grab	12/16/2021 0800	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	8	None	285	Yes			X	
	Arroyo_Simi_20211216_Grab_Extra	12/16/2021 0800	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: 0750	
pH 6.72 pH unit	
Temp 41.5 °C/F	
Velocity 0.2 ft/sec	
Field readings QC	
Checked by:	
Date/Time: 12-16-2021/0750	

Relinquished By	Date/Time:	Company	Received By	Date/Time:
	12-16-2021/1100	H:A		12/16/21 11
Relinquished By	Date/Time:	Company	Received By	Date/Time:
Eydie Schuett	12/16/21/1230			12/16/21 1230
Relinquished By	Date/Time:	Company	Received By	Date/Time:
	12/16/21 1612	ECI		12/16/21

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

2-6/3.5 SCS

Page 17 of 18

1/9/2022

2019-2020 Rainy Season
Version 2

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-79022-1

Login Number: 79022
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

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

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-79022-2
Client Project/Site: Boeing NPDES SSFL Outfall - Arroyo Dry

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

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/1/2022 10:49:21 AM

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

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Method Summary 5
Sample Summary 6
Subcontract Data 7
Chain of Custody 13
Receipt Checklists 14

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-79022-2
Project/Site: Boeing NPDES SSFL Outfall - Arroyo Dry

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: 570-79022-2
Project/Site: Boeing NPDES SSFL Outfall - Arroyo Dry

Job ID: 570-79022-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-79022-2

Comments
No additional comments.

Receipt
The samples were received on 12/16/2021 4:12 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.5º C.

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

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-79022-2
Project/Site: Boeing NPDES SSFL Outfall - Arroyo Dry

Method	Method Description	Protocol	Laboratory
Subcontract	Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units)	None	Weck Lab

Protocol References:

None = None

Laboratory References:

Weck Lab = Weck Laboratories, Inc., 14859 E. Clark Avenue, City of Industry, CA 91745

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-79022-2
Project/Site: Boeing NPDES SSFL Outfall - Arroyo Dry

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-79022-1	Arroyo Simi_20211216_Grab	Water	12/16/21 08:00	12/16/21 16:12

WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Work Orders: 1L16101

Project: 570-79022-1

Attn: Virendra Patel

Client: Eurofins Calscience - Garden Grove
7440 Lincoln Way
Garden Grove, CA 92841-1432

Report Date: 1/18/2022
Received Date: 12/16/2021
Turnaround Time: Normal
Phones: (714) 895-5494
Fax: (714) 894-7501
P.O. #: 570-79022-1
Billing Code:

Dear Virendra Patel,

Enclosed are the results of analyses for samples received 12/16/21 with the Chain-of-Custody document. The samples were received in good condition, at 4.3 °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_20211216_Grab (570-79022-1) Sampled: 12/16/21 0:00 by Client

1L16101-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 525.2M			**Instr:** GCMS13				
Batch ID: W1L1485 **Preparation:** EPA 525.2/SPE			**Prepared:** 12/21/21 13:59				**Analyst:** EFC
Chlorpyrifos	ND	6.9	10	ng/l	1	12/23/21	
Diazinon	ND	5.2	10	ng/l	1	12/23/21	
Surrogate(s)							
1,3-Dimethyl-2-nitrobenzene	*106%*		*50-141*	*Conc: 532*		*12/23/21*	
Triphenyl phosphate	*161%*		*63-200*	*Conc: 807*		*12/23/21*	

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 (W1L1485-BLK1)					**Prepared: 12/21/21**	**Analyzed: 12/23/21**					
Chlorpyrifos	ND	6.9	10	ng/l							
Diazinon	ND	5.2	10	ng/l							
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*437*			*ng/l*	*500*		*87*	*50-141*			
Triphenyl phosphate	*553*			*ng/l*	*500*		*111*	*63-200*			
LCS (W1L1485-BS1)					**Prepared: 12/21/21**	**Analyzed: 12/23/21**					
Azinphos methyl (Guthion)	110	5.5	10	ng/l	50.0		220	10-200			Q-08
Bolstar	43.9	4.6	10	ng/l	50.0		88	33-154			
Chlorpyrifos	40.9	6.9	10	ng/l	50.0		82	63-145			
Coumaphos	83.5	5.1	10	ng/l	50.0		167	25-200			
Demeton-o	40.2	10	10	ng/l	50.0		80	10-122			
Demeton-s	23.3	10	10	ng/l	50.0		47	22-158			
Diazinon	24.2	5.2	10	ng/l	50.0		48	25-180			
Dichlorvos	36.6	2.9	10	ng/l	50.0		73	33-127			
Dimethoate	42.6	6.2	10	ng/l	50.0		85	10-200			
Disulfoton	40.7	10	10	ng/l	50.0		81	29-140			
Ethoprop	34.9	6.7	10	ng/l	50.0		70	52-177			
Ethyl parathion	50.3	5.4	10	ng/l	50.0		101	48-158			
Fensulfothion	48.0	2.9	10	ng/l	50.0		96	10-200			
Fenthion	44.7	3.8	10	ng/l	50.0		89	52-166			
Malathion	53.5	7.6	10	ng/l	50.0		107	56-200			
Merphos	20.1	5.8	10	ng/l	50.0		40	21-200			
Methyl parathion	52.5	6.3	10	ng/l	50.0		105	55-156			
Mevinphos	20.8	4.2	10	ng/l	50.0		42	13-182			
Naled	81.0	7.6	10	ng/l	50.0		162	10-200			
Phorate	41.0	3.0	10	ng/l	50.0		82	58-135			
Ronnel	40.6	4.1	10	ng/l	50.0		81	63-129			
Stirophos	56.2	3.1	10	ng/l	50.0		112	10-200			
Tokuthion (Prothiofos)	39.2	7.8	10	ng/l	50.0		78	64-145			
Trichloronate	39.3	6.7	10	ng/l	50.0		79	62-141			
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*403*			*ng/l*	*500*		*81*	*50-141*			
Triphenyl phosphate	*545*			*ng/l*	*500*		*109*	*63-200*			
Matrix Spike (W1L1485-MS1)	**Source: 1L16101-01**				**Prepared: 12/21/21**	**Analyzed: 12/23/21**					
Azinphos methyl (Guthion)	181	5.5	10	ng/l	50.0	*ND*	362	0.1-154			Q-08
Bolstar	53.3	4.6	10	ng/l	50.0	*ND*	107	4-184			
Chlorpyrifos	55.9	6.9	10	ng/l	50.0	*ND*	112	37-168			
Coumaphos	150	5.1	10	ng/l	50.0	*ND*	300	0.1-203			MS-01
Demeton-o	70.9	10	10	ng/l	50.0	*ND*	142	0.1-208			
Demeton-s	72.7	10	10	ng/l	50.0	*ND*	145	0.1-207			
Diazinon	50.3	5.2	10	ng/l	50.0	*ND*	101	36-153			
Dichlorvos	57.8	2.9	10	ng/l	50.0	*ND*	116	42-137			
Dimethoate	138	6.2	10	ng/l	50.0	*ND*	276	4-222			MS-01

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

www.wecklabs.com

Quality Control Results (Continued)

Semivolatile Organics - Low Level by Tandem GC/MS/MS (Continued)

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Matrix Spike (W1L1485-MS1)	**Source: 1L16101-01**				**Prepared: 12/21/21**	**Analyzed: 12/23/21**					
Disulfoton	70.0	10	10	ng/l	50.0	ND	140	12-199			
Ethoprop	64.5	6.7	10	ng/l	50.0	ND	129	51-167			
Ethyl parathion	81.5	5.4	10	ng/l	50.0	ND	163	5-229			
Fensulfothion	208	2.9	10	ng/l	50.0	ND	416	0.1-316			MS-01
Fenthion	69.4	3.8	10	ng/l	50.0	ND	139	23-169			
Malathion	130	7.6	10	ng/l	50.0	15.0	231	6-184			MS-01
Merphos	30.4	5.8	10	ng/l	50.0	ND	61	3-210			
Methyl parathion	87.3	6.3	10	ng/l	50.0	ND	175	0.1-249			
Mevinphos	58.9	4.2	10	ng/l	50.0	ND	118	25-189			
Naled	124	7.6	10	ng/l	50.0	ND	248	0.1-242			MS-01
Phorate	70.5	3.0	10	ng/l	50.0	ND	141	31-181			
Ronnel	55.2	4.1	10	ng/l	50.0	ND	110	29-153			
Stirophos	103	3.1	10	ng/l	50.0	ND	206	0.1-167			MS-01
Tokuthion (Prothiofos)	37.7	7.8	10	ng/l	50.0	ND	75	27-160			
Trichloronate	41.2	6.7	10	ng/l	50.0	ND	82	40-150			
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*561*			*ng/l*	*500*		*112*	*50-141*			
Triphenyl phosphate	*856*			*ng/l*	*500*		*171*	*63-200*			
Matrix Spike Dup (W1L1485-MSD1)	**Source: 1L16101-01**				**Prepared: 12/21/21**	**Analyzed: 12/23/21**					
Azinphos methyl (Guthion)	143	5.5	10	ng/l	50.0	ND	287	0.1-154	23	30	Q-08
Bolstar	55.5	4.6	10	ng/l	50.0	ND	111	4-184	4	30	
Chlorpyrifos	47.9	6.9	10	ng/l	50.0	ND	96	37-168	15	30	
Coumaphos	138	5.1	10	ng/l	50.0	ND	275	0.1-203	9	30	MS-01
Demeton-o	54.4	10	10	ng/l	50.0	ND	109	0.1-208	26	30	
Demeton-s	55.5	10	10	ng/l	50.0	ND	111	0.1-207	27	30	
Diazinon	36.4	5.2	10	ng/l	50.0	ND	73	36-153	32	30	R-02
Dichlorvos	43.7	2.9	10	ng/l	50.0	ND	87	42-137	28	30	
Dimethoate	93.6	6.2	10	ng/l	50.0	ND	187	4-222	38	30	R-02
Disulfoton	59.0	10	10	ng/l	50.0	ND	118	12-199	17	30	
Ethoprop	45.1	6.7	10	ng/l	50.0	ND	90	51-167	35	30	R-02
Ethyl parathion	60.6	5.4	10	ng/l	50.0	ND	121	5-229	29	30	
Fensulfothion	147	2.9	10	ng/l	50.0	ND	295	0.1-316	34	30	R-02
Fenthion	56.9	3.8	10	ng/l	50.0	ND	114	23-169	20	30	
Malathion	83.9	7.6	10	ng/l	50.0	15.0	138	6-184	43	30	R-02
Merphos	25.1	5.8	10	ng/l	50.0	ND	50	3-210	19	30	
Methyl parathion	68.8	6.3	10	ng/l	50.0	ND	138	0.1-249	24	30	
Mevinphos	41.0	4.2	10	ng/l	50.0	ND	82	25-189	36	30	R-02
Naled	107	7.6	10	ng/l	50.0	ND	213	0.1-242	15	30	
Phorate	57.8	3.0	10	ng/l	50.0	ND	116	31-181	20	30	
Ronnel	49.1	4.1	10	ng/l	50.0	ND	98	29-153	12	30	
Stirophos	73.0	3.1	10	ng/l	50.0	ND	146	0.1-167	34	30	R-02
Tokuthion (Prothiofos)	40.9	7.8	10	ng/l	50.0	ND	82	27-160	8	30	
Trichloronate	38.9	6.7	10	ng/l	50.0	ND	78	40-150	6	30	

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

Quality Control Results

(Continued)

Semivolatile Organics - Low Level by Tandem GC/MS/MS (Continued)

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Matrix Spike Dup (W1L1485-MSD1)	**Source: 1L16101-01**				**Prepared: 12/21/21**	**Analyzed: 12/23/21**					
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*478*			*ng/l*	*500*		*96*	*50-141*			
Triphenyl phosphate	*703*			*ng/l*	*500*		*141*	*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.
MS-01	The spike recovery for this QC sample is outside of established control limits possibly due to sample matrix interference.
Q-08	High bias in the QC sample does not affect sample result since analyte was not detected or below the reporting limit.
R-02	The RPD was outside of QC acceptance limits due to possible matrix interference.
%REC	Percent Recovery
Dil	Dilution
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated.

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

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

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

Reviewed by:

Rahul R. Nair
Project Manager

ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • HW-DOH #4047 • LACSD #10143 • NELAP-OR #4047 • NJ-DEP #CA015 • NV-DEP #NAC 445A • SCAQMD #93LA1006

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

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

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

Chain of Custody Record

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California	
Address: 14859 E. Clark Avenue, ,	Due Date Requested: 12/30/2021		
City: City of Industry	TAT Requested (days): Standard		
State, Zip: CA, 91745			
Phone:	PO #:		
Email:	WO #: 570-79022		
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446		
Site:	SSOW#:		

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units)) -- Report with "J" flags MDL.	Analysis Requested
			Preservation Code:					
Arroyo Simi_20211216_Grab (570-79022-1)	12/16/21			Water		X	X	- Run MS/MSD
Arroyo Simi_20211216_Extra (570-79022-2)	12/16/21			Water			H	Hold

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under cha
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 accred
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 r*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:
Empty Kit Relinquished by: Date:	Time: Method of Shipment:
Relinquished by: Date/Time: 12/16/21 1257 Company EUI	Received by: Date/Time: 12/16

79022

Test America

CHAIN OF CUSTODY FORM

570-79022 Chain of Custody

EDBPJOUX

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	**Project:** Boeing-SSFL NPDES Permit 2015 **Quarterly Arroyo Simi-Frontier Park** **Dry Weather**
Eurofins Calscience Irvine Contact: Virendra Patel - ECI Project#44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520 904.6944 (cell)
Sampler:	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 $CaCO_3$, 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_20211216_Grab	12/16/2021 0800	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	8	None	285	Yes			X	
	Arroyo_Simi_20211216_Grab_Extra	12/16/2021 0800	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: 0750	
pH 6.72 pH unit	
Temp 41.5 °C/F	
Velocity 0.2 ft/sec	
Field readings QC	
Checked by:	
Date/Time: 12-16-2021/0750	

Relinquished By:	Date/Time: 12-16-2021/1100	Company: H:A	Received By: Date/Time: 12/16/21 11
Relinquished By: Eydie Schuett	Date/Time: 12/16/21/1230	Company:	Received By: Date/Time: 12/16/21 1230
Relinquished By:	Date/Time: 12/16/21 1612	Company: ECI	Received By: Date/Time: 12/16/21

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

2-6/3.5 SCS

Page 13 of 14

2/1/2022
2019-2020 Rainy Season
Version 2

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-79022-2

Login Number: 79022
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

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

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80124-1
Client Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

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

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/24/2022 2:56:20 PM

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

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 5
Detection Summary 7
Client Sample Results 8
Surrogate Summary 26
QC Sample Results 28
QC Association Summary 49
Lab Chronicle 55
Certification Summary 57
Method Summary 58
Sample Summary 59
Chain of Custody 60
Receipt Checklists 68

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80124-1
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
BU	Analyzed out of holding time
BV	Sample received after holding time expired
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

Metals

Qualifier	Qualifier Description
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Glossary

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

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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: 570-80124-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80124-1

Comments
No additional comments.

Receipt
The samples were received on 12/27/2021 5:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.8º C, 3.1º C and 3.6º C.

GC/MS VOA
Method 8260B SIM: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-205613.

Method 8260B SIM: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: Outfall001_20211226_Comp (570-80124-1). Elevated reporting limits (RLs) are provided.

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

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

HPLC/IC
Method 218.6: The following sample was diluted due to the nature of the sample matrix: Outfall001_20211226_Comp (570-80124-1). Elevated reporting limits (RLs) are provided.

Method 218.6: The following sample was received outside of holding time: Outfall001_20211226_Comp (570-80124-1).

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

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method Filtration: The following samples were not filtered within 15 minutes of sample collection as required by the method: Outfall001_20211226_Comp_F (570-80124-3), (570-80124-C-3 MS) and (570-80124-C-3 MSD). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method 200.7 Rev 4.4: The matrix spike / matrix spike duplicate (MS/MSD) recoveries of Iron for preparation batch 440-663922 and analytical batch 440-664049 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.(440-293568-D-2-C MS)

Methods 245.1, 7470A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Mercurypreparation batch 440-664074 and analytical batch 440-664187 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 245.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate(MS/MSD) associated with preparation batch 440-663587 and 440-664073.

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall001_20211226_Comp_F (570-80124-3). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to Tustin relocation.

12/29/21 @ 14:40 hours
2.5 mL HNO3

Job ID: 570-80124-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

HNO3 Lot # 0000280251

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall001_20211226_Comp_F (570-80124-3). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to Tustin relocation.

12/29/21 @ 15:47 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

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

General Chemistry
Methods 180.1, SM 2130B: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: Outfall001_20211226_Comp (570-80124-1).

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 570-203919. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 608.3

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-204353. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 625.1 Sim

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

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

Detection Summary

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

Job ID: 570-80124-1

Client Sample ID: Outfall001_20211226_Comp — Lab Sample ID: 570-80124-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Butyl benzyl phthalate	0.70	J,DX	5.8	0.66	ug/L	1		625.1 SIM	Total/NA
Chloride	5.2		5.0	1.8	mg/L	5		300.0	Total/NA
Nitrate as N	3.4		0.50	0.12	mg/L	5		300.0	Total/NA
Sulfate	5.4		5.0	1.2	mg/L	5		300.0	Total/NA
Nitrate Nitrite as N	3.4		0.20	0.071	mg/L	1		NO2NO3 Calc	Total/NA
Barium	66		10	2.2	ug/L	1		200.7 Rev 4.4	Total Recoverable
Boron	65		50	25	ug/L	1		200.7 Rev 4.4	Total Recoverable
Chromium	7.0		5.0	2.5	ug/L	1		200.7 Rev 4.4	Total Recoverable
Iron	7100		100	50	ug/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	110		20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Vanadium	16		10	2.1	ug/L	1		200.7 Rev 4.4	Total Recoverable
Zinc	21		20	12	ug/L	1		200.7 Rev 4.4	Total Recoverable
Copper	6.7		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	3.0		1.0	0.50	ug/L	1		200.8	Total Recoverable
Hardness, as CaCO3	110		0.91	0.17	mg/L	1		SM 2340B	Total Recoverable
Turbidity	60	BU	2.0	0.80	NTU	20		180.1	Total/NA
Total Dissolved Solids	140		10	3.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	82		6.7	3.3	mg/L	1		SM 2540D	Total/NA
Ammonia (as N)	0.217		0.200	0.100	mg/L	1		SM 4500 NH3 G	Total/NA
Carbon, Total Organic	18		0.50	0.026	mg/L	1		SM 5310D	Total/NA
MBAS	0.28	J,DX BU	0.30	0.15	mg/L	1		SM 5540C	Total/NA
Biochemical Oxygen Demand	4.9	BU	4.2	2.4	mg/L	1		SM5210B	Total/NA

Client Sample ID: Outfall001_20211226_Comp_F — Lab Sample ID: 570-80124-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	20		10	2.2	ug/L	1		200.7 Rev 4.4	Dissolved
Boron	59		50	25	ug/L	1		200.7 Rev 4.4	Dissolved
Iron	200		100	50	ug/L	1		200.7 Rev 4.4	Dissolved
Manganese	7.7	J,DX	20	6.8	ug/L	1		200.7 Rev 4.4	Dissolved
Vanadium	2.7	J,DX	10	2.1	ug/L	1		200.7 Rev 4.4	Dissolved
Copper	3.3		2.0	0.50	ug/L	1		200.8	Dissolved
Hardness, as CaCO3	92		0.91	0.17	mg/L	1		SM 2340B	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-1
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		2.0	1.1	ug/L			01/05/22 18:03	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dichlorobutane (Surr)	*123*		*67 - 133*		*01/05/22 18:03*	*2*

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

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.23	0.15	ug/L		12/29/21 05:48	12/30/21 15:28	1
1,2-Dichlorobenzene	ND		0.23	0.15	ug/L		12/29/21 05:48	12/30/21 15:28	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.23	0.081	ug/L		12/29/21 05:48	12/30/21 15:28	1
1,3-Dichlorobenzene	ND		0.23	0.15	ug/L		12/29/21 05:48	12/30/21 15:28	1
1,4-Dichlorobenzene	ND		0.23	0.15	ug/L		12/29/21 05:48	12/30/21 15:28	1
2,4,6-Trichlorophenol	ND		1.2	0.079	ug/L		12/29/21 05:48	12/30/21 15:28	1
2,4-Dichlorophenol	ND		1.2	0.11	ug/L		12/29/21 05:48	12/30/21 15:28	1
2,4-Dimethylphenol	ND		0.23	0.15	ug/L		12/29/21 05:48	12/30/21 15:28	1
2,4-Dinitrophenol	ND		5.8	1.2	ug/L		12/29/21 05:48	12/30/21 15:28	1
2,4-Dinitrotoluene	ND		0.23	0.12	ug/L		12/29/21 05:48	12/30/21 15:28	1
2,6-Dinitrotoluene	ND		0.23	0.15	ug/L		12/29/21 05:48	12/30/21 15:28	1
2-Chloronaphthalene	ND		0.23	0.16	ug/L		12/29/21 05:48	12/30/21 15:28	1
2-Chlorophenol	ND		0.23	0.096	ug/L		12/29/21 05:48	12/30/21 15:28	1
2-Nitrophenol	ND		5.8	1.6	ug/L		12/29/21 05:48	12/30/21 15:28	1
3,3'-Dichlorobenzidine	ND		5.8	1.9	ug/L		12/29/21 05:48	12/30/21 15:28	1
4,6-Dinitro-2-methylphenol	ND		5.8	4.6	ug/L		12/29/21 05:48	12/30/21 15:28	1
4-Bromophenyl phenyl ether	ND		0.23	0.090	ug/L		12/29/21 05:48	12/30/21 15:28	1
4-Chloro-3-methylphenol	ND		1.2	0.14	ug/L		12/29/21 05:48	12/30/21 15:28	1
4-Chlorophenyl phenyl ether	ND		0.23	0.11	ug/L		12/29/21 05:48	12/30/21 15:28	1
4-Nitrophenol	ND		5.8	1.3	ug/L		12/29/21 05:48	12/30/21 15:28	1
Acenaphthene	ND		0.23	0.10	ug/L		12/29/21 05:48	12/30/21 15:28	1
Acenaphthylene	ND		0.23	0.098	ug/L		12/29/21 05:48	12/30/21 15:28	1
Anthracene	ND		0.23	0.084	ug/L		12/29/21 05:48	12/30/21 15:28	1
Benzidine	ND		5.8	2.6	ug/L		12/29/21 05:48	12/30/21 15:28	1
Benzo[a]anthracene	ND		0.23	0.081	ug/L		12/29/21 05:48	12/30/21 15:28	1
Benzo[a]pyrene	ND		0.23	0.084	ug/L		12/29/21 05:48	12/30/21 15:28	1
Benzo[b]fluoranthene	ND		0.23	0.12	ug/L		12/29/21 05:48	12/30/21 15:28	1
Benzo[g,h,i]perylene	ND		0.23	0.15	ug/L		12/29/21 05:48	12/30/21 15:28	1
Benzo[k]fluoranthene	ND		0.23	0.090	ug/L		12/29/21 05:48	12/30/21 15:28	1
bis (2-chloroisopropyl) ether	ND		0.23	0.11	ug/L		12/29/21 05:48	12/30/21 15:28	1
Bis(2-chloroethoxy)methane	ND		0.23	0.17	ug/L		12/29/21 05:48	12/30/21 15:28	1
Bis(2-chloroethyl)ether	ND		0.23	0.11	ug/L		12/29/21 05:48	12/30/21 15:28	1
Bis(2-ethylhexyl) phthalate	ND		5.8	2.1	ug/L		12/29/21 05:48	12/30/21 15:28	1
Butyl benzyl phthalate	**0.70**	**J,DX**	5.8	0.66	ug/L		12/29/21 05:48	12/30/21 15:28	1
Chrysene	ND		0.23	0.067	ug/L		12/29/21 05:48	12/30/21 15:28	1
Dibenz(a,h)anthracene	ND		0.23	0.16	ug/L		12/29/21 05:48	12/30/21 15:28	1
Diethyl phthalate	ND		2.3	0.16	ug/L		12/29/21 05:48	12/30/21 15:28	1
Dimethyl phthalate	ND		2.3	0.084	ug/L		12/29/21 05:48	12/30/21 15:28	1
Di-n-butyl phthalate	ND		2.3	0.80	ug/L		12/29/21 05:48	12/30/21 15:28	1
Di-n-octyl phthalate	ND		5.8	0.75	ug/L		12/29/21 05:48	12/30/21 15:28	1
Fluoranthene	ND		0.23	0.11	ug/L		12/29/21 05:48	12/30/21 15:28	1
Fluorene	ND		0.23	0.094	ug/L		12/29/21 05:48	12/30/21 15:28	1
Hexachlorobenzene	ND		0.23	0.11	ug/L		12/29/21 05:48	12/30/21 15:28	1
Hexachlorobutadiene	ND		0.23	0.20	ug/L		12/29/21 05:48	12/30/21 15:28	1
Hexachlorocyclopentadiene	ND		0.23	0.11	ug/L		12/29/21 05:48	12/30/21 15:28	1
Hexachloroethane	ND		0.23	0.18	ug/L		12/29/21 05:48	12/30/21 15:28	1
Indeno[1,2,3-cd]pyrene	ND		0.23	0.14	ug/L		12/29/21 05:48	12/30/21 15:28	1
Isophorone	ND		0.23	0.10	ug/L		12/29/21 05:48	12/30/21 15:28	1
Naphthalene	ND		0.23	0.11	ug/L		12/29/21 05:48	12/30/21 15:28	1

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

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		0.23	0.11	ug/L		12/29/21 05:48	12/30/21 15:28	1
N-Nitrosodimethylamine	ND		0.23	0.16	ug/L		12/29/21 05:48	12/30/21 15:28	1
N-Nitrosodi-n-propylamine	ND		0.23	0.072	ug/L		12/29/21 05:48	12/30/21 15:28	1
N-Nitrosodiphenylamine	ND		0.23	0.11	ug/L		12/29/21 05:48	12/30/21 15:28	1
Pentachlorophenol	ND		1.2	0.12	ug/L		12/29/21 05:48	12/30/21 15:28	1
Phenanthrene	ND		0.23	0.086	ug/L		12/29/21 05:48	12/30/21 15:28	1
Phenol	ND		0.23	0.088	ug/L		12/29/21 05:48	12/30/21 15:28	1
Pyrene	ND		0.23	0.093	ug/L		12/29/21 05:48	12/30/21 15:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*75*		*28 - 127*	*12/29/21 05:48*	*12/30/21 15:28*	*1*
2-Fluorobiphenyl (Surr)	*51*		*31 - 120*	*12/29/21 05:48*	*12/30/21 15:28*	*1*
2-Fluorophenol	*47*		*17 - 120*	*12/29/21 05:48*	*12/30/21 15:28*	*1*
Nitrobenzene-d5	*58*		*27 - 120*	*12/29/21 05:48*	*12/30/21 15:28*	*1*
Phenol-d6 (Surr)	*33*		*10 - 120*	*12/29/21 05:48*	*12/30/21 15:28*	*1*
p-Terphenyl-d14 (Surr)	*57*		*45 - 120*	*12/29/21 05:48*	*12/30/21 15:28*	*1*

Method: 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00070	ug/L		12/28/21 12:24	12/29/21 15:28	1
alpha-BHC	ND		0.0013	0.00080	ug/L		12/28/21 12:24	12/29/21 15:28	1
beta-BHC	ND		0.0020	0.0017	ug/L		12/28/21 12:24	12/29/21 15:28	1
delta-BHC	ND		0.0013	0.0011	ug/L		12/28/21 12:24	12/29/21 15:28	1
gamma-BHC (Lindane)	ND		0.0013	0.00090	ug/L		12/28/21 12:24	12/29/21 15:28	1
Chlordane (technical)	ND		0.010	0.0065	ug/L		12/28/21 12:24	12/29/21 15:28	1
4,4'-DDD	ND		0.0013	0.00080	ug/L		12/28/21 12:24	12/29/21 15:28	1
4,4'-DDE	ND		0.0013	0.00050	ug/L		12/28/21 12:24	12/29/21 15:28	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		12/28/21 12:24	12/29/21 15:28	1
Dieldrin	ND		0.0013	0.00050	ug/L		12/28/21 12:24	12/29/21 15:28	1
Endosulfan I	ND		0.0013	0.00070	ug/L		12/28/21 12:24	12/29/21 15:28	1
Endosulfan II	ND		0.0013	0.00050	ug/L		12/28/21 12:24	12/29/21 15:28	1
Endosulfan sulfate	ND		0.0013	0.00060	ug/L		12/28/21 12:24	12/29/21 15:28	1
Endrin	ND		0.0013	0.00070	ug/L		12/28/21 12:24	12/29/21 15:28	1
Endrin aldehyde	ND		0.010	0.0051	ug/L		12/28/21 12:24	12/29/21 15:28	1
Heptachlor	ND		0.0013	0.00070	ug/L		12/28/21 12:24	12/29/21 15:28	1
Heptachlor epoxide	ND		0.0013	0.00040	ug/L		12/28/21 12:24	12/29/21 15:28	1
Toxaphene	ND		0.10	0.013	ug/L		12/28/21 12:24	12/29/21 15:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*49*	*PI*	*20 - 139*	*12/28/21 12:24*	*12/29/21 15:28*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-1
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

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

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		12/28/21 12:24	01/04/22 01:09	1
Aroclor 1221	ND		0.10	0.044	ug/L		12/28/21 12:24	01/04/22 01:09	1
Aroclor 1232	ND		0.10	0.044	ug/L		12/28/21 12:24	01/04/22 01:09	1
Aroclor 1242	ND		0.10	0.044	ug/L		12/28/21 12:24	01/04/22 01:09	1
Aroclor 1248	ND		0.10	0.044	ug/L		12/28/21 12:24	01/04/22 01:09	1
Aroclor 1254	ND		0.10	0.052	ug/L		12/28/21 12:24	01/04/22 01:09	1
Aroclor 1260	ND		0.10	0.052	ug/L		12/28/21 12:24	01/04/22 01:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*96*		*20 - 154*	*12/28/21 12:24*	*01/04/22 01:09*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-1
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND	BU BV	2.0	0.19	ug/L			12/28/21 14:19	10

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-1
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.2**		5.0	1.8	mg/L			12/28/21 06:30	5
Nitrite as N	ND		0.50	0.090	mg/L			12/28/21 06:30	5
Fluoride	ND		0.50	0.23	mg/L			12/28/21 06:30	5
Nitrate as N	**3.4**		0.50	0.12	mg/L			12/28/21 06:30	5
Sulfate	**5.4**		5.0	1.2	mg/L			12/28/21 06:30	5

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-1
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Method: 314.0 - Perchlorate (IC)

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	9.1	ug/L			12/28/21 15:46	10

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-1
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Method: NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	3.4		0.20	0.071	mg/L			01/03/22 16:35	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-1
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/07/22 08:10	01/07/22 18:46	1
Barium	**66**		10	2.2	ug/L		01/07/22 08:10	01/07/22 18:46	1
Beryllium	ND		2.0	0.44	ug/L		01/07/22 08:10	01/07/22 18:46	1
Boron	**65**		50	25	ug/L		01/07/22 08:10	01/07/22 18:46	1
Chromium	**7.0**		5.0	2.5	ug/L		01/07/22 08:10	01/07/22 18:46	1
Cobalt	ND		10	2.8	ug/L		01/07/22 08:10	01/07/22 18:46	1
Iron	**7100**		100	50	ug/L		01/07/22 08:10	01/07/22 18:46	1
Manganese	**110**		20	6.8	ug/L		01/07/22 08:10	01/07/22 18:46	1
Nickel	ND		10	5.0	ug/L		01/07/22 08:10	01/07/22 18:46	1
Vanadium	**16**		10	2.1	ug/L		01/07/22 08:10	01/07/22 18:46	1
Zinc	**21**		20	12	ug/L		01/07/22 08:10	01/07/22 18:46	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-1
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: Outfall001_20211226_Comp_F
Lab Sample ID: 570-80124-3
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		12/30/21 07:56	12/30/21 14:30	1
Barium	**20**		10	2.2	ug/L		12/30/21 07:56	12/30/21 14:30	1
Beryllium	ND		2.0	0.44	ug/L		12/30/21 07:56	12/30/21 14:30	1
Boron	**59**		50	25	ug/L		12/30/21 07:56	12/30/21 14:30	1
Chromium	ND		5.0	2.5	ug/L		12/30/21 07:56	12/30/21 14:30	1
Cobalt	ND		10	2.8	ug/L		12/30/21 07:56	12/30/21 14:30	1
Iron	**200**		100	50	ug/L		12/30/21 07:56	12/30/21 14:30	1
Manganese	**7.7**	**J,DX**	20	6.8	ug/L		12/30/21 07:56	12/30/21 14:30	1
Nickel	ND		10	5.0	ug/L		12/30/21 07:56	12/30/21 14:30	1
Vanadium	**2.7**	**J,DX**	10	2.1	ug/L		12/30/21 07:56	12/30/21 14:30	1
Zinc	ND		20	12	ug/L		12/30/21 07:56	12/30/21 14:30	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-1
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

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

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:46	1
Cadmium	ND		1.0	0.25	ug/L		01/07/22 07:06	01/07/22 11:46	1
Copper	**6.7**		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:46	1
Lead	**3.0**		1.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:46	1
Antimony	ND		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:46	1
Selenium	ND		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:46	1
Thallium	ND		1.0	0.20	ug/L		01/07/22 07:06	01/07/22 11:46	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-1
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

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

Client Sample ID: Outfall001_20211226_Comp_F
Lab Sample ID: 570-80124-3
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:57	1
Cadmium	ND		1.0	0.25	ug/L		12/29/21 16:21	12/30/21 12:57	1
Copper	**3.3**		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:57	1
Lead	ND		1.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:57	1
Antimony	ND		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:57	1
Selenium	ND		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:57	1
Thallium	ND		1.0	0.20	ug/L		12/29/21 16:21	12/30/21 12:57	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-1
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Method: 245.1 - Mercury (CVAA)

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:10	01/10/22 18:15	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-1
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall001_20211226_Comp_F
Lab Sample ID: 570-80124-3
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.00025	0.00012	mg/L		01/19/22 17:58	01/20/22 19:49	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-1
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	110		0.91	0.17	mg/L			01/06/22 17:16	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-1
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Client Sample ID: Outfall001_20211226_Comp_F
Lab Sample ID: 570-80124-3
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	92		0.91	0.17	mg/L			01/06/22 17:20	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-1
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

General Chemistry

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	**60**	**BU**	2.0	0.80	NTU			01/20/22 10:58	20
Cr (III)	ND		0.050	0.0069	mg/L			01/12/22 16:10	1
Total Dissolved Solids	**140**		10	3.0	mg/L			12/29/21 10:13	1
Total Suspended Solids	**82**		6.7	3.3	mg/L			12/29/21 12:18	1
Cyanide, Total	ND		5.0	2.5	ug/L		01/07/22 11:02	01/07/22 15:12	1
Ammonia (as N)	**0.217**		0.200	0.100	mg/L			01/07/22 12:46	1
Carbon, Total Organic	**18**		0.50	0.026	mg/L			01/18/22 13:35	1
MBAS	**0.28**	**J,DX BU**	0.30	0.15	mg/L		12/30/21 22:00	12/31/21 09:16	1
Biochemical Oxygen Demand	**4.9**	**BU**	4.2	2.4	mg/L			12/28/21 09:42	1

Surrogate Summary

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

Job ID: 570-80124-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

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

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	14DCBTN (67-133)						
570-80124-1	Outfall001_20211226_Comp	123						
LCS 570-205613/4	Lab Control Sample	99						
LCSD 570-205613/5	Lab Control Sample Dup	103						
MB 570-205613/8	Method Blank	114						

Surrogate Legend

14DCBTN = 1,4-Dichlorobutane (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	TBP (28-127)	FBP (31-120)	2FP (17-120)	NBZ (27-120)	PHL6 (10-120)	TPHd14 (45-120)	
570-80124-1	Outfall001_20211226_Comp	75	51	47	58	33	57	
LCS 570-204353/2-A	Lab Control Sample	88	62	53	64	34	77	
LCSD 570-204353/3-A	Lab Control Sample Dup	80	57	45	58	30	68	
MB 570-204353/1-A	Method Blank	81	61	47	67	31	70	

Surrogate Legend

TBP = 2,4,6-Tribromophenol
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL6 = Phenol-d6 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Method: 608.3 - Organochlorine Pesticides in Water

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

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	TCX1 (20-139)						
570-80124-1	Outfall001_20211226_Comp	49 PI						
LCS 570-203919/2-A	Lab Control Sample	53						
LCSD 570-203919/3-A	Lab Control Sample Dup	57						
MB 570-203919/1-A	Method Blank	56						

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)						
570-80124-1	Outfall001_20211226_Comp	96						
LCS 570-203919/9-A	Lab Control Sample	79						
LCSD 570-203919/10-A	Lab Control Sample Dup	71						
MB 570-203919/1-A	Method Blank	56						

Surrogate Legend

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-1
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-205613/8
Matrix: Water
Analysis Batch: 205613

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.55	ug/L			01/05/22 13:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dichlorobutane (Surr)	*114*		*67 - 133*		*01/05/22 13:09*	*1*

Lab Sample ID: LCS 570-205613/4
Matrix: Water
Analysis Batch: 205613

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			20.0	20.7		ug/L		104	75 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dichlorobutane (Surr)	*99*		*67 - 133*

Lab Sample ID: LCSD 570-205613/5
Matrix: Water
Analysis Batch: 205613

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			20.0	20.2		ug/L		101	75 - 120	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dichlorobutane (Surr)	*103*		*67 - 133*

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

Lab Sample ID: MB 570-204353/1-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204353

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
1,2-Dichlorobenzene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.20	0.069	ug/L		12/29/21 05:48	12/30/21 12:18	1
1,3-Dichlorobenzene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
1,4-Dichlorobenzene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,4,6-Trichlorophenol	ND		1.0	0.067	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,4-Dichlorophenol	ND		1.0	0.097	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,4-Dimethylphenol	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,4-Dinitrophenol	ND		5.0	0.99	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,4-Dinitrotoluene	ND		0.20	0.11	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,6-Dinitrotoluene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
2-Chloronaphthalene	ND		0.20	0.14	ug/L		12/29/21 05:48	12/30/21 12:18	1
2-Chlorophenol	ND		0.20	0.082	ug/L		12/29/21 05:48	12/30/21 12:18	1
2-Nitrophenol	ND		5.0	1.4	ug/L		12/29/21 05:48	12/30/21 12:18	1
3,3'-Dichlorobenzidine	ND		5.0	1.6	ug/L		12/29/21 05:48	12/30/21 12:18	1

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

Lab Sample ID: MB 570-204353/1-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204353

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		5.0	4.0	ug/L		12/29/21 05:48	12/30/21 12:18	1
4-Bromophenyl phenyl ether	ND		0.20	0.077	ug/L		12/29/21 05:48	12/30/21 12:18	1
4-Chloro-3-methylphenol	ND		1.0	0.12	ug/L		12/29/21 05:48	12/30/21 12:18	1
4-Chlorophenyl phenyl ether	ND		0.20	0.090	ug/L		12/29/21 05:48	12/30/21 12:18	1
4-Nitrophenol	ND		5.0	1.1	ug/L		12/29/21 05:48	12/30/21 12:18	1
Acenaphthene	ND		0.20	0.086	ug/L		12/29/21 05:48	12/30/21 12:18	1
Acenaphthylene	ND		0.20	0.084	ug/L		12/29/21 05:48	12/30/21 12:18	1
Anthracene	ND		0.20	0.072	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzidine	ND		5.0	2.3	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzo[a]anthracene	ND		0.20	0.070	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzo[a]pyrene	ND		0.20	0.072	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzo[b]fluoranthene	ND		0.20	0.10	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzo[g,h,i]perylene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzo[k]fluoranthene	ND		0.20	0.077	ug/L		12/29/21 05:48	12/30/21 12:18	1
bis (2-chloroisopropyl) ether	ND		0.20	0.092	ug/L		12/29/21 05:48	12/30/21 12:18	1
Bis(2-chloroethoxy)methane	ND		0.20	0.15	ug/L		12/29/21 05:48	12/30/21 12:18	1
Bis(2-chloroethyl)ether	ND		0.20	0.098	ug/L		12/29/21 05:48	12/30/21 12:18	1
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		12/29/21 05:48	12/30/21 12:18	1
Butyl benzyl phthalate	ND		5.0	0.56	ug/L		12/29/21 05:48	12/30/21 12:18	1
Chrysene	ND		0.20	0.058	ug/L		12/29/21 05:48	12/30/21 12:18	1
Dibenz(a,h)anthracene	ND		0.20	0.14	ug/L		12/29/21 05:48	12/30/21 12:18	1
Diethyl phthalate	ND		2.0	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
Dimethyl phthalate	ND		2.0	0.072	ug/L		12/29/21 05:48	12/30/21 12:18	1
Di-n-butyl phthalate	ND		2.0	0.69	ug/L		12/29/21 05:48	12/30/21 12:18	1
Di-n-octyl phthalate	ND		5.0	0.64	ug/L		12/29/21 05:48	12/30/21 12:18	1
Fluoranthene	ND		0.20	0.096	ug/L		12/29/21 05:48	12/30/21 12:18	1
Fluorene	ND		0.20	0.080	ug/L		12/29/21 05:48	12/30/21 12:18	1
Hexachlorobenzene	ND		0.20	0.094	ug/L		12/29/21 05:48	12/30/21 12:18	1
Hexachlorobutadiene	ND		0.20	0.17	ug/L		12/29/21 05:48	12/30/21 12:18	1
Hexachlorocyclopentadiene	ND		0.20	0.098	ug/L		12/29/21 05:48	12/30/21 12:18	1
Hexachloroethane	ND		0.20	0.15	ug/L		12/29/21 05:48	12/30/21 12:18	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.12	ug/L		12/29/21 05:48	12/30/21 12:18	1
Isophorone	ND		0.20	0.088	ug/L		12/29/21 05:48	12/30/21 12:18	1
Naphthalene	ND		0.20	0.098	ug/L		12/29/21 05:48	12/30/21 12:18	1
Nitrobenzene	ND		0.20	0.097	ug/L		12/29/21 05:48	12/30/21 12:18	1
N-Nitrosodimethylamine	ND		0.20	0.14	ug/L		12/29/21 05:48	12/30/21 12:18	1
N-Nitrosodi-n-propylamine	ND		0.20	0.062	ug/L		12/29/21 05:48	12/30/21 12:18	1
N-Nitrosodiphenylamine	ND		0.20	0.096	ug/L		12/29/21 05:48	12/30/21 12:18	1
Pentachlorophenol	ND		1.0	0.11	ug/L		12/29/21 05:48	12/30/21 12:18	1
Phenanthrene	ND		0.20	0.074	ug/L		12/29/21 05:48	12/30/21 12:18	1
Phenol	ND		0.20	0.076	ug/L		12/29/21 05:48	12/30/21 12:18	1
Pyrene	ND		0.20	0.080	ug/L		12/29/21 05:48	12/30/21 12:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*81*		*28 - 127*	*12/29/21 05:48*	*12/30/21 12:18*	*1*
2-Fluorobiphenyl (Surr)	*61*		*31 - 120*	*12/29/21 05:48*	*12/30/21 12:18*	*1*
2-Fluorophenol	*47*		*17 - 120*	*12/29/21 05:48*	*12/30/21 12:18*	*1*
Nitrobenzene-d5	*67*		*27 - 120*	*12/29/21 05:48*	*12/30/21 12:18*	*1*

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

Lab Sample ID: MB 570-204353/1-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204353

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d6 (Surr)	31		10 - 120	12/29/21 05:48	12/30/21 12:18	1
p-Terphenyl-d14 (Surr)	70		45 - 120	12/29/21 05:48	12/30/21 12:18	1

Lab Sample ID: LCS 570-204353/2-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204353

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	20.0	12.8		ug/L		64	57 - 130
1,2-Dichlorobenzene	20.0	14.4		ug/L		72	41 - 100
1,2-Diphenylhydrazine(as Azobenzene)	20.0	14.5		ug/L		72	60 - 115
1,3-Dichlorobenzene	20.0	14.2		ug/L		71	39 - 100
1,4-Dichlorobenzene	20.0	14.5		ug/L		73	40 - 100
2,4,6-Trichlorophenol	20.0	17.0		ug/L		85	52 - 129
2,4-Dichlorophenol	20.0	14.1		ug/L		70	53 - 122
2,4-Dimethylphenol	20.0	14.1		ug/L		71	42 - 120
2,4-Dinitrophenol	20.0	19.6		ug/L		98	1 - 173
2,4-Dinitrotoluene	20.0	16.1		ug/L		80	48 - 127
2,6-Dinitrotoluene	20.0	17.4		ug/L		87	68 - 137
2-Chloronaphthalene	20.0	13.9		ug/L		69	65 - 120
2-Chlorophenol	20.0	16.4		ug/L		82	36 - 120
2-Nitrophenol	20.0	15.4		ug/L		77	45 - 167
3,3'-Dichlorobenzidine	20.0	19.2		ug/L		96	8 - 213
4,6-Dinitro-2-methylphenol	20.0	15.7		ug/L		79	53 - 130
4-Bromophenyl phenyl ether	20.0	15.1		ug/L		75	65 - 120
4-Chloro-3-methylphenol	20.0	13.8		ug/L		69	41 - 128
4-Chlorophenyl phenyl ether	20.0	15.1		ug/L		75	38 - 145
4-Nitrophenol	20.0	9.39		ug/L		47	13 - 129
Acenaphthene	20.0	14.7		ug/L		73	60 - 132
Acenaphthylene	20.0	17.0		ug/L		85	54 - 126
Anthracene	20.0	17.1		ug/L		86	43 - 120
Benzidine	20.0	13.1		ug/L		66	10 - 124
Benzo[a]anthracene	20.0	16.9		ug/L		84	42 - 133
Benzo[a]pyrene	20.0	18.5		ug/L		93	32 - 148
Benzo[b]fluoranthene	20.0	16.3		ug/L		82	42 - 140
Benzo[g,h,i]perylene	20.0	15.3		ug/L		77	1 - 195
Benzo[k]fluoranthene	20.0	16.5		ug/L		83	25 - 146
bis (2-chloroisopropyl) ether	20.0	16.7		ug/L		84	63 - 139
Bis(2-chloroethoxy)methane	20.0	13.4		ug/L		67	49 - 165
Bis(2-chloroethyl)ether	20.0	15.6		ug/L		78	43 - 126
Bis(2-ethylhexyl) phthalate	20.0	19.5		ug/L		98	29 - 137
Butyl benzyl phthalate	20.0	18.5		ug/L		93	1 - 140
Chrysene	20.0	14.8		ug/L		74	44 - 140
Dibenz(a,h)anthracene	20.0	15.4		ug/L		77	1 - 200
Diethyl phthalate	20.0	15.8		ug/L		79	1 - 120
Dimethyl phthalate	20.0	14.8		ug/L		74	1 - 120
Di-n-butyl phthalate	20.0	17.8		ug/L		89	8 - 120
Di-n-octyl phthalate	20.0	22.1		ug/L		111	19 - 132

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

Lab Sample ID: LCS 570-204353/2-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204353

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoranthene			20.0	16.8		ug/L		84	43 - 121		
Fluorene			20.0	15.2		ug/L		76	70 - 120		
Hexachlorobenzene			20.0	14.8		ug/L		74	8 - 142		
Hexachlorobutadiene			20.0	12.5		ug/L		63	38 - 120		
Hexachlorocyclopentadiene			20.0	16.5		ug/L		82	20 - 137		
Hexachloroethane			20.0	14.4		ug/L		72	55 - 120		
Indeno[1,2,3-cd]pyrene			20.0	14.8		ug/L		74	1 - 151		
Isophorone			20.0	14.8		ug/L		74	47 - 180		
Naphthalene			20.0	12.6		ug/L		63	36 - 120		
Nitrobenzene			20.0	12.8		ug/L		64	54 - 158		
N-Nitrosodimethylamine			20.0	11.0		ug/L		55	30 - 100		
N-Nitrosodi-n-propylamine			20.0	18.4		ug/L		92	14 - 198		
N-Nitrosodiphenylamine			20.0	20.2		ug/L		101	75 - 135		
Pentachlorophenol			20.0	15.3		ug/L		77	38 - 152		
Phenanthrene			20.0	15.0		ug/L		75	65 - 120		
Phenol			20.0	7.39		ug/L		37	17 - 120		
Pyrene			20.0	15.2		ug/L		76	70 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*88*		*28 - 127*
2-Fluorobiphenyl (Surr)	*62*		*31 - 120*
2-Fluorophenol	*53*		*17 - 120*
Nitrobenzene-d5	*64*		*27 - 120*
Phenol-d6 (Surr)	*34*		*10 - 120*
p-Terphenyl-d14 (Surr)	*77*		*45 - 120*

Lab Sample ID: LCSD 570-204353/3-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204353

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene			20.0	11.4		ug/L		57	57 - 130	12	30
1,2-Dichlorobenzene			20.0	13.3		ug/L		67	41 - 100	8	20
1,2-Diphenylhydrazine(as Azobenzene)			20.0	13.0		ug/L		65	60 - 115	11	30
1,3-Dichlorobenzene			20.0	12.8		ug/L		64	39 - 100	11	20
1,4-Dichlorobenzene			20.0	13.3		ug/L		67	40 - 100	9	20
2,4,6-Trichlorophenol			20.0	15.1		ug/L		75	52 - 129	12	35
2,4-Dichlorophenol			20.0	13.3		ug/L		66	53 - 122	6	30
2,4-Dimethylphenol			20.0	12.9		ug/L		65	42 - 120	9	35
2,4-Dinitrophenol			20.0	17.3		ug/L		87	1 - 173	12	79
2,4-Dinitrotoluene			20.0	14.9		ug/L		75	48 - 127	8	25
2,6-Dinitrotoluene			20.0	15.3		ug/L		77	68 - 137	13	29
2-Chloronaphthalene			20.0	13.0		ug/L		65	65 - 120	7	15
2-Chlorophenol			20.0	14.4		ug/L		72	36 - 120	13	37
2-Nitrophenol			20.0	13.7		ug/L		69	45 - 167	12	33
3,3'-Dichlorobenzidine			20.0	18.3		ug/L		91	8 - 213	5	65
4,6-Dinitro-2-methylphenol			20.0	14.0		ug/L		70	53 - 130	12	122
4-Bromophenyl phenyl ether			20.0	13.1		ug/L		65	65 - 120	14	26

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

Lab Sample ID: LCSD 570-204353/3-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204353

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Chloro-3-methylphenol			20.0	13.2		ug/L		66	41 - 128	5	44
4-Chlorophenyl phenyl ether			20.0	14.3		ug/L		72	38 - 145	5	36
4-Nitrophenol			20.0	8.35		ug/L		42	13 - 129	12	79
Acenaphthene			20.0	13.2		ug/L		66	60 - 132	11	29
Acenaphthylene			20.0	15.5		ug/L		78	54 - 126	9	45
Anthracene			20.0	15.5		ug/L		77	43 - 120	10	40
Benzidine			20.0	12.6		ug/L		63	10 - 124	4	40
Benzo[a]anthracene			20.0	15.8		ug/L		79	42 - 133	7	32
Benzo[a]pyrene			20.0	17.5		ug/L		87	32 - 148	6	43
Benzo[b]fluoranthene			20.0	15.2		ug/L		76	42 - 140	7	43
Benzo[g,h,i]perylene			20.0	14.0		ug/L		70	1 - 195	9	61
Benzo[k]fluoranthene			20.0	15.3		ug/L		77	25 - 146	7	38
bis (2-chloroisopropyl) ether			20.0	15.5		ug/L		77	63 - 139	8	46
Bis(2-chloroethoxy)methane			20.0	12.0		ug/L		60	49 - 165	11	32
Bis(2-chloroethyl)ether			20.0	14.3		ug/L		71	43 - 126	9	65
Bis(2-ethylhexyl) phthalate			20.0	18.2		ug/L		91	29 - 137	7	50
Butyl benzyl phthalate			20.0	17.1		ug/L		85	1 - 140	8	36
Chrysene			20.0	13.8		ug/L		69	44 - 140	7	53
Dibenz(a,h)anthracene			20.0	14.3		ug/L		71	1 - 200	8	75
Diethyl phthalate			20.0	14.3		ug/L		72	1 - 120	10	60
Dimethyl phthalate			20.0	13.7		ug/L		69	1 - 120	8	110
Di-n-butyl phthalate			20.0	16.0		ug/L		80	8 - 120	11	28
Di-n-octyl phthalate			20.0	20.3		ug/L		102	19 - 132	8	42
Fluoranthene			20.0	14.5		ug/L		72	43 - 121	15	40
Fluorene			20.0	14.3		ug/L		71	70 - 120	6	23
Hexachlorobenzene			20.0	13.7		ug/L		69	8 - 142	8	33
Hexachlorobutadiene			20.0	11.2		ug/L		56	38 - 120	11	38
Hexachlorocyclopentadiene			20.0	15.2		ug/L		76	20 - 137	8	20
Hexachloroethane			20.0	13.0		ug/L		65	55 - 120	11	32
Indeno[1,2,3-cd]pyrene			20.0	13.5		ug/L		68	1 - 151	9	60
Isophorone			20.0	13.3		ug/L		67	47 - 180	10	56
Naphthalene			20.0	11.6		ug/L		58	36 - 120	8	39
Nitrobenzene			20.0	11.8		ug/L		59	54 - 158	9	37
N-Nitrosodimethylamine			20.0	10.5		ug/L		52	30 - 100	5	20
N-Nitrosodi-n-propylamine			20.0	15.9		ug/L		80	14 - 198	15	52
N-Nitrosodiphenylamine			20.0	18.8		ug/L		94	75 - 135	7	20
Pentachlorophenol			20.0	14.0		ug/L		70	38 - 152	9	52
Phenanthrene			20.0	14.3		ug/L		71	65 - 120	5	24
Phenol			20.0	6.47		ug/L		32	17 - 120	13	39
Pyrene			20.0	14.0		ug/L		70	70 - 120	8	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol	*80*		*28 - 127*
2-Fluorobiphenyl (Surr)	*57*		*31 - 120*
2-Fluorophenol	*45*		*17 - 120*
Nitrobenzene-d5	*58*		*27 - 120*
Phenol-d6 (Surr)	*30*		*10 - 120*
p-Terphenyl-d14 (Surr)	*68*		*45 - 120*

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-203919/1-A
Matrix: Water
Analysis Batch: 204108

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 203919

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00070	ug/L		12/27/21 15:38	12/28/21 14:19	1
alpha-BHC	ND		0.0013	0.00080	ug/L		12/27/21 15:38	12/28/21 14:19	1
beta-BHC	ND		0.0020	0.0017	ug/L		12/27/21 15:38	12/28/21 14:19	1
delta-BHC	ND		0.0013	0.0011	ug/L		12/27/21 15:38	12/28/21 14:19	1
gamma-BHC (Lindane)	ND		0.0013	0.00090	ug/L		12/27/21 15:38	12/28/21 14:19	1
Chlordane (technical)	ND		0.010	0.0065	ug/L		12/27/21 15:38	12/28/21 14:19	1
4,4'-DDD	ND		0.0013	0.00080	ug/L		12/27/21 15:38	12/28/21 14:19	1
4,4'-DDE	ND		0.0013	0.00050	ug/L		12/27/21 15:38	12/28/21 14:19	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		12/27/21 15:38	12/28/21 14:19	1
Dieldrin	ND		0.0013	0.00050	ug/L		12/27/21 15:38	12/28/21 14:19	1
Endosulfan I	ND		0.0013	0.00070	ug/L		12/27/21 15:38	12/28/21 14:19	1
Endosulfan II	ND		0.0013	0.00050	ug/L		12/27/21 15:38	12/28/21 14:19	1
Endosulfan sulfate	ND		0.0013	0.00060	ug/L		12/27/21 15:38	12/28/21 14:19	1
Endrin	ND		0.0013	0.00070	ug/L		12/27/21 15:38	12/28/21 14:19	1
Endrin aldehyde	ND		0.010	0.0051	ug/L		12/27/21 15:38	12/28/21 14:19	1
Heptachlor	ND		0.0013	0.00070	ug/L		12/27/21 15:38	12/28/21 14:19	1
Heptachlor epoxide	ND		0.0013	0.00040	ug/L		12/27/21 15:38	12/28/21 14:19	1
Toxaphene	ND		0.10	0.013	ug/L		12/27/21 15:38	12/28/21 14:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*56*		*20 - 139*	*12/27/21 15:38*	*12/28/21 14:19*	*1*

Lab Sample ID: LCS 570-203919/2-A
Matrix: Water
Analysis Batch: 204108

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 203919

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.0333	0.0160		ug/L		48	42 - 140
alpha-BHC	0.0333	0.0196		ug/L		59	37 - 140
beta-BHC	0.0333	0.0194		ug/L		58	17 - 147
delta-BHC	0.0333	0.0201		ug/L		60	19 - 140
gamma-BHC (Lindane)	0.0333	0.0171		ug/L		51	32 - 140
4,4'-DDD	0.0333	0.0207		ug/L		62	31 - 141
4,4'-DDE	0.0333	0.0192		ug/L		57	30 - 145
4,4'-DDT	0.0333	0.0207		ug/L		62	25 - 160
Dieldrin	0.0333	0.0190		ug/L		57	36 - 146
Endosulfan I	0.0333	0.0183		ug/L		55	45 - 153
Endosulfan II	0.0333	0.0200		ug/L		60	1 - 202
Endosulfan sulfate	0.0333	0.0184		ug/L		55	26 - 144
Endrin	0.0333	0.0188		ug/L		56	30 - 147
Endrin aldehyde	0.0333	0.0364	PI	ug/L		109	60 - 140
Heptachlor	0.0333	0.0239		ug/L		72	34 - 140
Heptachlor epoxide	0.0333	0.0192		ug/L		58	37 - 142

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*53*		*20 - 139*

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: LCSD 570-203919/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204108
Prep Batch: 203919

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin			0.0333	0.0160		ug/L		48	42 - 140	0	35
alpha-BHC			0.0333	0.0204		ug/L		61	37 - 140	4	36
beta-BHC			0.0333	0.0210		ug/L		63	17 - 147	8	44
delta-BHC			0.0333	0.0214		ug/L		64	19 - 140	6	52
gamma-BHC (Lindane)			0.0333	0.0180		ug/L		54	32 - 140	5	39
4,4'-DDD			0.0333	0.0217		ug/L		65	31 - 141	5	39
4,4'-DDE			0.0333	0.0202		ug/L		61	30 - 145	5	35
4,4'-DDT			0.0333	0.0229		ug/L		69	25 - 160	10	42
Dieldrin			0.0333	0.0203		ug/L		61	36 - 146	6	49
Endosulfan I			0.0333	0.0201		ug/L		60	45 - 153	9	28
Endosulfan II			0.0333	0.0222		ug/L		67	1 - 202	11	53
Endosulfan sulfate			0.0333	0.0217		ug/L		65	26 - 144	16	38
Endrin			0.0333	0.0203		ug/L		61	30 - 147	8	48
Endrin aldehyde			0.0333	0.0350	PI	ug/L		105	60 - 140	4	30
Heptachlor			0.0333	0.0255		ug/L		77	34 - 140	7	43
Heptachlor epoxide			0.0333	0.0200		ug/L		60	37 - 142	4	26

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*57*		*20 - 139*

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

Lab Sample ID: MB 570-203919/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204995
Prep Batch: 203919

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		12/27/21 15:38	01/04/22 00:16	1
Aroclor 1221	ND		0.10	0.044	ug/L		12/27/21 15:38	01/04/22 00:16	1
Aroclor 1232	ND		0.10	0.044	ug/L		12/27/21 15:38	01/04/22 00:16	1
Aroclor 1242	ND		0.10	0.044	ug/L		12/27/21 15:38	01/04/22 00:16	1
Aroclor 1248	ND		0.10	0.044	ug/L		12/27/21 15:38	01/04/22 00:16	1
Aroclor 1254	ND		0.10	0.052	ug/L		12/27/21 15:38	01/04/22 00:16	1
Aroclor 1260	ND		0.10	0.052	ug/L		12/27/21 15:38	01/04/22 00:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*56*		*20 - 154*	*12/27/21 15:38*	*01/04/22 00:16*	*1*

Lab Sample ID: LCS 570-203919/9-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204995
Prep Batch: 203919

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016			0.133	0.179		ug/L		134	50 - 140
Aroclor 1260			0.133	0.172		ug/L		129	8 - 140

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

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

Lab Sample ID: LCSD 570-203919/10-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204995
Prep Batch: 203919

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016			0.133	0.165		ug/L		123	50 - 140	8	36
Aroclor 1260			0.133	0.154		ug/L		116	8 - 140	11	38

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*71*		*20 - 154*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 570-204051/6
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204051

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.20	0.019	ug/L			12/28/21 09:39	1

Lab Sample ID: LCS 570-204051/7
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204051

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			50.0	51.7		ug/L		103	95 - 107		

Lab Sample ID: LCSD 570-204051/8
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204051

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent			50.0	50.3		ug/L		101	95 - 107	3	20

Lab Sample ID: 570-80145-C-1 MS
Client Sample ID: Matrix Spike
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204051

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent	ND		50.0	50.4		ug/L		101	85 - 121		

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-203940/15
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 203940

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			12/28/21 00:35	1
Nitrate as N	ND		0.10	0.024	mg/L			12/28/21 00:35	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 570-203940/16
Matrix: Water
Analysis Batch: 203940

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	2.39		mg/L		96	90 - 110
Nitrate as N	5.00	4.87		mg/L		97	90 - 110

Lab Sample ID: LCSD 570-203940/17
Matrix: Water
Analysis Batch: 203940

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	2.40		mg/L		96	90 - 110	1	15
Nitrate as N	5.00	4.87		mg/L		97	90 - 110	0	15

Lab Sample ID: MB 570-203941/15
Matrix: Water
Analysis Batch: 203941

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			12/28/21 00:35	1
Fluoride	ND		0.10	0.046	mg/L			12/28/21 00:35	1
Sulfate	ND		1.0	0.24	mg/L			12/28/21 00:35	1

Lab Sample ID: LCS 570-203941/16
Matrix: Water
Analysis Batch: 203941

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	48.2		mg/L		96	90 - 110
Fluoride	2.50	2.41		mg/L		96	90 - 110
Sulfate	50.0	49.2		mg/L		98	90 - 110

Lab Sample ID: LCSD 570-203941/17
Matrix: Water
Analysis Batch: 203941

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50.0	48.1		mg/L		96	90 - 110	0	15
Fluoride	2.50	2.43		mg/L		97	90 - 110	1	15
Sulfate	50.0	49.1		mg/L		98	90 - 110	0	15

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 570-79264-H-1 MS
Matrix: Water
Analysis Batch: 203940

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N - DL	ND		2.50	2.60		mg/L		104	80 - 120
Nitrate as N - DL	0.19	J,DX	5.00	5.15		mg/L		99	80 - 120

Method: 300.0 - Anions, Ion Chromatography - DL (Continued)

Lab Sample ID: 570-79264-H-1 MSD
Matrix: Water
Analysis Batch: 203940

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N - DL	ND		2.50	2.74		mg/L		110	80 - 120	5	20
Nitrate as N - DL	0.19	J,DX	5.00	5.33		mg/L		103	80 - 120	3	20

Lab Sample ID: 570-79264-H-1 MS
Matrix: Water
Analysis Batch: 203941

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride - DL	26		50.0	72.2		mg/L		92	80 - 120
Fluoride - DL	ND		2.50	3.06	LM	mg/L		122	80 - 120
Sulfate - DL	120		50.0	178		mg/L		108	80 - 120

Lab Sample ID: 570-79264-H-1 MSD
Matrix: Water
Analysis Batch: 203941

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride - DL	26		50.0	74.6		mg/L		97	80 - 120	3	20
Fluoride - DL	ND		2.50	3.19	LM	mg/L		128	80 - 120	4	20
Sulfate - DL	120		50.0	183		mg/L		117	80 - 120	3	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-204101/6
Matrix: Water
Analysis Batch: 204101

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			12/28/21 12:08	1

Lab Sample ID: LCS 570-204101/7
Matrix: Water
Analysis Batch: 204101

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	26.3		ug/L		105	85 - 115

Lab Sample ID: LCSD 570-204101/8
Matrix: Water
Analysis Batch: 204101

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	26.3		ug/L		105	85 - 115	0	15

Method: 314.0 - Perchlorate (IC) - DL

Lab Sample ID: 570-79640-G-1 MS
Matrix: Water
Analysis Batch: 204101

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate - DL	5000		50.0	5240	BB	ug/L		524	80 - 120

Lab Sample ID: 570-79640-G-1 MSD
Matrix: Water
Analysis Batch: 204101

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate - DL	5000		50.0	5230	BB	ug/L		506	80 - 120	0	15

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-663922/1-A
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 663922

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/07/22 08:10	01/07/22 17:42	1
Barium	ND		10	2.2	ug/L		01/07/22 08:10	01/07/22 17:42	1
Beryllium	ND		2.0	0.44	ug/L		01/07/22 08:10	01/07/22 17:42	1
Boron	ND		50	25	ug/L		01/07/22 08:10	01/07/22 17:42	1
Chromium	ND		5.0	2.5	ug/L		01/07/22 08:10	01/07/22 17:42	1
Cobalt	ND		10	2.8	ug/L		01/07/22 08:10	01/07/22 17:42	1
Iron	ND		100	50	ug/L		01/07/22 08:10	01/07/22 17:42	1
Manganese	ND		20	6.8	ug/L		01/07/22 08:10	01/07/22 17:42	1
Nickel	ND		10	5.0	ug/L		01/07/22 08:10	01/07/22 17:42	1
Vanadium	ND		10	2.1	ug/L		01/07/22 08:10	01/07/22 17:42	1
Zinc	ND		20	12	ug/L		01/07/22 08:10	01/07/22 17:42	1

Lab Sample ID: LCS 440-663922/2-A
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 663922

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	498		ug/L		100	85 - 115
Barium	500	502		ug/L		100	85 - 115
Beryllium	500	504		ug/L		101	85 - 115
Boron	500	492		ug/L		98	85 - 115
Chromium	500	504		ug/L		101	85 - 115
Cobalt	500	511		ug/L		102	85 - 115
Iron	500	516		ug/L		103	85 - 115
Manganese	500	498		ug/L		100	85 - 115
Nickel	500	516		ug/L		103	85 - 115
Vanadium	500	502		ug/L		100	85 - 115
Zinc	500	507		ug/L		101	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 440-293568-D-2-C MS
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 663922

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		500	518		ug/L		104	70 - 130
Barium	36		500	533		ug/L		99	70 - 130
Beryllium	ND		500	508		ug/L		102	70 - 130
Boron	86		500	591		ug/L		101	70 - 130
Chromium	ND		500	501		ug/L		100	70 - 130
Cobalt	ND		500	488		ug/L		98	70 - 130
Iron	1600		500	2300	LM	ug/L		133	70 - 130
Manganese	56		500	544		ug/L		98	70 - 130
Nickel	ND		500	485		ug/L		97	70 - 130
Vanadium	4.1	J,DX	500	515		ug/L		102	70 - 130
Zinc	89		500	590		ug/L		100	70 - 130

Lab Sample ID: 440-293568-D-2-D MSD
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 663922

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	527		ug/L		105	70 - 130	2	20
Barium	36		500	540		ug/L		101	70 - 130	1	20
Beryllium	ND		500	514		ug/L		103	70 - 130	1	20
Boron	86		500	599		ug/L		103	70 - 130	1	20
Chromium	ND		500	510		ug/L		102	70 - 130	2	20
Cobalt	ND		500	496		ug/L		99	70 - 130	1	20
Iron	1600		500	2290		ug/L		130	70 - 130	1	20
Manganese	56		500	551		ug/L		99	70 - 130	1	20
Nickel	ND		500	494		ug/L		99	70 - 130	2	20
Vanadium	4.1	J,DX	500	521		ug/L		103	70 - 130	1	20
Zinc	89		500	587		ug/L		99	70 - 130	1	20

Lab Sample ID: MB 440-663584/1-C
Matrix: Water
Analysis Batch: 663658

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663619

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		12/30/21 07:56	12/30/21 14:16	1
Barium	ND		10	2.2	ug/L		12/30/21 07:56	12/30/21 14:16	1
Beryllium	ND		2.0	0.44	ug/L		12/30/21 07:56	12/30/21 14:16	1
Boron	ND		50	25	ug/L		12/30/21 07:56	12/30/21 14:16	1
Chromium	ND		5.0	2.5	ug/L		12/30/21 07:56	12/30/21 14:16	1
Cobalt	ND		10	2.8	ug/L		12/30/21 07:56	12/30/21 14:16	1
Iron	ND		100	50	ug/L		12/30/21 07:56	12/30/21 14:16	1
Manganese	ND		20	6.8	ug/L		12/30/21 07:56	12/30/21 14:16	1
Nickel	9.00	J,DX	10	5.0	ug/L		12/30/21 07:56	12/30/21 14:16	1
Vanadium	ND		10	2.1	ug/L		12/30/21 07:56	12/30/21 14:16	1
Zinc	ND		20	12	ug/L		12/30/21 07:56	12/30/21 14:16	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-663584/2-C
Matrix: Water
Analysis Batch: 663658

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663619

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			500	465		ug/L		93	85 - 115		
Barium			500	474		ug/L		95	85 - 115		
Beryllium			500	472		ug/L		94	85 - 115		
Boron			500	456		ug/L		91	85 - 115		
Chromium			500	474		ug/L		95	85 - 115		
Cobalt			500	468		ug/L		94	85 - 115		
Iron			500	473		ug/L		95	85 - 115		
Manganese			500	472		ug/L		94	85 - 115		
Nickel			500	470		ug/L		94	85 - 115		
Vanadium			500	470		ug/L		94	85 - 115		
Zinc			500	468		ug/L		94	85 - 115		

Lab Sample ID: 570-80142-C-2-G MS
Matrix: Water
Analysis Batch: 663658

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663619

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic	ND		500	487		ug/L		97	70 - 130		
Barium	11		500	497		ug/L		97	70 - 130		
Beryllium	ND		500	489		ug/L		98	70 - 130		
Boron	38	J,DX	500	510		ug/L		94	70 - 130		
Chromium	ND		500	487		ug/L		97	70 - 130		
Cobalt	ND		500	485		ug/L		97	70 - 130		
Iron	79	J,DX	500	555		ug/L		95	70 - 130		
Manganese	ND		500	485		ug/L		97	70 - 130		
Nickel	ND		500	482		ug/L		96	70 - 130		
Vanadium	2.1	J,DX	500	486		ug/L		97	70 - 130		
Zinc	ND		500	489		ug/L		98	70 - 130		

Lab Sample ID: 570-80142-C-2-H MSD
Matrix: Water
Analysis Batch: 663658

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663619

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	474		ug/L		95	70 - 130	3	20
Barium	11		500	490		ug/L		96	70 - 130	2	20
Beryllium	ND		500	482		ug/L		96	70 - 130	1	20
Boron	38	J,DX	500	503		ug/L		93	70 - 130	1	20
Chromium	ND		500	479		ug/L		96	70 - 130	2	20
Cobalt	ND		500	480		ug/L		96	70 - 130	1	20
Iron	79	J,DX	500	559		ug/L		96	70 - 130	1	20
Manganese	ND		500	477		ug/L		95	70 - 130	2	20
Nickel	ND		500	476		ug/L		95	70 - 130	1	20
Vanadium	2.1	J,DX	500	479		ug/L		95	70 - 130	1	20
Zinc	ND		500	482		ug/L		96	70 - 130	2	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-663886/1-A
Matrix: Water
Analysis Batch: 664004

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 663886

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/07/22 07:06	01/07/22 10:56	1
Cadmium	ND		1.0	0.25	ug/L		01/07/22 07:06	01/07/22 10:56	1
Copper	ND		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 10:56	1
Lead	ND		1.0	0.50	ug/L		01/07/22 07:06	01/07/22 10:56	1
Antimony	ND		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 10:56	1
Selenium	ND		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 10:56	1
Thallium	ND		1.0	0.20	ug/L		01/07/22 07:06	01/07/22 10:56	1

Lab Sample ID: LCS 440-663886/2-A
Matrix: Water
Analysis Batch: 664004

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 663886

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	78.1		ug/L		98	85 - 115
Cadmium	80.0	79.4		ug/L		99	85 - 115
Copper	80.0	80.9		ug/L		101	85 - 115
Lead	80.0	80.5		ug/L		101	85 - 115
Antimony	80.0	89.0		ug/L		111	85 - 115
Selenium	80.0	77.3		ug/L		97	85 - 115
Thallium	80.0	79.7		ug/L		100	85 - 115

Lab Sample ID: 440-293542-B-1-D MS
Matrix: Water
Analysis Batch: 664004

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 663886

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	78.5		ug/L		98	70 - 130
Cadmium	ND		80.0	80.4		ug/L		101	70 - 130
Copper	7.7		80.0	89.5		ug/L		102	70 - 130
Lead	1.1		80.0	81.0		ug/L		100	70 - 130
Antimony	1.2	J,DX	80.0	93.3		ug/L		115	70 - 130
Selenium	4.6		80.0	84.3		ug/L		100	70 - 130
Thallium	ND		80.0	79.6		ug/L		99	70 - 130

Lab Sample ID: 440-293542-B-1-E MSD
Matrix: Water
Analysis Batch: 664004

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 663886

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	75.6		ug/L		94	70 - 130	4	20
Cadmium	ND		80.0	77.6		ug/L		97	70 - 130	4	20
Copper	7.7		80.0	86.4		ug/L		98	70 - 130	4	20
Lead	1.1		80.0	78.6		ug/L		97	70 - 130	3	20
Antimony	1.2	J,DX	80.0	89.9		ug/L		111	70 - 130	4	20
Selenium	4.6		80.0	80.6		ug/L		95	70 - 130	4	20
Thallium	ND		80.0	77.0		ug/L		96	70 - 130	3	20

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

Lab Sample ID: MB 440-663584/1-B
Matrix: Water
Analysis Batch: 663652

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663593

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:45	1
Cadmium	ND		1.0	0.25	ug/L		12/29/21 16:21	12/30/21 12:45	1
Copper	ND		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:45	1
Lead	ND		1.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:45	1
Antimony	ND		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:45	1
Selenium	ND		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:45	1
Thallium	ND		1.0	0.20	ug/L		12/29/21 16:21	12/30/21 12:45	1

Lab Sample ID: LCS 440-663584/2-B
Matrix: Water
Analysis Batch: 663652

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663593

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	77.6		ug/L		97	85 - 115
Cadmium	80.0	74.8		ug/L		94	85 - 115
Copper	80.0	74.3		ug/L		93	85 - 115
Lead	80.0	75.7		ug/L		95	85 - 115
Antimony	80.0	85.1		ug/L		106	85 - 115
Selenium	80.0	75.1		ug/L		94	85 - 115
Thallium	80.0	75.5		ug/L		94	85 - 115

Lab Sample ID: 570-80142-C-2-D MS
Matrix: Water
Analysis Batch: 663652

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663593

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	78.4		ug/L		98	70 - 130
Cadmium	ND		80.0	75.1		ug/L		94	70 - 130
Copper	2.8		80.0	78.5		ug/L		95	70 - 130
Lead	ND		80.0	76.5		ug/L		96	70 - 130
Antimony	ND		80.0	86.0		ug/L		108	70 - 130
Selenium	ND		80.0	74.6		ug/L		93	70 - 130
Thallium	ND		80.0	76.4		ug/L		95	70 - 130

Lab Sample ID: 570-80142-C-2-E MSD
Matrix: Water
Analysis Batch: 663652

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663593

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	80.9		ug/L		101	70 - 130	3	20
Cadmium	ND		80.0	77.6		ug/L		97	70 - 130	3	20
Copper	2.8		80.0	81.6		ug/L		98	70 - 130	4	20
Lead	ND		80.0	79.4		ug/L		99	70 - 130	4	20
Antimony	ND		80.0	89.1		ug/L		111	70 - 130	4	20
Selenium	ND		80.0	76.6		ug/L		96	70 - 130	3	20
Thallium	ND		80.0	79.0		ug/L		99	70 - 130	3	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-664074/1-A
Matrix: Water
Analysis Batch: 664187

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 664074

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:10	01/10/22 19:22	1

Lab Sample ID: LCS 440-664074/2-A
Matrix: Water
Analysis Batch: 664187

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 664074

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.00	6.10		ug/L		102	85 - 115

Lab Sample ID: 570-79044-B-1-F MS
Matrix: Water
Analysis Batch: 664187

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 664074

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		6.00	8.82	LM	ug/L		147	75 - 125

Lab Sample ID: 570-79044-B-1-G MSD
Matrix: Water
Analysis Batch: 664187

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 664074

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		6.00	8.71	LM	ug/L		145	75 - 125	1	20

Lab Sample ID: MB 570-208358/1-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 208361

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00025	0.00012	mg/L		01/19/22 17:58	01/20/22 19:43	1

Lab Sample ID: LCS 570-208358/2-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.0100	0.00971		mg/L		97	85 - 115

Lab Sample ID: LCSD 570-208358/3-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.0100	0.00972		mg/L		97	85 - 115	0	10

Lab Sample ID: 570-80124-3 MS
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Outfall001_20211226_Comp_F
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND	BU	0.0100	0.00927		mg/L		93	70 - 130

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: 570-80124-3 MSD — **Client Sample ID: Outfall001_20211226_Comp_F**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 208671 — **Prep Batch: 208361**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND	BU	0.0100	0.00928		mg/L		93	70 - 130	0	10

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 440-664948/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664948

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	ND		0.10	0.05	NTU			01/20/22 10:58	1

Lab Sample ID: MRL 440-664948/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664948

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	0.100	0.10		NTU		90	50 - 150

Lab Sample ID: 570-81864-G-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664948

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Turbidity	4.7		4.9		NTU		3	20

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

Lab Sample ID: MB 440-663505/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 663505

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	3.0	mg/L			12/28/21 08:43	1

Lab Sample ID: LCS 440-663505/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 663505

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	984		mg/L		98	90 - 110

Lab Sample ID: 440-293601-G-5 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 663505

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	4000		4070		mg/L		1	5

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

Lab Sample ID: MB 440-663578/1
Matrix: Water
Analysis Batch: 663578

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			12/29/21 12:18	1

Lab Sample ID: LCS 440-663578/2
Matrix: Water
Analysis Batch: 663578

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	1000	1110		mg/L		111	85 - 115

Lab Sample ID: 440-293605-B-3 DU
Matrix: Water
Analysis Batch: 663578

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	210		202		mg/L		4	5

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 440-663989/1-A
Matrix: Water
Analysis Batch: 664019

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 663989

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L		01/07/22 11:02	01/07/22 15:12	1

Lab Sample ID: LCS 440-663989/2-A
Matrix: Water
Analysis Batch: 664019

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 663989

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	100	96.7		ug/L		97	80 - 120

Lab Sample ID: 570-80124-1 MS
Matrix: Water
Analysis Batch: 664019

Client Sample ID: Outfall001_20211226_Comp
Prep Type: Total/NA
Prep Batch: 663989

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	ND		100	98.9		ug/L		99	75 - 125

Lab Sample ID: 570-80124-1 MSD
Matrix: Water
Analysis Batch: 664019

Client Sample ID: Outfall001_20211226_Comp
Prep Type: Total/NA
Prep Batch: 663989

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		100	99.7		ug/L		100	75 - 125	1	20

Method: SM 4500 NH3 G - Ammonia

Lab Sample ID: MB 440-664022/10
Matrix: Water
Analysis Batch: 664022

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.200	0.100	mg/L			01/07/22 11:11	1

Lab Sample ID: LCS 440-664022/11
Matrix: Water
Analysis Batch: 664022

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	5.00	5.370		mg/L		107	90 - 110

Lab Sample ID: MRL 440-664022/9
Matrix: Water
Analysis Batch: 664022

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.200	0.1950	J,DX	mg/L		98	50 - 150

Lab Sample ID: 570-80545-H-1 MS
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.845		5.00	5.760		mg/L		98	90 - 110

Lab Sample ID: 570-80545-H-1 MSD
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.845		5.00	5.710		mg/L		97	90 - 110	1	15

Method: SM 5310D - Organic Carbon, Total (TOC)

Lab Sample ID: MB 570-208181/35
Matrix: Water
Analysis Batch: 208181

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon, Total Organic	ND		0.50	0.026	mg/L			01/18/22 09:00	1

Lab Sample ID: LCS 570-208181/67
Matrix: Water
Analysis Batch: 208181

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon, Total Organic	5.00	4.94		mg/L		99	85 - 115

Method: SM 5310D - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: LCSD 570-208181/68
Matrix: Water
Analysis Batch: 208181

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon, Total Organic			5.00	5.06		mg/L		101	85 - 115	3	20

Lab Sample ID: 440-294124-B-1 MS
Matrix: Water
Analysis Batch: 208181

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Carbon, Total Organic	0.45	J,DX	5.00	3.63		mg/L		64	31 - 145		

Lab Sample ID: 440-294124-B-1 MSD
Matrix: Water
Analysis Batch: 208181

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon, Total Organic	0.45	J,DX	5.00	3.33		mg/L		58	31 - 145	9	20

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

Lab Sample ID: MB 570-204906/5-A
Matrix: Water
Analysis Batch: 204896

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204906

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.30	0.15	mg/L		12/30/21 22:00	12/31/21 08:58	1

Lab Sample ID: LCS 570-204906/6-A
Matrix: Water
Analysis Batch: 204896

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204906

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
MBAS			1.00	1.07		mg/L		107	85 - 111		

Lab Sample ID: LCSD 570-204906/7-A
Matrix: Water
Analysis Batch: 204896

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204906

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MBAS			1.00	1.09		mg/L		109	85 - 111	2	7

Lab Sample ID: 570-80340-B-1-A MS
Matrix: Water
Analysis Batch: 204896

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 204906

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
MBAS	ND		1.00	1.23		mg/L		123	75 - 125		

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

Lab Sample ID: 570-80340-B-1-B MSD
Matrix: Water
Analysis Batch: 204896

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 204906

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MBAS	ND		1.00	1.22		mg/L		122	75 - 125	1	12

Method: SM5210B - BOD, 5 Day

Lab Sample ID: SCB 570-204059/2
Matrix: Water
Analysis Batch: 204059

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

Analyte	SCB Result	SCB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	1.13		0.83	0.49	mg/L			12/28/21 09:42	1

Lab Sample ID: USB 570-204059/1
Matrix: Water
Analysis Batch: 204059

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		0.83	0.49	mg/L			12/28/21 09:42	1

Lab Sample ID: LCS 570-204059/3
Matrix: Water
Analysis Batch: 204059

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Biochemical Oxygen Demand	198	183		mg/L		93	84.6 - 115.4

Lab Sample ID: 570-80106-A-1 DU
Matrix: Water
Analysis Batch: 204059

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Biochemical Oxygen Demand	1600		1720		mg/L		6	25

GC/MS VOA

Analysis Batch: 205613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	8260B SIM	
MB 570-205613/8	Method Blank	Total/NA	Water	8260B SIM	
LCS 570-205613/4	Lab Control Sample	Total/NA	Water	8260B SIM	
LCSD 570-205613/5	Lab Control Sample Dup	Total/NA	Water	8260B SIM	

GC/MS Semi VOA

Prep Batch: 204353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	625	
MB 570-204353/1-A	Method Blank	Total/NA	Water	625	
LCS 570-204353/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-204353/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 204757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	625.1 SIM	204353
MB 570-204353/1-A	Method Blank	Total/NA	Water	625.1 SIM	204353
LCS 570-204353/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	204353
LCSD 570-204353/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	204353

GC Semi VOA

Prep Batch: 203919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	608	
MB 570-203919/1-A	Method Blank	Total/NA	Water	608	
LCS 570-203919/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 570-203919/9-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-203919/10-A	Lab Control Sample Dup	Total/NA	Water	608	
LCSD 570-203919/3-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 204108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-203919/1-A	Method Blank	Total/NA	Water	608.3	203919
LCS 570-203919/2-A	Lab Control Sample	Total/NA	Water	608.3	203919
LCSD 570-203919/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	203919

Analysis Batch: 204446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	608.3	203919

Analysis Batch: 204995

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	608.3	203919
MB 570-203919/1-A	Method Blank	Total/NA	Water	608.3	203919
LCS 570-203919/9-A	Lab Control Sample	Total/NA	Water	608.3	203919
LCSD 570-203919/10-A	Lab Control Sample Dup	Total/NA	Water	608.3	203919

HPLC/IC

Analysis Batch: 203940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	300.0	
MB 570-203940/15	Method Blank	Total/NA	Water	300.0	
LCS 570-203940/16	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-203940/17	Lab Control Sample Dup	Total/NA	Water	300.0	
570-79264-H-1 MS - DL	Matrix Spike	Total/NA	Water	300.0	
570-79264-H-1 MSD - DL	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 203941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	300.0	
MB 570-203941/15	Method Blank	Total/NA	Water	300.0	
LCS 570-203941/16	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-203941/17	Lab Control Sample Dup	Total/NA	Water	300.0	
570-79264-H-1 MS - DL	Matrix Spike	Total/NA	Water	300.0	
570-79264-H-1 MSD - DL	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 204051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	218.6	
MB 570-204051/6	Method Blank	Total/NA	Water	218.6	
LCS 570-204051/7	Lab Control Sample	Total/NA	Water	218.6	
LCSD 570-204051/8	Lab Control Sample Dup	Total/NA	Water	218.6	
570-80145-C-1 MS	Matrix Spike	Total/NA	Water	218.6	
570-80145-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	218.6	

Analysis Batch: 204101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	314.0	
MB 570-204101/6	Method Blank	Total/NA	Water	314.0	
LCS 570-204101/7	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-204101/8	Lab Control Sample Dup	Total/NA	Water	314.0	
570-79640-G-1 MS - DL	Matrix Spike	Total/NA	Water	314.0	
570-79640-G-1 MSD - DL	Matrix Spike Duplicate	Total/NA	Water	314.0	

Analysis Batch: 205165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	NO2NO3 Calc	

Metals

Filtration Batch: 208358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-3	Outfall001_20211226_Comp_F	Dissolved	Water	Filtration	
MB 570-208358/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-80124-3 MS	Outfall001_20211226_Comp_F	Dissolved	Water	Filtration	
570-80124-3 MSD	Outfall001_20211226_Comp_F	Dissolved	Water	Filtration	

Metals

Prep Batch: 208361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-3	Outfall001_20211226_Comp_F	Dissolved	Water	245.1	208358
MB 570-208358/1-B	Method Blank	Dissolved	Water	245.1	208358
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	245.1	208358
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	208358
570-80124-3 MS	Outfall001_20211226_Comp_F	Dissolved	Water	245.1	208358
570-80124-3 MSD	Outfall001_20211226_Comp_F	Dissolved	Water	245.1	208358

Analysis Batch: 208671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-3	Outfall001_20211226_Comp_F	Dissolved	Water	245.1	208361
MB 570-208358/1-B	Method Blank	Dissolved	Water	245.1	208361
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	245.1	208361
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	208361
570-80124-3 MS	Outfall001_20211226_Comp_F	Dissolved	Water	245.1	208361
570-80124-3 MSD	Outfall001_20211226_Comp_F	Dissolved	Water	245.1	208361

Filtration Batch: 663584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-3	Outfall001_20211226_Comp_F	Dissolved	Water	FILTRATION	
MB 440-663584/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-663584/1-C	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663584/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-663584/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
570-80142-C-2-D MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80142-C-2-E MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
570-80142-C-2-G MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80142-C-2-H MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Prep Batch: 663593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-3	Outfall001_20211226_Comp_F	Dissolved	Water	200.2	663584
MB 440-663584/1-B	Method Blank	Dissolved	Water	200.2	663584
LCS 440-663584/2-B	Lab Control Sample	Dissolved	Water	200.2	663584
570-80142-C-2-D MS	Matrix Spike	Dissolved	Water	200.2	663584
570-80142-C-2-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663584

Prep Batch: 663619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-3	Outfall001_20211226_Comp_F	Dissolved	Water	200.2	663584
MB 440-663584/1-C	Method Blank	Dissolved	Water	200.2	663584
LCS 440-663584/2-C	Lab Control Sample	Dissolved	Water	200.2	663584
570-80142-C-2-G MS	Matrix Spike	Dissolved	Water	200.2	663584
570-80142-C-2-H MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663584

Analysis Batch: 663652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-3	Outfall001_20211226_Comp_F	Dissolved	Water	200.8	663593
MB 440-663584/1-B	Method Blank	Dissolved	Water	200.8	663593
LCS 440-663584/2-B	Lab Control Sample	Dissolved	Water	200.8	663593
570-80142-C-2-D MS	Matrix Spike	Dissolved	Water	200.8	663593
570-80142-C-2-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	663593

Metals

Analysis Batch: 663658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-3	Outfall001_20211226_Comp_F	Dissolved	Water	200.7 Rev 4.4	663619
MB 440-663584/1-C	Method Blank	Dissolved	Water	200.7 Rev 4.4	663619
LCS 440-663584/2-C	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	663619
570-80142-C-2-G MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	663619
570-80142-C-2-H MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	663619

Analysis Batch: 663736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-3	Outfall001_20211226_Comp_F	Dissolved	Water	SM 2340B	

Prep Batch: 663886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total Recoverable	Water	200.2	
MB 440-663886/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-663886/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
440-293542-B-1-D MS	Matrix Spike	Total Recoverable	Water	200.2	
440-293542-B-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Prep Batch: 663922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total Recoverable	Water	200.2	
MB 440-663922/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-663922/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
440-293568-D-2-C MS	Matrix Spike	Total Recoverable	Water	200.2	
440-293568-D-2-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 663948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total Recoverable	Water	SM 2340B	

Analysis Batch: 664004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total Recoverable	Water	200.8	663886
MB 440-663886/1-A	Method Blank	Total Recoverable	Water	200.8	663886
LCS 440-663886/2-A	Lab Control Sample	Total Recoverable	Water	200.8	663886
440-293542-B-1-D MS	Matrix Spike	Total Recoverable	Water	200.8	663886
440-293542-B-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	663886

Analysis Batch: 664049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total Recoverable	Water	200.7 Rev 4.4	663922
MB 440-663922/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	663922
LCS 440-663922/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	663922
440-293568-D-2-C MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	663922
440-293568-D-2-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	663922

Prep Batch: 664074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	245.1	
MB 440-664074/1-A	Method Blank	Total/NA	Water	245.1	
LCS 440-664074/2-A	Lab Control Sample	Total/NA	Water	245.1	

Metals (Continued)

Prep Batch: 664074 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-79044-B-1-F MS	Matrix Spike	Total/NA	Water	245.1	
570-79044-B-1-G MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 664187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	245.1	664074
MB 440-664074/1-A	Method Blank	Total/NA	Water	245.1	664074
LCS 440-664074/2-A	Lab Control Sample	Total/NA	Water	245.1	664074
570-79044-B-1-F MS	Matrix Spike	Total/NA	Water	245.1	664074
570-79044-B-1-G MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	664074

General Chemistry

Analysis Batch: 204059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	SM5210B	
SCB 570-204059/2	Method Blank	Total/NA	Water	SM5210B	
USB 570-204059/1	Method Blank	Total/NA	Water	SM5210B	
LCS 570-204059/3	Lab Control Sample	Total/NA	Water	SM5210B	
570-80106-A-1 DU	Duplicate	Total/NA	Water	SM5210B	

Analysis Batch: 204896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	SM 5540C	204906
MB 570-204906/5-A	Method Blank	Total/NA	Water	SM 5540C	204906
LCS 570-204906/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	204906
LCSD 570-204906/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	204906
570-80340-B-1-A MS	Matrix Spike	Total/NA	Water	SM 5540C	204906
570-80340-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5540C	204906

Prep Batch: 204906

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	SM 5540C	
MB 570-204906/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-204906/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-204906/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	
570-80340-B-1-A MS	Matrix Spike	Total/NA	Water	SM 5540C	
570-80340-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5540C	

Analysis Batch: 207080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	218.6 CR3	

Analysis Batch: 208181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	SM 5310D	
MB 570-208181/35	Method Blank	Total/NA	Water	SM 5310D	
LCS 570-208181/67	Lab Control Sample	Total/NA	Water	SM 5310D	
LCSD 570-208181/68	Lab Control Sample Dup	Total/NA	Water	SM 5310D	
440-294124-B-1 MS	Matrix Spike	Total/NA	Water	SM 5310D	
440-294124-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310D	

General Chemistry

Analysis Batch: 663505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	SM 2540C	
MB 440-663505/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-663505/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-293601-G-5 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 663578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	SM 2540D	
MB 440-663578/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-663578/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-293605-B-3 DU	Duplicate	Total/NA	Water	SM 2540D	

Prep Batch: 663989

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	Distill/CN	
MB 440-663989/1-A	Method Blank	Total/NA	Water	Distill/CN	
LCS 440-663989/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
570-80124-1 MS	Outfall001_20211226_Comp	Total/NA	Water	Distill/CN	
570-80124-1 MSD	Outfall001_20211226_Comp	Total/NA	Water	Distill/CN	

Analysis Batch: 664019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	SM 4500 CN E	663989
MB 440-663989/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	663989
LCS 440-663989/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	663989
570-80124-1 MS	Outfall001_20211226_Comp	Total/NA	Water	SM 4500 CN E	663989
570-80124-1 MSD	Outfall001_20211226_Comp	Total/NA	Water	SM 4500 CN E	663989

Analysis Batch: 664022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	SM 4500 NH3 G	
MB 440-664022/10	Method Blank	Total/NA	Water	SM 4500 NH3 G	
LCS 440-664022/11	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
MRL 440-664022/9	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
570-80545-H-1 MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 G	
570-80545-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 G	

Analysis Batch: 664948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	180.1	
MB 440-664948/6	Method Blank	Total/NA	Water	180.1	
MRL 440-664948/5	Lab Control Sample	Total/NA	Water	180.1	
570-81864-G-1 DU	Duplicate	Total/NA	Water	180.1	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-1
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		2	25 mL	25 mL	205613	01/05/22 18:03	AH8S	ECL 2
	Instrument ID: GCMSFFF									
Total/NA	Prep	625			857.5 mL	2 mL	204353	12/29/21 05:48	H1SH	ECL 1
Total/NA	Analysis	625.1 SIM		1			204757	12/30/21 15:28	ULLI	ECL 1
	Instrument ID: GCMSJJJ									
Total/NA	Prep	608			1500 mL	1.0 mL	203919	12/28/21 12:24	PQS1	ECL 1
Total/NA	Analysis	608.3		1			204446	12/29/21 15:28	UJ3K	ECL 1
	Instrument ID: GC44									
Total/NA	Prep	608			1500 mL	1.0 mL	203919	12/28/21 12:24	PQS1	ECL 1
Total/NA	Analysis	608.3		1			204995	01/04/22 01:09	UHHN	ECL 1
	Instrument ID: GC58									
Total/NA	Analysis	218.6		10			204051	12/28/21 14:19	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	300.0		5			203940	12/28/21 06:30	URMH	ECL 1
	Instrument ID: IC10									
Total/NA	Analysis	300.0		5			203941	12/28/21 06:30	URMH	ECL 1
	Instrument ID: IC10									
Total/NA	Analysis	314.0		10			204101	12/28/21 15:46	URMH	ECL 1
	Instrument ID: IC8									
Total/NA	Analysis	NO2NO3 Calc		1			205165	01/03/22 16:35	URMH	ECL 1
	Instrument ID: IC10									
Total Recoverable	Prep	200.2			25 mL	25 mL	663922	01/07/22 08:10	LZY7	IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664049	01/07/22 18:46	K1UV	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	663886	01/07/22 07:06	LZY7	IRV 2
Total Recoverable	Analysis	200.8		1			664004	01/07/22 11:46	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total/NA	Prep	245.1			20 mL	30 mL	664074	01/10/22 10:10	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664187	01/10/22 18:15	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total Recoverable	Analysis	SM 2340B		1			663948	01/06/22 17:16	P1R	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	180.1		20			664948	01/20/22 10:58	W1BQ	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	218.6 CR3		1			207080	01/12/22 16:10	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	663505	12/29/21 10:13	VY3D	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540D		1	150 mL	1000 mL	663578	12/29/21 12:18	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Prep	Distill/CN			50 mL	50 mL	663989	01/07/22 11:02	GG0B	IRV 2
Total/NA	Analysis	SM 4500 CN E		1			664019	01/07/22 15:12	GG0B	IRV 2
	Instrument ID: Genesys30-5									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-1
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 NH3 G		1	0.8 mL	8.0 mL	664022	01/07/22 12:46	GG0B	IRV 2
Total/NA	Analysis	SM 5310D		1	40 mL	40 mL	208181	01/18/22 13:35	CY2M	ECL 1
	Instrument ID:	TOC12								
Total/NA	Prep	SM 5540C			100 mL	100 mL	204906	12/30/21 22:00	UAPD	ECL 1
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	204896	12/31/21 09:16	UAPD	ECL 1
	Instrument ID:	UV9								
Total/NA	Analysis	SM5210B		1	60 mL	300 mL	204059		ZHU8	ECL 1
	Instrument ID:	BOD2					(Start)	12/28/21 09:42		
							(End)	01/02/22 09:50		

Client Sample ID: Outfall001_20211226_Comp_F
Lab Sample ID: 570-80124-3
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			125 mL	125 mL	663584	12/29/21 14:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663619	12/30/21 07:56	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			663658	12/30/21 14:30	K1UV	IRV 2
	Instrument ID:	ICP8								
Dissolved	Filtration	FILTRATION			125 mL	125 mL	663584	12/29/21 14:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663593	12/29/21 16:21	LZY7	IRV 2
Dissolved	Analysis	200.8		1			663652	12/30/21 12:57	Y2WS	IRV 2
	Instrument ID:	ICPMS6								
Dissolved	Filtration	Filtration			50 mL	50 mL	208358	01/19/22 17:49	UIAS	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	208361	01/19/22 17:58	VWJ7	ECL 4
Dissolved	Analysis	245.1		1			208671	01/20/22 19:49	VWJ7	ECL 1
	Instrument ID:	HG7								
Dissolved	Analysis	SM 2340B		1			663736	01/06/22 17:20	P1R	IRV 2
	Instrument ID:	NOEQUIP								

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

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

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-1
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

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

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-1
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Method	Method Description	Protocol	Laboratory
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	ECL 2
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	40CFR136A	ECL 1
608.3	Organochlorine Pesticides in Water	40CFR136A	ECL 1
608.3	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	ECL 1
218.6	Chromium, Hexavalent (Ion Chromatography)	EPA	ECL 1
300.0	Anions, Ion Chromatography	MCAWW	ECL 1
314.0	Perchlorate (IC)	EPA	ECL 1
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	ECL 1
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	ECL 1
245.1	Mercury (CVAA)	EPA	IRV 2
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	IRV 2
180.1	Turbidity, Nephelometric	MCAWW	IRV 2
218.6 CR3	Chromium, Trivalent (Calculation)	EPA	ECL 1
SM 2540C	Solids, Total Dissolved (TDS)	SM	IRV 2
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 2
SM 4500 CN E	Cyanide, Total (Low Level)	SM	IRV 2
SM 4500 NH3 G	Ammonia	SM	IRV 2
SM 5310D	Organic Carbon, Total (TOC)	SM	ECL 1
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	ECL 1
SM5210B	BOD, 5 Day	SM	ECL 1
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	ECL 4
245.1	Preparation, Mercury	EPA	IRV 2
5030C	Purge and Trap	SW846	ECL 2
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	ECL 1
625	Liquid-Liquid Extraction	40CFR136A	ECL 1
Distill/CN	Distillation, Cyanide	None	IRV 2
Filtration	Sample Filtration	None	ECL 4
FILTRATION	Sample Filtration	None	IRV 2
SM 5540C	Preparation, Methylene Blue Active Substances (MBAS)	SM	ECL 1

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

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

Job ID: 570-80124-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80124-1	Outfall001_20211226_Comp	Water	12/26/21 08:30	12/27/21 17:35
570-80124-3	Outfall001_20211226_Comp_F	Water	12/26/21 08:30	12/27/21 17:35

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80124 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp
Eurofins Calscience Irvine Contact: Virendra Patel EC#44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R/A Total Recoverable Metals (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R TCDD (and all congeners) (E1613B)	R BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	R Surfactants (MBAS) (SM5540C/E425.1)	R/A Cl, F, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	R Turbidity TDS (SM2540C/E180.1)	R TSS (160.2 (SM2540D))	R Ammonia-N (E350.2)	A Priority Pollutants-Pesticides+PCBs (E608)	A Priority Pollutants-SVOCs (E625)	R Total Recoverable Metals: Mercury (E245.1)	Comments
Outfall 001	Outfall001_20211226_Comp	12/26/2021 1030	WM	500 mL Poly	1	HNO_3	80	No	X										
			WM	1 L Glass Amber	2	None	110	No		X									
			WM	1 L Poly	1	None	115	No			X								
			WM	500 mL Poly	2	None	120	No				X							
			WM	500 mL Poly	2	None	125	No					X						48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X					48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X			
			WM	1 L Glass Amber	2	None	250	No									X		
			WM	1 L Glass Amber	2	None	175	No										X	
			WM	1 L Poly	1	None	185	No							X				
	Outfall001_20211226_Comp_Extra	12/26/2021 0830	WM	1 L Glass Amber	2	None	110	No		H									Hold
			WM	500 mL Poly	2	None	120	No				H							Hold
			WM	500 mL Poly	2	None	125	No					H						Hold
			WM	1 L Glass Amber	2	None	250	No									H		Hold
			WM	1 L Glass Amber	2	None	175	No										H	Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company	Received By	Date/Time:
[signature]	12/27/2021 1445	H.A	[signature] EG	12/27/21 1445
[signature]	12/27/21 1735		[signature]	12/27/21 1735

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

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

2.2|3.1, 2.7|3.6, 1.9|2.8 & SCS

Page 60 of 69

1/24/2022

2019-2020 Rainy Season
Version 5

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

									R/A	R	R	R	A	A	A	A	R	QRSW	
Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108					Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011 018] Outfall 001 Comp				ANALYSIS REQUIRED										
Eurofins Calscience Irvine Contact: Virendra Patel ECI#44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218									Total Dissolved Metals. (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8) Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0) Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura CA	1 4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/EDV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals Mercury (E245.1)	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Comments
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.					Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)														
Sampler: MARK DOMINICK					Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)														
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD											
Outfall 001	Outfall001_20211226_Comp_F	12/26/2021 1083	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall001_20211226_Comp	12/26/2021 0930 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No			X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~										X	Extract within 24-Hours of sampling at Weck Labs at OE001.002.011 or 018.
	Outfall001_20211226_Comp_Extra	12/26/2021 0830	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	2	None	255	No							H				Hold

Legend A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12/27/2021 1445	H:A	[signature]	ECI 12/27/21 1445
[signature]	12/27/21 1735		[signature]	12/27/21 1735

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

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

Hand-delivered to ABC Labs by H:A

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147895 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80124-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/25/2022			
City: Earth City	TAT Requested (days):			
State Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08.30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

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

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

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/28/21 1252				
2						
3						

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

Ver 06/08/2021

1/24/2022

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147926 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80124-2
Address: 880 Riverside Parkway,	Due Date Requested: 1/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605	PO #:			
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfalls	SSOW#:			
Site				

Preservation Codes

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

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08 30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L, Use Boeing glassware
Outfall001_20211226_Comp_Extra (570-80124-2)	12/26/21	08 30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero ug/L, Use Boeing glassware

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

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

Empty Kit Relinquished by	Date	Time:	Method of Shipment:

Relinquished by:	Date/Time: 12/28/21 1500	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

1/24/2022

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-147943 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80124-2
Address: 14859 E Clark Avenue ,	Due Date Requested: 1/11/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08 30 Pacific		Water			X		1	Level IV needed
Outfall001_20211226_Comp_Extra (570-80124-2)	12/26/21	08 30 Pacific		Water				X	1	Level IV needed

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

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

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
1		12/28/21 1615				
2	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
3	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company

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

Ver 06/08/2021

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80124-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 200.7 Outfall 001/002/011 Totals List	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	245.1/245.1_Prep Mercury	180 1/ Turbidity	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	4500_CN_E_LL/Distill_CN	SM5310B/ Organic Carbon, Total (TOC)	200.7/FILTRATION 200.7 Outfall 001/002/011 Diss List	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	245.1/FILTRATION Diss Mercury	Total Number of containers	Special Instructions/Note.
			Preservation Code:																		
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08.30 Pacific		Water			X	X	X	X	X	X	X	X	X	X				6	, use VOA vials from LL Hg Kit-Clean Hands procedure.
Outfall001_20211226_Comp_F (570-80124-3)	12/26/21	08 30 Pacific		Water													X	X	X	3	Filter w/in 24 hours, Filter within 24 hours, use VOA vials from LL Hg Kit-Clean Hands

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

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements: TR-89 1.4/1.4

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
1		12/28/21	G-			
2	Relinquished by:	Date/Time:	Company	Received by: Olga Olmedo	Date/Time: 12/28/21 1752	Company: ECLT
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

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

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147901 2
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80124-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2340B/Filtration_AC Diss hardness	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08.30 Pacific		Water				6	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall001_20211226_Comp_F (570-80124-3)	12/26/21	08 30 Pacific		Water			X	3	Filter w/in 24 hours Filter within 24 hours use VOA vials from LL Hg Kit-Clean Hands

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements: IR-89 1.4/1 4

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
	12/28/21	EC			
Relinquished by:	Date/Time	Company	Received by: Olga Omelas	Date/Time 12/28/21 1752	Company ECLT
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

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

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 440-177693 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80124-1
Address: 7440 Lincoln Way	Due Date Requested: 1/10/2022			
City: Garden Grove	TAT Requested (days):			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/ CL, SO4, F	300_ORGFMS/ Nitrate + Nitrite as N	NO2NO3_Calc_IC/ Nitrate-Nitrite as N	314.0/ Perchlorate	608.3_PCB_LL/608_Prep_PCB_LL PCBs	608.3_Pest_LL/608_Prep_LL Pesticides	625.1_SIM/625_Prep Priority pollutant list	8260B_SIM/5030C (MOD) 1,4-Dioxane only	218.6_CR3/ Trivalent Chromium	218.6_ORGFM/ Chromium, Hexavalent	SM5210B_BODCalc/ Biological Oxygen Demand - 5 Day	5540C/5540C_Prep Methylene Blue Active Substances (MBAS)	SM5310D/ Total Organic Carbon	Total Number of containers	Special Instructions/Note
			Preservation Code:																		
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08 30 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X	X	X	1	

Preservation Codes

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

Other:

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

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

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by:	1/17/22	ECT		1/17/22 1446	ECL
Relinquished by:	1/17/22 1427	ECL		1-17-2022 14:27	ECL
Relinquished by:					

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: 570-80124-1

Login Number: 80124
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: 570-80124-1

Login Number: 80124
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 12/29/21 09:18 AM

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

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80124-2
Client Project/Site: Boeing NPDES SSFL Outfall - 001 Comp
Revision: 1

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

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/9/2022 6:50:33 PM

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

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Client Sample Results 6
Surrogate Summary 9
Isotope Dilution Summary 10
QC Sample Results 12
QC Association Summary 16
Lab Chronicle 17
Certification Summary 18
Method Summary 19
Sample Summary 20
Subcontract Data 21
Chain of Custody 38
Receipt Checklists 47

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80124-2
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

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

Client: Haley & Aldrich, Inc. Job ID: 570-80124-2
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Job ID: 570-80124-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80124-2

Comments
No additional comments.

Receipt
The samples were received on 12/27/2021 5:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.8º C, 3.1º C and 3.6º C.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 10D5 exceeded this criteria: (CCV 320-557344/2), (LCS 320-555916/2-A), (LCSD 320-555916/3-A) and (MB 320-555916/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 10D5 exceeded this criteria: Outfall001_20211226_Comp (570-80124-1) and (CCV 320-557869/16). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: Outfall001_20211226_Comp (570-80124-1), (CCV 320-557644/2) and (MB 320-555916/1-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.

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

Subcontract Work
Method Chronic-Selenestrum: This method was subcontracted to Aquatic Bioassay & Consulting. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

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

Job ID: 570-80124-2

Client Sample ID: Outfall001_20211226_Comp

Lab Sample ID: 570-80124-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.00000045	J,DX q	0.000052	0.00000036	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000021	J,DX q MB	0.000052	0.00000041	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000026	J,DX	0.000052	0.00000042	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000018	J,DX	0.000052	0.00000036	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.00000078	J,DX	0.000052	0.00000030	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000012	J,DX	0.000052	0.00000034	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.00000062	J,DX	0.000052	0.00000030	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.00000056	J,DX	0.000052	0.00000028	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000057	MB	0.000052	0.00000056	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000014	J,DX MB	0.000052	0.00000038	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.00000092	J,DX q MB	0.000052	0.00000043	ug/L	1		1613B	Total/NA
OCDD	0.00061	MB	0.00010	0.00000057	ug/L	1		1613B	Total/NA
OCDF	0.000042	J,DX	0.00010	0.00000041	ug/L	1		1613B	Total/NA
Total TCDD	0.0000040	J,DX MB	0.000010	0.00000037	ug/L	1		1613B	Total/NA
Total TCDF	0.00000056	J,DX MB	0.000010	0.00000018	ug/L	1		1613B	Total/NA
Total PeCDD	0.00000045	J,DX q	0.000052	0.00000036	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000014	J,DX q	0.000052	0.00000033	ug/L	1		1613B	Total/NA
Total HxCDD	0.000014	J,DX q MB	0.000052	0.00000036	ug/L	1		1613B	Total/NA
Total HxCDF	0.000014	J,DX	0.000052	0.00000028	ug/L	1		1613B	Total/NA
Total HpCDD	0.00010	MB	0.000052	0.00000056	ug/L	1		1613B	Total/NA
Total HpCDF	0.000032	J,DX q MB	0.000052	0.00000038	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

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

Client Sample ID: Outfall001_20211226_Comp
Date Collected: 12/26/21 08:30
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80124-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000037	ug/L		01/04/22 13:59	01/14/22 05:18	1
1,2,3,7,8-PeCDD	**0.00000045**	**J,DX q**	0.000052	0.00000036	ug/L		01/04/22 13:59	01/14/22 05:18	1
1,2,3,7,8-PeCDF	ND		0.000052	0.00000034	ug/L		01/04/22 13:59	01/14/22 05:18	1
2,3,4,7,8-PeCDF	ND		0.000052	0.00000033	ug/L		01/04/22 13:59	01/14/22 05:18	1
1,2,3,4,7,8-HxCDD	**0.0000021**	**J,DX q MB**	0.000052	0.00000041	ug/L		01/04/22 13:59	01/14/22 05:18	1
1,2,3,6,7,8-HxCDD	**0.0000026**	**J,DX**	0.000052	0.00000042	ug/L		01/04/22 13:59	01/14/22 05:18	1
1,2,3,7,8,9-HxCDD	**0.0000018**	**J,DX**	0.000052	0.00000036	ug/L		01/04/22 13:59	01/14/22 05:18	1
1,2,3,4,7,8-HxCDF	**0.00000078**	**J,DX**	0.000052	0.00000030	ug/L		01/04/22 13:59	01/14/22 05:18	1
1,2,3,6,7,8-HxCDF	**0.0000012**	**J,DX**	0.000052	0.00000034	ug/L		01/04/22 13:59	01/14/22 05:18	1
1,2,3,7,8,9-HxCDF	**0.00000062**	**J,DX**	0.000052	0.00000030	ug/L		01/04/22 13:59	01/14/22 05:18	1
2,3,4,6,7,8-HxCDF	**0.00000056**	**J,DX**	0.000052	0.00000028	ug/L		01/04/22 13:59	01/14/22 05:18	1
1,2,3,4,6,7,8-HpCDD	**0.000057**	**MB**	0.000052	0.00000056	ug/L		01/04/22 13:59	01/14/22 05:18	1
1,2,3,4,6,7,8-HpCDF	**0.000014**	**J,DX MB**	0.000052	0.00000038	ug/L		01/04/22 13:59	01/14/22 05:18	1
1,2,3,4,7,8,9-HpCDF	**0.00000092**	**J,DX q MB**	0.000052	0.00000043	ug/L		01/04/22 13:59	01/14/22 05:18	1
OCDD	**0.00061**	**MB**	0.00010	0.00000057	ug/L		01/04/22 13:59	01/14/22 05:18	1
OCDF	**0.000042**	**J,DX**	0.00010	0.00000041	ug/L		01/04/22 13:59	01/14/22 05:18	1
Total TCDD	**0.0000040**	**J,DX MB**	0.000010	0.00000037	ug/L		01/04/22 13:59	01/14/22 05:18	1
Total TCDF	**0.00000056**	**J,DX MB**	0.000010	0.00000018	ug/L		01/04/22 13:59	01/14/22 05:18	1
Total PeCDD	**0.00000045**	**J,DX q**	0.000052	0.00000036	ug/L		01/04/22 13:59	01/14/22 05:18	1
Total PeCDF	**0.0000014**	**J,DX q**	0.000052	0.00000033	ug/L		01/04/22 13:59	01/14/22 05:18	1
Total HxCDD	**0.000014**	**J,DX q MB**	0.000052	0.00000036	ug/L		01/04/22 13:59	01/14/22 05:18	1
Total HxCDF	**0.000014**	**J,DX**	0.000052	0.00000028	ug/L		01/04/22 13:59	01/14/22 05:18	1
Total HpCDD	**0.00010**	**MB**	0.000052	0.00000056	ug/L		01/04/22 13:59	01/14/22 05:18	1
Total HpCDF	**0.000032**	**J,DX q MB**	0.000052	0.00000038	ug/L		01/04/22 13:59	01/14/22 05:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*69*		*25 - 164*	*01/04/22 13:59*	*01/14/22 05:18*	*1*
13C-2,3,7,8-TCDF	*70*		*24 - 169*	*01/04/22 13:59*	*01/14/22 05:18*	*1*
13C-1,2,3,7,8-PeCDD	*70*		*25 - 181*	*01/04/22 13:59*	*01/14/22 05:18*	*1*
13C-1,2,3,7,8-PeCDF	*66*		*24 - 185*	*01/04/22 13:59*	*01/14/22 05:18*	*1*
13C-2,3,4,7,8-PeCDF	*75*		*21 - 178*	*01/04/22 13:59*	*01/14/22 05:18*	*1*
13C-1,2,3,4,7,8-HxCDD	*81*		*32 - 141*	*01/04/22 13:59*	*01/14/22 05:18*	*1*

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

Client Sample ID: Outfall001_20211226_Comp **Lab Sample ID: 570-80124-1**
Date Collected: 12/26/21 08:30 **Matrix: Water**
Date Received: 12/27/21 17:35

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDD	74		28 - 130	01/04/22 13:59	01/14/22 05:18	1
13C-1,2,3,4,7,8-HxCDF	80		26 - 152	01/04/22 13:59	01/14/22 05:18	1
13C-1,2,3,6,7,8-HxCDF	71		26 - 123	01/04/22 13:59	01/14/22 05:18	1
13C-1,2,3,7,8,9-HxCDF	71		29 - 147	01/04/22 13:59	01/14/22 05:18	1
13C-2,3,4,6,7,8-HxCDF	74		28 - 136	01/04/22 13:59	01/14/22 05:18	1
13C-1,2,3,4,6,7,8-HpCDD	76		23 - 140	01/04/22 13:59	01/14/22 05:18	1
13C-1,2,3,4,6,7,8-HpCDF	70		28 - 143	01/04/22 13:59	01/14/22 05:18	1
13C-1,2,3,4,7,8,9-HpCDF	83		26 - 138	01/04/22 13:59	01/14/22 05:18	1
13C-OCDD	85		17 - 157	01/04/22 13:59	01/14/22 05:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	87		35 - 197	01/04/22 13:59	01/14/22 05:18	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-2
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

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

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000071	ug/L		01/04/22 13:59	01/12/22 13:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*71*		*24 - 169*	*01/04/22 13:59*	*01/12/22 13:35*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*91*		*35 - 197*	*01/04/22 13:59*	*01/12/22 13:35*	*1*

Surrogate Summary

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

Job ID: 570-80124-2

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)**
570-80124-1 - RA	Outfall001_20211226_Comp	91
570-80124-1	Outfall001_20211226_Comp	87
MB 320-555916/1-A	Method Blank	90
MB 320-555916/1-A - RA	Method Blank	92

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	**Client Sample ID**	**37TCDD (31-191)**
LCS 320-555916/2-A	Lab Control Sample	90
LCSD 320-555916/3-A	Lab Control Sample Dup	87

Surrogate Legend

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

Isotope Dilution Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80124-2
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

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

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-80124-1 - RA	Outfall001_20211226_Comp		71						
570-80124-1	Outfall001_20211226_Comp	69	70	70	66	75	81	74	80
MB 320-555916/1-A	Method Blank	52	54	51	50	57	53	59	56
MB 320-555916/1-A - RA	Method Blank		54						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-80124-1 - RA	Outfall001_20211226_Comp							
570-80124-1	Outfall001_20211226_Comp	71	71	74	76	70	83	85
MB 320-555916/1-A	Method Blank	56	50	55	48	48	53	48
MB 320-555916/1-A - RA	Method Blank							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

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

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-555916/2-A	Lab Control Sample	67	68	66	64	74	71	79	75
LCSD 320-555916/3-A	Lab Control Sample Dup	59	63	59	59	65	71	71	71

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-555916/2-A	Lab Control Sample	73	67	72	74	70	79	80
LCSD 320-555916/3-A	Lab Control Sample Dup	71	65	69	71	67	80	78

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-2
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

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

Lab Sample ID: MB 320-555916/1-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 555916

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000050	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000032	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000036	ug/L		01/04/22 13:59	01/11/22 14:39	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000033	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,4,7,8-HxCDD	0.00000183	J,DX q	0.000050	0.00000026	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.00000028	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.00000024	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.00000018	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.00000019	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,7,8,9-HxCDF	ND		0.000050	0.00000021	ug/L		01/04/22 13:59	01/11/22 14:39	1
2,3,4,6,7,8-HxCDF	ND		0.000050	0.00000017	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,4,6,7,8-HpCDD	0.00000158	J,DX q	0.000050	0.00000024	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,4,6,7,8-HpCDF	0.000000872	J,DX q	0.000050	0.00000024	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,4,7,8,9-HpCDF	0.000000423	J,DX q	0.000050	0.00000030	ug/L		01/04/22 13:59	01/11/22 14:39	1
OCDD	0.00000603	J,DX	0.00010	0.00000038	ug/L		01/04/22 13:59	01/11/22 14:39	1
OCDF	ND		0.00010	0.00000044	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total TCDD	0.00000504	J,DX q	0.000010	0.00000050	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total TCDF	0.000000609	J,DX	0.000010	0.00000018	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total PeCDD	ND		0.000050	0.00000039	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total PeCDF	ND		0.000050	0.00000036	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total HxCDD	0.00000183	J,DX q	0.000050	0.00000026	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total HxCDF	ND		0.000050	0.00000021	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total HpCDD	0.00000350	J,DX q	0.000050	0.00000024	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total HpCDF	0.00000129	J,DX q	0.000050	0.00000027	ug/L		01/04/22 13:59	01/11/22 14:39	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*52*		*25 - 164*	*01/04/22 13:59*	*01/11/22 14:39*	*1*
13C-2,3,7,8-TCDF	*54*		*24 - 169*	*01/04/22 13:59*	*01/11/22 14:39*	*1*
13C-1,2,3,7,8-PeCDD	*51*		*25 - 181*	*01/04/22 13:59*	*01/11/22 14:39*	*1*
13C-1,2,3,7,8-PeCDF	*50*		*24 - 185*	*01/04/22 13:59*	*01/11/22 14:39*	*1*

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

Lab Sample ID: MB 320-555916/1-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 555916

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	57		21 - 178	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,4,7,8-HxCDD	53		32 - 141	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,6,7,8-HxCDD	59		28 - 130	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,4,7,8-HxCDF	56		26 - 152	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,6,7,8-HxCDF	56		26 - 123	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,7,8,9-HxCDF	50		29 - 147	01/04/22 13:59	01/11/22 14:39	1
13C-2,3,4,6,7,8-HxCDF	55		28 - 136	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,4,6,7,8-HpCDD	48		23 - 140	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,4,6,7,8-HpCDF	48		28 - 143	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,4,7,8,9-HpCDF	53		26 - 138	01/04/22 13:59	01/11/22 14:39	1
13C-OCDD	48		17 - 157	01/04/22 13:59	01/11/22 14:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	90		35 - 197	01/04/22 13:59	01/11/22 14:39	1

Lab Sample ID: LCS 320-555916/2-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 555916

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000203		ug/L		102	67 - 158
2,3,7,8-TCDF	0.000200	0.000210	MB	ug/L		105	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.00102		ug/L		102	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.00104		ug/L		104	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000928		ug/L		93	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000874	MB	ug/L		87	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000917		ug/L		92	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000858		ug/L		86	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000873		ug/L		87	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000967		ug/L		97	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.000972		ug/L		97	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000999		ug/L		100	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000875	MB	ug/L		88	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000897	MB	ug/L		90	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000807	MB	ug/L		81	78 - 138
OCDD	0.00200	0.00167	MB	ug/L		84	78 - 144
OCDF	0.00200	0.00162		ug/L		81	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	67		20 - 175
13C-2,3,7,8-TCDF	68		22 - 152
13C-1,2,3,7,8-PeCDD	66		21 - 227
13C-1,2,3,7,8-PeCDF	64		21 - 192
13C-2,3,4,7,8-PeCDF	74		13 - 328
13C-1,2,3,4,7,8-HxCDD	71		21 - 193
13C-1,2,3,6,7,8-HxCDD	79		25 - 163
13C-1,2,3,4,7,8-HxCDF	75		19 - 202
13C-1,2,3,6,7,8-HxCDF	73		21 - 159

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

Lab Sample ID: LCS 320-555916/2-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 555916

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,7,8,9-HxCDF	67		17 - 205
13C-2,3,4,6,7,8-HxCDF	72		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	74		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	70		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	79		20 - 186
13C-OCDD	80		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	90		31 - 191

Lab Sample ID: LCSD 320-555916/3-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 555916

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000202		ug/L		101	67 - 158	0	50
2,3,7,8-TCDF			0.000200	0.000199	MB	ug/L		100	75 - 158	5	50
1,2,3,7,8-PeCDD			0.00100	0.00105		ug/L		105	70 - 142	2	50
1,2,3,7,8-PeCDF			0.00100	0.00105		ug/L		105	80 - 134	1	50
2,3,4,7,8-PeCDF			0.00100	0.000925		ug/L		92	68 - 160	0	50
1,2,3,4,7,8-HxCDD			0.00100	0.000879	MB	ug/L		88	70 - 164	1	50
1,2,3,6,7,8-HxCDD			0.00100	0.00106		ug/L		106	76 - 134	14	50
1,2,3,7,8,9-HxCDD			0.00100	0.000931		ug/L		93	64 - 162	8	50
1,2,3,4,7,8-HxCDF			0.00100	0.000959		ug/L		96	72 - 134	9	50
1,2,3,6,7,8-HxCDF			0.00100	0.00104		ug/L		104	84 - 130	8	50
1,2,3,7,8,9-HxCDF			0.00100	0.00105		ug/L		105	78 - 130	8	50
2,3,4,6,7,8-HxCDF			0.00100	0.00106		ug/L		106	70 - 156	6	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.00101	MB	ug/L		101	70 - 140	15	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.00102	MB	ug/L		102	82 - 122	13	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000904	MB	ug/L		90	78 - 138	11	50
OCDD			0.00200	0.00196	MB	ug/L		98	78 - 144	16	50
OCDF			0.00200	0.00191		ug/L		95	63 - 170	16	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	59		20 - 175
13C-2,3,7,8-TCDF	63		22 - 152
13C-1,2,3,7,8-PeCDD	59		21 - 227
13C-1,2,3,7,8-PeCDF	59		21 - 192
13C-2,3,4,7,8-PeCDF	65		13 - 328
13C-1,2,3,4,7,8-HxCDD	71		21 - 193
13C-1,2,3,6,7,8-HxCDD	71		25 - 163
13C-1,2,3,4,7,8-HxCDF	71		19 - 202
13C-1,2,3,6,7,8-HxCDF	71		21 - 159
13C-1,2,3,7,8,9-HxCDF	65		17 - 205
13C-2,3,4,6,7,8-HxCDF	69		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	71		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	67		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	80		20 - 186

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

Lab Sample ID: LCSD 320-555916/3-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 555916

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-OCDD	78		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	87		31 - 191

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

Lab Sample ID: MB 320-555916/1-A
Matrix: Water
Analysis Batch: 557644

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 555916

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	ND		0.000010	0.0000018	ug/L		01/04/22 13:59	01/12/22 11:40	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF - RA	54		24 - 169	01/04/22 13:59	01/12/22 11:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD - RA	92		35 - 197	01/04/22 13:59	01/12/22 11:40	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-2
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Specialty Organics

Prep Batch: 555916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	1613B	
570-80124-1 - RA	Outfall001_20211226_Comp	Total/NA	Water	1613B	
MB 320-555916/1-A	Method Blank	Total/NA	Water	1613B	
MB 320-555916/1-A - RA	Method Blank	Total/NA	Water	1613B	
LCS 320-555916/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-555916/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 557344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-555916/1-A	Method Blank	Total/NA	Water	1613B	555916
LCS 320-555916/2-A	Lab Control Sample	Total/NA	Water	1613B	555916
LCSD 320-555916/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	555916

Analysis Batch: 557644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1 - RA	Outfall001_20211226_Comp	Total/NA	Water	1613B	555916
MB 320-555916/1-A - RA	Method Blank	Total/NA	Water	1613B	555916

Analysis Batch: 557869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	1613B	555916

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-2
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1

Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			963.2 mL	20.0 uL	555916	01/04/22 13:59	CGB	TAL SAC
Total/NA	Analysis	1613B		1			557869	01/14/22 05:18	GRB	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		963.2 mL	20.0 uL	555916	01/04/22 13:59	CGB	TAL SAC
Total/NA	Analysis	1613B	RA	1			557644	01/12/22 13:35	DB	TAL SAC
	Instrument ID: 11D2									

Laboratory References:

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

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-2
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Laboratory: Eurofins Sacramento

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Kansas	NELAP	E-10375	02-28-22
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-18-22
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-22
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

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

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-2
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
EPA	Bioassay	EPA	Aquatic
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

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

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-2
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80124-1	Outfall001_20211226_Comp	Water	12/26/21 08:30	12/27/21 17:35

aquatic bioassay & consulting laboratories, inc

January 26, 2022

Mr. Virendra Patel
Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841-1432

Dear Mr. Patel:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013.* Results were as follows:

CLIENT:	Eurofins Calscience
SAMPLE I.D.:	Outfall 001
DATE RECEIVED:	27 Dec - 2021
ABC LAB. NO.:	CSE1221.235

CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY

IWC = 100.00 %

TST RESULT

GROWTH = PASS % EFFECT = -1.25 %

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	20-3559-9889	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	28 Dec-21 17:50	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	01 Jan-22 15:50	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	94h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	5d
Sample ID:	15-5615-1988	**Code:**	CSE1221.235	**Project:**	Boeing-SSFL NPDES		
Sample Date:	26 Dec-21 08:30	**Material:**	Sample Water	**Source:**	Bioassay Report		
Receipt Date:	27 Dec-21 16:20	**CAS (PC):**		**Station:**	Outfall 001		
Sample Age:	57h (0.5 °C)	**Client:**	Eurofins Calscience				

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result	S
05-6338-0073	Cell Density	TST-Welch's t Test	0.0001	100% passed cell density	1

Test Acceptability

				TAC Limits			
Analysis ID	**Endpoint**	**Attribute**	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
05-6338-0073	Cell Density	Control CV	0.03237	<<	0.2	Yes	Passes Criteria
05-6338-0073	Cell Density	Control Resp	1.16E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	8	1.157E+6	1.126E+6	1.188E+6	1.107E+6	1.219E+6	1.324E+4	3.744E+4	3.24%	0.00%
100		8	1.171E+6	1.068E+6	1.275E+6	1.040E+6	1.322E+6	4.369E+4	1.236E+5	10.55%	-1.25%

Cell Density Detail — MD5: AEF3DED07A9C8F62E680A10E7BAD552A

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.156E+6	1.203E+6	1.133E+6	1.107E+6	1.130E+6	1.150E+6	1.219E+6	1.157E+6
100		1.067E+6	1.322E+6	1.270E+6	1.040E+6	1.057E+6	1.314E+6	1.073E+6	1.228E+6

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	05-6338-0073	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:31	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:	23 Jan-22 16:29	**MD5 Hash:**	BE851C437D9565CD86A437068A77EAA5	**Editor ID:**	000-189-126-0
Batch ID:	20-3559-9889	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	28 Dec-21 17:50	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	01 Jan-22 15:50	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	94h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 5d
Sample ID:	15-5615-1988	**Code:**	CSE1221.235	**Project:**	Boeing-SSFL NPDES
Sample Date:	26 Dec-21 08:30	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	27 Dec-21 16:20	**CAS (PC):**		**Station:**	Outfall 001
Sample Age:	57h (0.5 °C)	**Client:**	Eurofins Calscience		

Data Transform	Alt Hyp	TST_b	Comparison Result
Untransformed	C*b < T	0.75	100% passed cell density endpoint

TST-Welch's t Test

Control	vs	Conc-%	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:25%)
Negative Control		100*	6.779	0.7111	7	CDF	0.0001	Non-Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.03237	<<	0.2	Yes	Passes Criteria
Control Resp	1.16E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	841000000	841000000	1	0.1009	0.7554	Non-Significant Effect
Error	1.167E+11	8.335E+09	14			
Total	1.175E+11		15			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Levene Equality of Variance Test	39.53	8.862	2.0E-05	Unequal Variances
	Mod Levene Equality of Variance Test	29.19	8.862	9.3E-05	Unequal Variances
	Variance Ratio F Test	10.89	8.885	0.0054	Unequal Variances
Distribution	Anderson-Darling A2 Test	0.2819	3.878	0.6675	Normal Distribution
	D'Agostino Skewness Test	0.3716	2.576	0.7102	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1244	0.2471	0.8211	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9544	0.8408	0.5627	Normal Distribution

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	8	1.157E+6	1.126E+6	1.188E+6	1.153E+6	1.107E+6	1.219E+6	1.324E+4	3.24%	0.00%
100		8	1.171E+6	1.068E+6	1.275E+6	1.150E+6	1.040E+6	1.322E+6	4.369E+4	10.55%	-1.25%

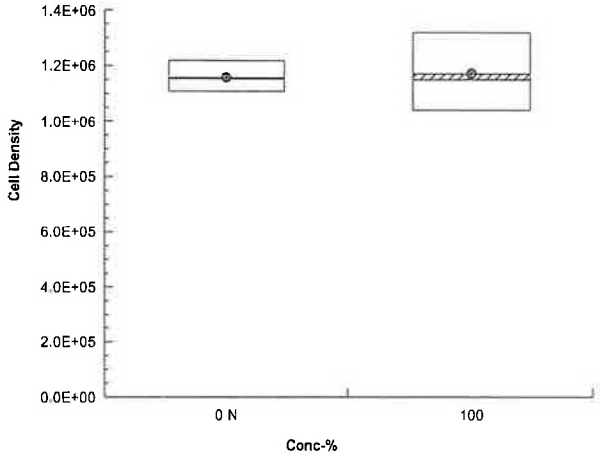
Cell Density Detail

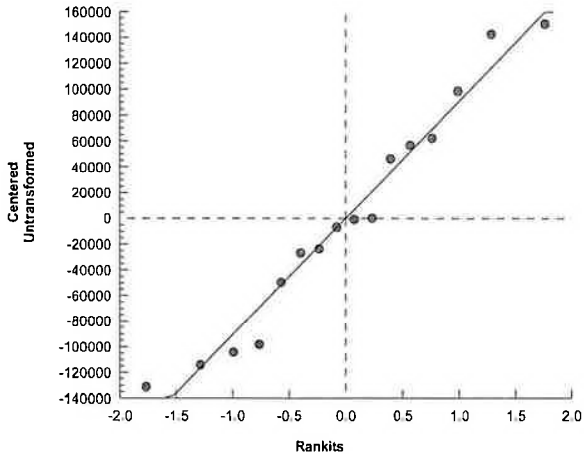
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.156E+6	1.203E+6	1.133E+6	1.107E+6	1.130E+6	1.150E+6	1.219E+6	1.157E+6
100		1.067E+6	1.322E+6	1.270E+6	1.040E+6	1.057E+6	1.314E+6	1.073E+6	1.228E+6

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	05-6338-0073	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:31	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:	23 Jan-22 16:29	**MD5 Hash:**	BE851C437D9565CD86A437068A77EAA5	**Editor ID:**	000-189-126-0

Graphics





Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	20-3559-9889	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	28 Dec-21 17:50	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	01 Jan-22 15:50	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	94h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	5d

Sample ID:	15-5615-1988	**Code:**	CSE1221.235	**Project:**	Boeing-SSFL NPDES		
Sample Date:	26 Dec-21 08:30	**Material:**	Sample Water	**Source:**	Bioassay Report		
Receipt Date:	27 Dec-21 16:20	**CAS (PC):**		**Station:**	Outfall 001		
Sample Age:	57h (0.5 °C)	**Client:**	Eurofins Calscience				

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	62	---	---	62	62	---	0	---	0
100		1	32	---	---	32	32	---	0	---	0
Overall		2	47	-143.6	237.6	32	62	15	21.21	45.13%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	450.4	440.4	460.4	437	458	1.616	8.081	1.79%	0
100		5	270.8	258.1	283.5	253	277	2.051	10.26	3.79%	0
Overall		10	360.6	292.6	428.6	253	458	30.06	95.06	26.36%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	100	---	---	100	100	---	0	---	0
100		1	68	---	---	68	68	---	0	---	0
Overall		2	84	-119.3	287.3	68	100	16	22.63	26.94%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	8.14	7.998	8.282	8	8.3	0.0228	0.114	1.40%	0
100		5	8	7.519	8.481	7.6	8.5	0.07746	0.3873	4.84%	0
Overall		10	8.07	7.87	8.27	7.6	8.5	0.08825	0.2791	3.46%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.08	24.94	25.22	25	25.2	0.02191	0.1095	0.44%	0
100		5	25.06	24.95	25.17	25	25.2	0.01789	0.08943	0.36%	0
Overall		10	25.07	25	25.14	25	25.2	0.03	0.09487	0.38%	0 (0%)

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		62					
100				32					

Conductivity-µmhos

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		437					
100				253					
0	N	2		450					
100				271					
0	N	3		458					
100				277					
0	N	4		455					
100				276					
0	N	5		452					
100				277					

Hardness (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		100					
100				68					

pH-Units

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		8.3					
100				8.5					
0	N	2		8.2					
100				8.3					
0	N	3		8.1					
100				7.6					
0	N	4		8.1					
100				7.7					
0	N	5		8					
100				7.9					

Temperature-°C

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		25					
100				25					
0	N	2		25					
100				25					
0	N	3		25					
100				25					
0	N	4		25.2					
100				25.1					
0	N	5		25.2					
100				25.2					

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

2/9/2022 (Rev. 1)

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **EC#44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	Project Manager: Katherine Miller 520.269.8606, 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: MARK DOMINICK	

									ANALYSIS REQUIRED															
									R/A	R	R	R	A	A	A	A	R	QRSW					
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW6315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals: Mercury (E245.1)	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Comments
Outfall 001	Outfall001_20211226_Comp_F	12/26/2021 1083	WM	1 L Poly	1	None	190	No	X															Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X							Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall001_20211226_Comp	12/26/2021 * 0930	WM	500 mL Poly	1	NaOH	220	No		X														
			WM	2.5 Gal Cube	1	None	225	No																
			WM	1 L Glass Amber	1	None	230	No			X													Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 Gal Cube	6	None	235	No				X												Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X											
			WM	1 L Glass Amber	1	HCl	245	No						X										
			WM	8 oz. glass amber	1	H_2SO_4	255	No								X								
			WM	500 mL Poly	1	None	260	No										X						
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~																~~Extract within 24 Hours of sampling at Weck Labs~~ at OF001,002,011, or 018
	Outfall001_20211226_Comp_Extra	12/26/2021 0830	WM	40 mL VOA	3	HCl	240	No					H											Hold
			WM	1 L Glass Amber	2	None	265	No								H								Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By: 12-27-2021 1620	Date/Time:	Company: HHA	Received By: Victor Moy	Date/Time: 12/27/21 1620	Turn-around time: (Check) 24 Hour: ____ 72 Hour: ____ 10 Day: __X__ 48 Hour: ____ 5 Day: ____ Normal: ____
Relinquished By	Date/Time:	Company:	Received By	Date/Time: -2.5	Sample integrity: (Check) Intact: ____ On Ice: ____
Relinquished By	Date/Time:	Company:	Received By: Temp. deg. C = 0.5	Date/Time:	Store samples for 6 months. Data Requirements: (Check) No Level IV: ____ All Level IV: __X__

Hand-delivered to ABC Labs by HHA

Chlorine (mg/L) = <0.1

MBAS (mg/L) = <0.1

aquatic bioassay consulting laboratories, inc

CHRONIC SELENASTRUM GROWTH BIOASSAY

DATE: 1 December - 2021

STANDARD TOXICANT: Cadmium Chloride

NOEC = 40.00 ug/l

IC25 = 80.10 ug/l
IC50 = >180.00 ug/l

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 22 Dec-21 10:29 (p 1 of 1)
Test Code/ID: SEL120121 / 12-8398-6744

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX		
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant		
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX		
Sample Age:	---	**Client:**	Internal Lab				

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	S
12-9938-5833	Cell Density	Steel Many-One Rank Sum Test		40	80	56.57	20.9%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	µg/L	95% LCL	95% UCL	S
05-8956-0180	Cell Density	Linear Interpolation (ICPIN)		IC10	38.71	19.34	68.85	1
				IC15	52.07	16.61	76.06	
				IC20	66.06	13.49	90.22	
				IC25	80.1	10.35	112.7	
				IC40	151.3	133.7	175.1	
				IC50	>180	---	---	

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
05-8956-0180	Cell Density	Control CV	0.05263	<<	0.2	Yes	Passes Criteria
12-9938-5833	Cell Density	Control CV	0.05263	<<	0.2	Yes	Passes Criteria
05-8956-0180	Cell Density	Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria
12-9938-5833	Cell Density	Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.713E+6	1.570E+6	1.856E+6	1.597E+6	1.814E+6	4.508E+4	9.015E+4	5.26%	0.00%
20		4	1.859E+6	1.635E+6	2.082E+6	1.689E+6	2.023E+6	7.027E+4	1.405E+5	7.56%	-8.51%
40		4	1.595E+6	8.516E+5	2.338E+6	8.980E+5	1.869E+6	2.336E+5	4.672E+5	29.29%	6.89%
80		4	1.340E+6	1.213E+6	1.466E+6	1.235E+6	1.428E+6	3.976E+4	7.952E+4	5.94%	21.79%
140		4	1.132E+6	1.037E+6	1.226E+6	1.092E+6	1.219E+6	2.971E+4	5.941E+4	5.25%	33.95%
180		4	9.200E+5	7.681E+5	1.072E+6	7.860E+5	9.900E+5	4.774E+4	9.549E+4	10.38%	46.29%

Cell Density Detail — MD5: A31AFF07134985287B29E5F730798522

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.738E+6	1.597E+6	1.703E+6	1.814E+6
20		1.903E+6	1.689E+6	1.820E+6	2.023E+6
40		1.854E+6	1.759E+6	8.980E+5	1.869E+6
80		1.342E+6	1.428E+6	1.235E+6	1.354E+6
140		1.092E+6	1.118E+6	1.097E+6	1.219E+6
180		9.870E+5	9.900E+5	9.170E+5	7.860E+5

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	12-9938-5833	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0
Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	40	80	56.57	---	357800	20.89%

Steel Many-One Rank Sum Test

Control	vs	Conc-µg/L	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		20	23	10	0	6	CDF	0.9966	Non-Significant Effect
		40	21	10	0	6	CDF	0.9778	Non-Significant Effect
		80*	10	10	0	6	CDF	0.0417	Significant Effect
		140*	10	10	0	6	CDF	0.0417	Significant Effect
		180*	10	10	0	6	CDF	0.0417	Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.05263	<<	0.2	Yes	Passes Criteria
Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2.594E+12	5.187E+11	5	11.74	3.7E-05	Significant Effect
Error	7.954E+11	4.419E+10	18			
Total	3.389E+12		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	18.46	15.09	0.0024	Unequal Variances
	Levene Equality of Variance Test	4.633	4.248	0.0068	Unequal Variances
	Mod Levene Equality of Variance Test	0.8699	4.248	0.5203	Equal Variances
Distribution	Anderson-Darling A2 Test	1.388	3.878	0.0008	Non-Normal Distribution
	D'Agostino Kurtosis Test	3.63	2.576	0.0003	Non-Normal Distribution
	D'Agostino Skewness Test	3.782	2.576	0.0002	Non-Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	27.48	9.21	<1.0E-05	Non-Normal Distribution
	Kolmogorov-Smirnov D Test	0.2076	0.2056	0.0089	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.7996	0.884	0.0003	Non-Normal Distribution

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.713E+6	1.570E+6	1.856E+6	1.720E+6	1.597E+6	1.814E+6	4.508E+4	5.26%	0.00%
20		4	1.859E+6	1.635E+6	2.082E+6	1.862E+6	1.689E+6	2.023E+6	7.027E+4	7.56%	-8.51%
40		4	1.595E+6	8.516E+5	2.338E+6	1.806E+6	8.980E+5	1.869E+6	2.336E+5	29.29%	6.89%
80		4	1.340E+6	1.213E+6	1.466E+6	1.348E+6	1.235E+6	1.428E+6	3.976E+4	5.94%	21.79%
140		4	1.132E+6	1.037E+6	1.226E+6	1.108E+6	1.092E+6	1.219E+6	2.971E+4	5.25%	33.95%
180		4	9.200E+5	7.681E+5	1.072E+6	9.520E+5	7.860E+5	9.900E+5	4.774E+4	10.38%	46.29%

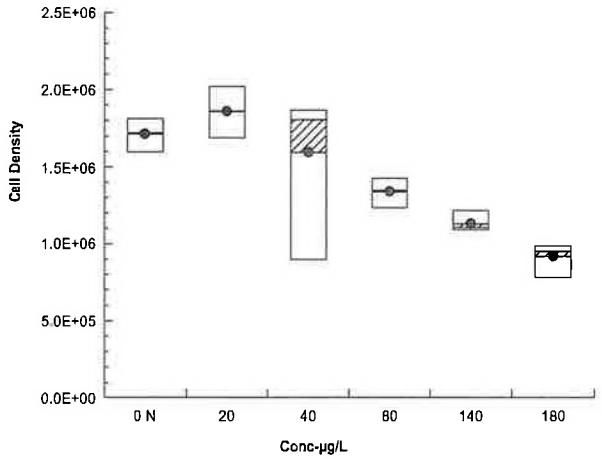
Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

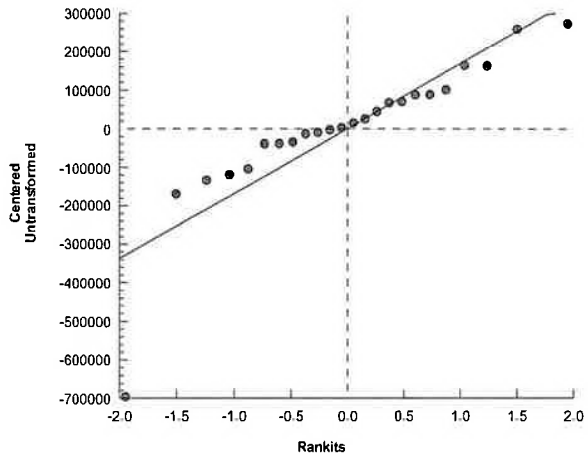
Analysis ID:	12-9938-5833	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0

Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.738E+6	1.597E+6	1.703E+6	1.814E+6
20		1.903E+6	1.689E+6	1.820E+6	2.023E+6
40		1.854E+6	1.759E+6	8.980E+5	1.869E+6
80		1.342E+6	1.428E+6	1.235E+6	1.354E+6
140		1.092E+6	1.118E+6	1.097E+6	1.219E+6
180		9.870E+5	9.900E+5	9.170E+5	7.860E+5

Graphics





Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID:	05-8956-0180	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0
Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.05263	<<	0.2	Yes	Passes Criteria
Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria

Point Estimates

Level	µg/L	95% LCL	95% UCL
IC10	38.71	19.34	68.85
IC15	52.07	16.61	76.06
IC20	66.06	13.49	90.22
IC25	80.1	10.35	112.7
IC40	151.3	133.7	175.1
IC50	>180	---	---

Cell Density Summary

			Calculated Variate						Isotonic Variate	
Conc-µg/L	**Code**	**Count**	**Mean**	**Median**	**Min**	**Max**	**CV%**	**%Effect**	**Mean**	**%Effect**
0	N	4	1.713E+6	1.720E+6	1.597E+6	1.814E+6	5.26%	0.00%	1.786E+6	0.00%
20		4	1.859E+6	1.862E+6	1.689E+6	2.023E+6	7.56%	-8.51%	1.786E+6	0.00%
40		4	1.595E+6	1.806E+6	8.980E+5	1.869E+6	29.29%	6.89%	1.595E+6	10.69%
80		4	1.340E+6	1.348E+6	1.235E+6	1.428E+6	5.94%	21.79%	1.340E+6	24.98%
140		4	1.132E+6	1.108E+6	1.092E+6	1.219E+6	5.25%	33.95%	1.132E+6	36.64%
180		4	9.200E+5	9.520E+5	7.860E+5	9.900E+5	10.38%	46.29%	9.200E+5	48.48%

Cell Density Detail

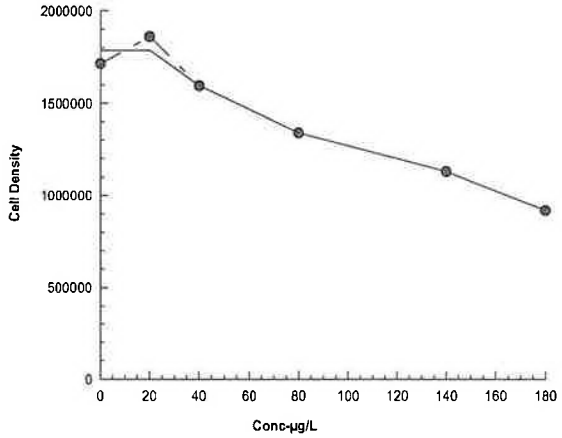
Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.738E+6	1.597E+6	1.703E+6	1.814E+6
20		1.903E+6	1.689E+6	1.820E+6	2.023E+6
40		1.854E+6	1.759E+6	8.980E+5	1.869E+6
80		1.342E+6	1.428E+6	1.235E+6	1.354E+6
140		1.092E+6	1.118E+6	1.097E+6	1.219E+6
180		9.870E+5	9.900E+5	9.170E+5	7.860E+5

Analyst: QA:

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	05-8956-0180	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0

Graphics



Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**		
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water	
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable	
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:** 6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX	
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant	
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX	
Sample Age:	---	**Client:**	Internal Lab			

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	60	---	---	60	60	---	0	---	0
20		1	59	---	---	59	59	---	0	---	0
40		1	64	---	---	64	64	---	0	---	0
80		1	57	---	---	57	57	---	0	---	0
140		1	57	---	---	57	57	---	0	---	0
180		1	60	---	---	60	60	---	0	---	0
Overall		6	59.5	56.78	62.22	57	64	1.057	2.588	4.35%	0 (0%)

Conductivity-µmhos

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	475.2	468.4	482	466	480	1.09	5.45	1.15%	0
20		5	574.6	516	633.2	500	612	9.438	47.19	8.21%	0
40		5	463.6	442.9	484.3	447	482	3.33	16.65	3.59%	0
80		5	432	429	435	429	435	0.4899	2.449	0.57%	0
140		5	412	405.9	418.1	406	418	0.9798	4.899	1.19%	0
180		5	402	391.1	412.9	389	410	1.755	8.775	2.18%	0
Overall		30	459.9	436.9	482.9	389	612	11.23	61.51	13.37%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	115	---	---	115	115	---	0	---	0
20		1	110	---	---	110	110	---	0	---	0
40		1	110	---	---	110	110	---	0	---	0
80		1	115	---	---	115	115	---	0	---	0
140		1	110	---	---	110	110	---	0	---	0
180		1	110	---	---	110	110	---	0	---	0
Overall		6	111.7	109	114.4	110	115	1.054	2.582	2.31%	0 (0%)

pH-Units

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.84	7.516	8.164	7.4	8	0.05215	0.2608	3.33%	0
20		5	8.16	8.018	8.302	8	8.3	0.0228	0.114	1.40%	0
40		5	8.18	8.076	8.284	8.1	8.3	0.01673	0.08367	1.02%	0
80		5	8.18	8.076	8.284	8.1	8.3	0.01673	0.08367	1.02%	0
140		5	8.22	8.164	8.276	8.2	8.3	0.008944	0.04472	0.54%	0
180		5	8.22	8.164	8.276	8.2	8.3	0.008944	0.04472	0.54%	0
Overall		30	8.133	8.067	8.2	7.4	8.3	0.03264	0.1788	2.20%	0 (0%)

Temperature-°C

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
20		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
40		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
80		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
140		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
180		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
Overall		30	25.54	25.42	25.66	25	25.9	0.05825	0.3191	1.25%	0 (0%)

Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		60					
20				59					
40				64					
80				57					
140				57					
180				60					

Conductivity-µmhos

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		466					
20				500					
40				447					
80				429					
140				408					
180				389					
0	N	2		480					
20				556					
40				449					
80				430					
140				406					
180				397					
0	N	3		475					
20				607					
40				460					
80				435					
140				418					
180				410					
0	N	4		477					
20				612					
40				482					
80				433					
140				414					
180				407					
0	N	5		478					
20				598					
40				480					
80				433					
140				414					
180				407					

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		115					
20				110					
40				110					
80				115					
140				110					
180				110					

Selenastrum Growth Test
Aquatic Bioassay & Consulting Labs, Inc.

pH-Units

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.4					
20				8.2					
40				8.2					
80				8.2					
140				8.2					
180				8.2					
0	N	2		7.8					
20				8.2					
40				8.2					
80				8.2					
140				8.2					
180				8.2					
0	N	3		8					
20				8.3					
40				8.3					
80				8.3					
140				8.3					
180				8.3					
0	N	4		8					
20				8.1					
40				8.1					
80				8.1					
140				8.2					
180				8.2					
0	N	5		8					
20				8					
40				8.1					
80				8.1					
140				8.2					
180				8.2					

Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		25					
20				25					
40				25					
80				25					
140				25					
180				25					
0	N	2		25.8					
20				25.8					
40				25.8					
80				25.8					
140				25.8					
180				25.8					
0	N	3		25.9					
20				25.9					
40				25.9					
80				25.9					
140				25.9					
180				25.9					
0	N	4		25.5					
20				25.5					
40				25.5					
80				25.5					
140				25.5					
180				25.5					
0	N	5		25.5					
20				25.5					
40				25.5					
80				25.5					
140				25.5					
180				25.5					

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80124 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp
Eurofins Calscience Irvine Contact: Virendra Patel EC#44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R/A Total Recoverable Metals (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R TCDD (and all congeners) (E1613B)	R BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	R Surfactants (MBAS) (SM5540C/E425.1)	R/A Cl, F, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	R Turbidity TDS (SM2540C/E180.1)	R TSS (160.2 (SM2540D))	R Ammonia-N (E350.2)	A Priority Pollutants-Pesticides+PCBs (E608)	A Priority Pollutants-SVOCs (E625)	R Total Recoverable Metals: Mercury (E245.1)	Comments
Outfall 001	Outfall001_20211226_Comp	12/26/2021 1030	WM	500 mL Poly	1	HNO_3	80	No	X										
			WM	1 L Glass Amber	2	None	110	No		X									
			WM	1 L Poly	1	None	115	No			X								
			WM	500 mL Poly	2	None	120	No				X							
			WM	500 mL Poly	2	None	125	No					X						48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X					48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X			
			WM	1 L Glass Amber	2	None	250	No									X		
			WM	1 L Glass Amber	2	None	175	No										X	
			WM	1 L Poly	1	None	185	No							X				
	Outfall001_20211226_Comp_Extra	12/26/2021 0830	WM	1 L Glass Amber	2	None	110	No		H									Hold
			WM	500 mL Poly	2	None	120	No				H							Hold
			WM	500 mL Poly	2	None	125	No					H						Hold
			WM	1 L Glass Amber	2	None	250	No								H			Hold
			WM	1 L Glass Amber	2	None	175	No									H		Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company	Received By	Date/Time:
[signature]	12/27/2021/1445	H.A	[signature] EG	12/27/21 1445
[signature]	12/27/21 1735		[signature]	12/27/21 1735

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

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

2.2|3.1, 2.7|3 6, 1 9|2 & SCS

2019-2020 Rainy Season
Version 5

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

									R/A	R	R	R	A	A	A	A	R	QRSW	
Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108			Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011 018] Outfall 001 Comp						ANALYSIS REQUIRED										
Eurofins Calscience Irvine Contact: Virendra Patel ECI#44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218									Total Dissolved Metals. (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8) Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0) Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura CA	1 4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/EDV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals Mercury (E245.1)	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Comments
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.			Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)																
Sampler: MARK DOMINICK			Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)																
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD											
Outfall 001	Outfall001_20211226_Comp_F	12/26/2021 1083	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall001_20211226_Comp	12/26/2021 0930 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No			X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~										X	Extract within 24-Hours of sampling at Weck Labs at OE001.002.011 or 018.
	Outfall001_20211226_Comp_Extra	12/26/2021 0830	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	2	None	255	No							H				Hold

Legend A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12/27/2021 1445	H:A	[signature]	ECI 12/27/21 1445
[signature]	12/27/21 1735		[signature]	12/27/21 1735

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

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

Hand-delivered to ABC Labs by H:A

2019-2020 Rainy Season
Version 5

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-147895 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80124-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/25/2022			
City: Earth City	TAT Requested (days):			
State Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08.30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

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

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

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	[signature]	12/28/21 1252				
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

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

Ver 06/08/2021

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147926 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80124-2
Address: 880 Riverside Parkway,	Due Date Requested: 1/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605	PO #:			
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfalls	SSOW#:			
Site				

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08 30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L, Use Boeing glassware
Outfall001_20211226_Comp_Extra (570-80124-2)	12/26/21	08 30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero ug/L, Use Boeing glassware

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

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

Empty Kit Relinquished by	Date	Time:	Method of Shipment:

Relinquished by:	Date/Time: 12/28/21 1500	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 06/08/2021

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-147943 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80124-2
Address: 14859 E Clark Avenue ,	Due Date Requested: 1/11/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08 30 Pacific		Water			X		1	Level IV needed
Outfall001_20211226_Comp_Extra (570-80124-2)	12/26/21	08 30 Pacific		Water				X	1	Level IV needed

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

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

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
	12/28/21 1615				
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company

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

Ver 06/08/2021

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80124-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 200.7 Outfall 001/002/011 Totals List	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	245.1/245.1_Prep Mercury	180 1/ Turbidity	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	4500_CN_E_LL/Distill_CN	SM5310B/ Organic Carbon, Total (TOC)	200.7/FILTRATION 200.7 Outfall 001/002/011 Diss List	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	245.1/FILTRATION Diss Mercury	Total Number of containers	Special Instructions/Note.
			Preservation Code:																		
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08.30 Pacific		Water			X	X	X	X	X	X	X	X	X	X				6	, use VOA vials from LL Hg Kit-Clean Hands procedure.
Outfall001_20211226_Comp_F (570-80124-3)	12/26/21	08 30 Pacific		Water													X	X	X	3	Filter w/in 24 hours, Filter within 24 hours, use VOA vials from LL Hg Kit-Clean Hands

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

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements: TR-89 1.4/1.4

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
1		12/28/21	G			
2	Relinquished by:	Date/Time:	Company	Received by: Olga Oinelas	Date/Time: 12/28/21 1752	Company: ECLT
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

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

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147901 2
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80124-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2340B/Filtration_AC Diss hardness	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08.30 Pacific		Water				6	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall001_20211226_Comp_F (570-80124-3)	12/26/21	08 30 Pacific		Water			X	3	Filter w/in 24 hours Filter within 24 hours use VOA vials from LL Hg Kit-Clean Hands

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements: IR-89 1.4/1 4

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/28/21	EC			
2		Date/Time	Company	Received by: Olga Omelas	12/28/21 1752	Company ECIT
3		Date/Time	Company	Received by	Date/Time:	Company

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

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 440-177693 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80124-1
Address: 7440 Lincoln Way	Due Date Requested: 1/10/2022			
City: Garden Grove	TAT Requested (days):			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Preservation Codes

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

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/ CL, SO4, F	300_ORGFMS/ Nitrate + Nitrite as N	NO2NO3_Calc_IC/ Nitrate-Nitrite as N	314.0/ Perchlorate	608.3_PCB_LL/608_Prep_PCB_LL PCBs	608.3_Pest_LL/608_Prep_LL Pesticides	625.1_SIM/625_Prep Priority pollutant list	8260B_SIM/5030C (MOD) 1,4-Dioxane only	218.6_CR3/ Trivalent Chromium	218.6_ORGFM/ Chromium, Hexavalent	SM5210B_BODCalc/ Biological Oxygen Demand - 5 Day	5540C/5540C_Prep Methylene Blue Active Substances (MBAS)	SM5310D/ Total Organic Carbon	Total Number of containers	Special Instructions/Note
			Preservation Code:																		
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08 30 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X	X	X	1	

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

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

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by:	1/17/22	ECT		1/17/22 1446	ECL
Relinquished by:	1/17/22 1427	ECL		1-17-2022 14:27	ECL
Relinquished by:			Received by:		

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

Ver 06.08/2021

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-147926.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80124-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
Preservation Code:										
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08:30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall001_20211226_Comp_Extra (570-80124-2)	12/26/21	08:30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	12/28/21 1500		Alex Soleo	12/29/21 10:30	EETSAL
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80124-2

Login Number: 80124
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: 570-80124-2

Login Number: 80124
List Number: 4
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 12/29/21 03:04 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.6c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	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.	True	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80124-3
Client Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

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

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/25/2022 4:30:35 PM

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

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 7
Client Sample Results 8
Tracer Carrier Summary 15
QC Sample Results 16
QC Association Summary 21
Lab Chronicle 22
Certification Summary 23
Method Summary 24
Sample Summary 25
Chain of Custody 26
Receipt Checklists 35

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80124-3
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Job ID: 570-80124-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80124-3

Comments
No additional comments.

Receipt
The samples were received on 12/27/2021 5:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.8º C, 3.1º C and 3.6º C.

RAD
Method 900.0: Gross alpha beta batch 544905
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
Outfall001_20211226_Comp (570-80124-1), (LCS 160-544905/2-A), (LCSB 160-544905/3-A), (MB 160-544905/1-A), (570-80145-R-1-G), (570-80145-R-1-J DU), (570-80145-R-1-H MS) and (570-80145-R-1-I MSBT)

Method 901.1: Gamma Prep Batch 160-544496
Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

**The method blank (MB) Z-score is within limits and is located in the level IV raw data

Outfall001_20211226_Comp (570-80124-1), (570-80241-R-1-A) and (570-80241-R-1-B DU)

Method 903.0: Radium 226 batch 544163

Job ID: 570-80124-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall001_20211226_Comp (570-80124-1), (LCS 160-544163/1-A), (LCSD 160-544163/2-A) and (MB 160-544163/21-A)

Method 904.0: Radium 228 batch 544167
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall001_20211226_Comp (570-80124-1), (LCS 160-544167/1-A), (LCSD 160-544167/2-A) and (MB 160-544167/21-A)

Methods 904.0, 905: Radium 228 batch 545613
The method blank (MB) has activity above the MDC and RL. The following associated samples are below the reporting limit for the contaminant, therefore, re-analysis is not required. The data have been reported.

(LCS 160-544884/1-A), (LCSD 160-544884/2-A) and (MB 160-544884/16-A)

Method 905: Strontium 90 batch 544884
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Method 906.0: Tritium in liquid batch 160-543993
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
Outfall001_20211226_Comp (570-80124-1), (LCS 160-543993/2-A), (MB 160-543993/1-A), (570-80132-U-1-A), (570-80132-U-1-B MS), (570-80145-I-1-A) and (570-80145-I-1-B DU)

Methods A-01-R, U-02-RC: Isotopic Uranium batch 544715
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001_20211226_Comp (570-80124-1), (LCS 160-544715/2-A), (LCSD 160-544715/3-A) and (MB 160-544715/1-A)

Job ID: 570-80124-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Method ExtChrom: Uranium Prep Batch 160-544715

The following samples were prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall001_20211226_Comp (570-80124-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method LSC_Dist_Susp: Tritium Prep Batch 543993:

The following sample had an unclear matrix: Outfall001_20211226_Comp (570-80124-1). The sample was marigold in color and cloudy.

Method PrecSep_0: Radium-228 Prep Batch 160-544167

The following samples were prepared at a reduced aliquot due to Matrix: Outfall001_20211226_Comp (570-80124-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-544163

The following samples were prepared at a reduced aliquot due to Matrix: Outfall001_20211226_Comp (570-80124-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-544884

The following samples were prepared at a reduced aliquot due to Matrix: Outfall001_20211226_Comp (570-80124-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

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

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-3
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-3
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	1.25	U	1.25	1.25	3.00	1.99	pCi/L	01/05/22 10:40	01/06/22 14:24	1
Gross Beta	**6.28**		1.14	1.30	4.00	1.17	pCi/L	01/05/22 10:40	01/06/22 14:24	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-3
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-6.22	U	11.3	11.4	20.0	13.2	pCi/L	01/03/22 08:33	01/21/22 19:03	1
Potassium-40	**95.4**		51.0	52.3		50.2	pCi/L	01/03/22 08:33	01/21/22 19:03	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-3
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Method: 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall001_20211226_Comp
Date Collected: 12/26/21 08:30
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80124-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.178	U	0.148	0.149	1.00	0.220	pCi/L	12/30/21 09:56	01/24/22 09:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.1*		*40 - 110*	*12/30/21 09:56*	*01/24/22 09:57*	*1*

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall001_20211226_Comp
Date Collected: 12/26/21 08:30
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80124-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.174	U	0.379	0.379	1.00	0.705	pCi/L	12/30/21 10:34	01/20/22 13:02	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.1*		*40 - 110*	*12/30/21 10:34*	*01/20/22 13:02*	*1*
Y Carrier	*78.9*		*40 - 110*	*12/30/21 10:34*	*01/20/22 13:02*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-3
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Method: 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall001_20211226_Comp
Date Collected: 12/26/21 08:30
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80124-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.627	U	0.476	0.479	3.00	0.745	pCi/L	01/05/22 09:29	01/20/22 15:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*69.3*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:41*	*1*
Y Carrier	*86.7*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:41*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-3
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-66.7	U	171	172	500	320	pCi/L	12/29/21 14:28	01/04/22 22:21	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-3
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall001_20211226_Comp
Date Collected: 12/26/21 08:30
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80124-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.150	U	0.154	0.154	1.00	0.231	pCi/L	01/04/22 12:56	01/09/22 21:41	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*104*		*30 - 110*	*01/04/22 12:56*	*01/09/22 21:41*	*1*

Tracer/Carrier Summary

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

Job ID: 570-80124-3

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
570-80124-1	Outfall001_20211226_Comp	84.1
LCS 160-544163/1-A	Lab Control Sample	98.2
LCSD 160-544163/2-A	Lab Control Sample Dup	104
MB 160-544163/21-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	(40-110)	(40-110)
570-80124-1	Outfall001_20211226_Comp	84.1	78.9
LCS 160-544167/1-A	Lab Control Sample	98.2	79.6
LCSD 160-544167/2-A	Lab Control Sample Dup	104	80.4
MB 160-544167/21-A	Method Blank	99.0	87.9

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Sr	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80124-1	Outfall001_20211226_Comp	69.3	86.7
LCS 160-544884/1-A	Lab Control Sample	77.6	85.2
LCSD 160-544884/2-A	Lab Control Sample Dup	79.2	84.9
MB 160-544884/16-A	Method Blank	84.7	78.9

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)
570-80124-1	Outfall001_20211226_Comp	104
LCS 160-544715/2-A	Lab Control Sample	88.8
LCSD 160-544715/3-A	Lab Control Sample Dup	103
MB 160-544715/1-A	Method Blank	93.4

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-544905/1-A
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544905

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.8965	U	0.678	0.686	3.00	1.01	pCi/L	01/05/22 10:40	01/06/22 14:23	1
Gross Beta	0.1978	U	0.523	0.524	4.00	0.880	pCi/L	01/05/22 10:40	01/06/22 14:23	1

Lab Sample ID: LCS 160-544905/2-A
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	59.45		8.64	3.00	2.32	pCi/L	117	75 - 125

Lab Sample ID: LCSB 160-544905/3-A
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.7	74.99		8.03	4.00	1.03	pCi/L	99	75 - 125

Lab Sample ID: 570-80145-R-1-H MS
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	2.10		50.6	53.08		7.32	3.00	1.34	pCi/L	101	60 - 140

Lab Sample ID: 570-80145-R-1-I MSBT
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	4.10		75.7	76.77		8.19	4.00	0.790	pCi/L	96	60 - 140

Lab Sample ID: 570-80145-R-1-J DU
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	2.10		1.928		1.04	3.00	1.33	pCi/L	0.08	1
Gross Beta	4.10		5.162		1.00	4.00	0.789	pCi/L	0.56	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-544496/1-A
Matrix: Water
Analysis Batch: 547455

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544496

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.0000	U	2.36	2.36	20.0	13.2	pCi/L	01/03/22 08:33	01/21/22 17:08	1
Potassium-40	-6.817	U	148	148		157	pCi/L	01/03/22 08:33	01/21/22 17:08	1

Lab Sample ID: LCS 160-544496/2-A
Matrix: Water
Analysis Batch: 547775

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544496

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium-241	135000	139600		16600		428	pCi/L	103	75 - 125
Cesium-137	42000	42670		5080	20.0	101	pCi/L	102	75 - 125

Lab Sample ID: 570-80241-R-1-B DU
Matrix: Water
Analysis Batch: 547775

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 544496

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Cesium-137	7.38		1.605	U	9.00	20.0	11.0	pCi/L	0.39	1
Potassium-40	116		-4.545	U	121		132	pCi/L	0.67	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-544163/21-A
Matrix: Water
Analysis Batch: 547796

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544163

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.001592	U	0.0935	0.0935	1.00	0.191	pCi/L	12/30/21 09:56	01/24/22 12:33	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.0*		*40 - 110*	*12/30/21 09:56*	*01/24/22 12:33*	*1*

Lab Sample ID: LCS 160-544163/1-A
Matrix: Water
Analysis Batch: 547796

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544163

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.1	13.71		1.50	1.00	0.263	pCi/L	91	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*98.2*		*40 - 110*

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-544163/2-A
Matrix: Water
Analysis Batch: 547796

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544163

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	12.36		1.37	1.00	0.260	pCi/L	82	75 - 125	0.47	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*104*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-544167/21-A
Matrix: Water
Analysis Batch: 547242

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544167

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.2693	U	0.301	0.302	1.00	0.577	pCi/L	12/30/21 10:34	01/20/22 13:05	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.0*		*40 - 110*	*12/30/21 10:34*	*01/20/22 13:05*	*1*
Y Carrier	*87.9*		*40 - 110*	*12/30/21 10:34*	*01/20/22 13:05*	*1*

Lab Sample ID: LCS 160-544167/1-A
Matrix: Water
Analysis Batch: 547257

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544167

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			11.9	13.64		1.58	1.00	0.522	pCi/L	114	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*98.2*		*40 - 110*
Y Carrier	*79.6*		*40 - 110*

Lab Sample ID: LCSD 160-544167/2-A
Matrix: Water
Analysis Batch: 547257

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544167

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			11.9	12.21		1.44	1.00	0.494	pCi/L	102	75 - 125	0.47	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*104*		*40 - 110*
Y Carrier	*80.4*		*40 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-544884/16-A
Matrix: Water
Analysis Batch: 547239

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544884

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	-0.1328	U	0.444	0.444	3.00	0.811	pCi/L	01/05/22 09:29	01/20/22 15:46	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*84.7*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:46*	*1*
Y Carrier	*78.9*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:46*	*1*

Lab Sample ID: LCS 160-544884/1-A
Matrix: Water
Analysis Batch: 547233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544884

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Strontium-90			15.1	15.49		1.76	3.00	0.788	pCi/L	102	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*77.6*		*40 - 110*
Y Carrier	*85.2*		*40 - 110*

Lab Sample ID: LCSD 160-544884/2-A
Matrix: Water
Analysis Batch: 547233

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544884

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Strontium-90			15.1	16.58		1.84	3.00	0.739	pCi/L	110	75 - 125	0.30	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*79.2*		*40 - 110*
Y Carrier	*84.9*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-543993/1-A
Matrix: Water
Analysis Batch: 544876

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 543993

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	38.74	U	179	179	500	313	pCi/L	12/29/21 14:28	01/04/22 21:35	1

Lab Sample ID: LCS 160-543993/2-A
Matrix: Water
Analysis Batch: 544876

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 543993

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			2250	2264		379	500	299	pCi/L	101	75 - 125		

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 570-80132-U-1-B MS
Matrix: Water
Analysis Batch: 544876

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 543993

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium	-130	U	2240	2160		375	500	309	pCi/L	97	60 - 140		

Lab Sample ID: 570-80145-I-1-B DU
Matrix: Water
Analysis Batch: 544876

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 543993

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	-34.7	U		-67.57	U	169	500	314	pCi/L			0.1	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-544715/1-A
Matrix: Water
Analysis Batch: 545484

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544715

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.08163	U	0.1210	0.1212	1.00	0.203	pCi/L	01/04/22 12:56	01/09/22 21:41	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*93.4*		*30 - 110*	*01/04/22 12:56*	*01/09/22 21:41*	*1*

Lab Sample ID: LCS 160-544715/2-A
Matrix: Water
Analysis Batch: 545486

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544715

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Uranium-234			25.5	25.08		2.81	1.00	0.294	pCi/L	98	75 - 125		
Uranium-238			26.0	24.44		2.75	1.00	0.193	pCi/L	94	75 - 125		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*88.8*		*30 - 110*

Lab Sample ID: LCSD 160-544715/3-A
Matrix: Water
Analysis Batch: 545487

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544715

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Uranium-234			25.5	24.55		2.70	1.00	0.231	pCi/L	96	75 - 125	0.1	1
Uranium-238			26.0	25.06		2.74	1.00	0.149	pCi/L	96	75 - 125	0.11	1

Tracer	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Uranium-232	*103*		*30 - 110*

Rad

Prep Batch: 543993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-543993/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-543993/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
570-80132-U-1-B MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	
570-80145-I-1-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 544163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	PrecSep-21	
MB 160-544163/21-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-544163/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-544163/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 544167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	PrecSep_0	
MB 160-544167/21-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-544167/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-544167/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 544496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-544496/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-544496/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-80241-R-1-B DU	Duplicate	Total/NA	Water	Fill_Geo-0	

Prep Batch: 544715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	ExtChrom	
MB 160-544715/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-544715/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
LCSD 160-544715/3-A	Lab Control Sample Dup	Total/NA	Water	ExtChrom	

Prep Batch: 544884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	PrecSep-7	
MB 160-544884/16-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-544884/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-544884/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Prep Batch: 544905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-1	Outfall001_20211226_Comp	Total/NA	Water	Evaporation	
MB 160-544905/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-544905/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-544905/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-80145-R-1-H MS	Matrix Spike	Total/NA	Water	Evaporation	
570-80145-R-1-I MSBT	Matrix Spike	Total/NA	Water	Evaporation	
570-80145-R-1-J DU	Duplicate	Total/NA	Water	Evaporation	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-3
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Client Sample ID: Outfall001_20211226_Comp
Lab Sample ID: 570-80124-1
Date Collected: 12/26/21 08:30
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			150.00 mL	1.0 g	544905	01/05/22 10:40	KG	TAL SL
Total/NA	Analysis	900.0		1			545103	01/06/22 14:24	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	544496	01/03/22 08:33	LTC	TAL SL
Total/NA	Analysis	901.1		1			547455	01/21/22 19:03	CAH	TAL SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			750.38 mL	1.0 g	544163	12/30/21 09:56	LPS	TAL SL
Total/NA	Analysis	903.0		1			547796	01/24/22 09:57	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			750.38 mL	1.0 g	544167	12/30/21 10:34	LPS	TAL SL
Total/NA	Analysis	904.0		1			547257	01/20/22 13:02	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-7			499.72 mL	1.0 g	544884	01/05/22 09:29	LPS	TAL SL
Total/NA	Analysis	905		1			547233	01/20/22 15:41	ANW	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	LSC_Dist_Susp			100.39 mL	1.0 g	543993	12/29/21 14:28	BAL	TAL SL
Total/NA	Analysis	906.0		1			544876	01/04/22 22:21	JLP	TAL SL
	Instrument ID: LSCBROWN									
Total/NA	Prep	ExtChrom			249.95 mL	1.0 mL	544715	01/04/22 12:56	MLO	TAL SL
Total/NA	Analysis	A-01-R		1			545491	01/09/22 21:41	FLC	TAL SL
	Instrument ID: ALPHAVISION									

Laboratory References:
TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80124-3
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Laboratory: Eurofins St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	01-01-22 *
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

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

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-3
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	TAL SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	TAL SL

Protocol References:

DOE = U.S. Department of Energy

EPA = US Environmental Protection Agency

None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

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

Job ID: 570-80124-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80124-1	Outfall001_20211226_Comp	Water	12/26/21 08:30	12/27/21 17:35

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80124 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp
Eurofins Calscience Irvine Contact: Virendra Patel EC#44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R/A	R	R	R	R/A	R	R	R	A	A	R					Comments
									ANALYSIS REQUIRED															
									Total Recoverable Metals (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl-, F, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals: Mercury (E245.1)					
Outfall 001	Outfall001_20211226_Comp	12/26/2021 0930	WM	500 mL Poly	1	HNO_3	80	No	X											X				
			WM	1 L Glass Amber	2	None	110	No		X														
			WM	1 L Poly	1	None	115	No			X													
			WM	500 mL Poly	2	None	120	No				X												
			WM	500 mL Poly	2	None	125	No					X											48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X										48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X								
			WM	1 L Glass Amber	2	None	250	No									X							
			WM	1 L Glass Amber	2	None	175	No										X						
			WM	1 L Poly	1	None	185	No							X									
	Outfall001_20211226_Comp_Extra	12/26/2021 0830	WM	1 L Glass Amber	2	None	110	No		H														Hold
			WM	500 mL Poly	2	None	120	No				H												Hold
			WM	500 mL Poly	2	None	125	No					H											Hold
			WM	1 L Glass Amber	2	None	250	No										H						Hold
			WM	1 L Glass Amber	2	None	175	No												H				Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company	Received By	Date/Time:
[signature]	12/27/2021/1445	H.A	[signature] EG	12/27/21 1445
[signature]	12/27/21 1735		[signature]	12/27/21 1735

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

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

2.2|3.1, 2.7|3 6, 1 9|2 & SCS

1/25/2022

2019-2020 Rainy Season
Version 5

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

									R/A	R	R	R	A	A	A	A	R	QRSW	
Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108					Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011 018] Outfall 001 Comp				ANALYSIS REQUIRED										
Eurofins Calscience Irvine Contact: Virendra Patel ECI#44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218									Total Dissolved Metals. (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8) Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0) Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura CA	1 4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/EDV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals Mercury (E245.1)	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Comments
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.					Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)														
Sampler: MARK DOMINICK					Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)														
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD											
Outfall 001	Outfall001_20211226_Comp_F	12/26/2021 1083	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall001_20211226_Comp	12/26/2021 0930 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No			X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~										X	Extract within 24-Hours of sampling at Weck Labs at OE001.002.011 or 018.
	Outfall001_20211226_Comp_Extra	12/26/2021 0830	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	2	None	255	No							H				Hold

Legend A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12/27/2021 1445	H:A	[signature]	ECI 12/27/21 1445
[signature]	12/27/21 1735		[signature]	12/27/21 1735

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

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

Hand-delivered to ABC Labs by H:A

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147895 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80124-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/25/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08.30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

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

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

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/28/21 1252				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

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

Ver 06/08/2021

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147926 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80124-2
Address: 880 Riverside Parkway,	Due Date Requested: 1/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605	PO #:			
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfalls	SSOW#:			
Site				

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08 30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L, Use Boeing glassware
Outfall001_20211226_Comp_Extra (570-80124-2)	12/26/21	08 30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero ug/L, Use Boeing glassware

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

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

Empty Kit Relinquished by	Date	Time:	Method of Shipment:

Relinquished by:	Date/Time: 12/28/21 1500	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

1/25/2022

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-147943 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80124-2
Address: 14859 E Clark Avenue ,	Due Date Requested: 1/11/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08 30 Pacific		Water			X		1	Level IV needed
Outfall001_20211226_Comp_Extra (570-80124-2)	12/26/21	08 30 Pacific		Water				X	1	Level IV needed

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

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

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
	12/28/21 1615				
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company

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

Ver 06/08/2021

1/25/2022

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80124-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 200.7 Outfall 001/002/011 Totals List	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	245.1/245.1_Prep Mercury	180 1/ Turbidity	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	4500_CN_E_LL/Distill_CN	SM5310B/ Organic Carbon, Total (TOC)	200.7/FILTRATION 200.7 Outfall 001/002/011 Diss List	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	245.1/FILTRATION Diss Mercury	Total Number of containers	Special Instructions/Note.
			Preservation Code:																		
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08.30 Pacific		Water			X	X	X	X	X	X	X	X	X	X				6	, use VOA vials from LL Hg Kit-Clean Hands procedure.
Outfall001_20211226_Comp_F (570-80124-3)	12/26/21	08 30 Pacific		Water													X	X	X	3	Filter w/in 24 hours, Filter within 24 hours, use VOA vials from LL Hg Kit-Clean Hands

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

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements: TR-89 1.4/1.4

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
1		12/28/21	G			
2	Relinquished by:	Date/Time:	Company	Received by: Olga Oinelas	Date/Time: 12/28/21 1752	Company: ECLT
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

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

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147901 2
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80124-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2340B/Filtration_AC Diss hardness	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08.30 Pacific		Water				6	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall001_20211226_Comp_F (570-80124-3)	12/26/21	08 30 Pacific		Water			X	3	Filter w/in 24 hours Filter within 24 hours use VOA vials from LL Hg Kit-Clean Hands

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements: IR-89 1.4/14

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
1		12/28/21	EC			
2	Relinquished by:	Date/Time	Company	Received by: Olga Omelas	Date/Time 12/28/21 1752	Company ECLT
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Custody Seal No

Cooler Temperature(s) °C and Other Remarks

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 440-177693 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80124-1
Address: 7440 Lincoln Way	Due Date Requested: 1/10/2022			
City: Garden Grove	TAT Requested (days):			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/ CL, SO4, F	300_ORGFMS/ Nitrate + Nitrite as N	NO2NO3_Calc_IC/ Nitrate-Nitrite as N	314.0/ Perchlorate	608.3_PCB_LL/608_Prep_PCB_LL PCBs	608.3_Pest_LL/608_Prep_LL Pesticides	625.1_SIM/625_Prep Priority pollutant list	8260B_SIM/5030C (MOD) 1,4-Dioxane only	218.6_CR3/ Trivalent Chromium	218.6_ORGFM/ Chromium, Hexavalent	SM5210B_BODCalc/ Biological Oxygen Demand - 5 Day	5540C/5540C_Prep Methylene Blue Active Substances (MBAS)	SM5310D/ Total Organic Carbon	Total Number of containers	Special Instructions/Note
			Preservation Code:																		
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08 30 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X	X	X	1	

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

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

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	1/17/22	ECT		1/17/22 1446	ECL
Relinquished by	1/17/22 1427	ECL		1-17-2022 14:27	ECL
Relinquished by	Date/Time:	Company	Received by	Date/Time	Company

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

Ver 06/08/2021

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-147895.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80124-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/25/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08:30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation

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

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

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

	Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
1	[signature]	12/28/21 1252		FED EX		
2	FED EX			Sierra Worthington	12-29-21 0940	EMSR
3						

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

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80124-3

Login Number: 80124
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: 570-80124-3

Login Number: 80124
List Number: 3
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 12/29/21 11:32 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	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.	True	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80124-4
Client Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

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

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/8/2022 2:38:07 PM

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

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Method Summary 5
Sample Summary 6
Subcontract Data 7
Chain of Custody 11
Receipt Checklists 19

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80124-4
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Glossary

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

Case Narrative

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-4
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Job ID: 570-80124-4

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80124-4

Comments
No additional comments.

Receipt
The samples were received on 12/27/2021 5:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.8º C, 3.1º C and 3.6º C.

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

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-4
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Method	Method Description	Protocol	Laboratory
Subcontract	Weck-Hydrazine	None	Weck Lab

Protocol References:

None = None

Laboratory References:

Weck Lab = Weck Laboratories, Inc., 14859 E. Clark Avenue, City of Industry, CA 91745

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80124-4
Project/Site: Boeing NPDES SSFL Outfall - 001 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80124-1	Outfall001_20211226_Comp	Water	12/26/21 08:30	12/27/21 17:35

WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Work Orders:	1L29088	**Report Date:**	2/07/2022
		Received Date:	12/29/2021
Project:	570-80124-2	**Turnaround Time:**	Normal
		Phones:	(714) 895-5494
		Fax:	(714) 894-7501
Attn:	Virendra Patel	**P.O. #:**	570-80124-2
Client:	Eurofins Calscience - Garden Grove 7440 Lincoln Way Garden Grove, CA 92841-1432	**Billing Code:**	

Dear Virendra Patel,

Enclosed are the results of analyses for samples received 12/29/21 with the Chain-of-Custody document. The samples were received in good condition, at 4.1 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Sample Results

Sample: Outfall001_20211226_Comp (570-80124-1) Sampled: 12/26/21 8:30 by Client

1L29088-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 8315M			**Instr:** LCMS03				
Batch ID: W2A0572 **Preparation:** Microextraction			**Prepared:** 01/10/22 11:10				**Analyst:** PJS
Monomethylhydrazine (MMH)	ND	0.31	2.0	ug/l	1	01/10/22	

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

Quality Control Results

Hydrazine by LCMS

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Blank (W2A0572-BLK1)					**Prepared & Analyzed: 01/10/22**						
Monomethylhydrazine (MMH)	ND	0.31	2.0	ug/l							
LCS (W2A0572-BS1)					**Prepared & Analyzed: 01/10/22**						
Monomethylhydrazine (MMH)	25.4	0.31	2.0	ug/l	20.0		127	50-150			
Matrix Spike (W2A0572-MS1)		**Source: 1L29088-01**			**Prepared & Analyzed: 01/10/22**						
Monomethylhydrazine (MMH)	20.4	0.31	2.0	ug/l	20.0	*ND*	102	50-150			
Matrix Spike Dup (W2A0572-MSD1)		**Source: 1L29088-01**			**Prepared & Analyzed: 01/10/22**						
Monomethylhydrazine (MMH)	20.6	0.31	2.0	ug/l	20.0	*ND*	103	50-150	0.8	30	

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

Notes and Definitions

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

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

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

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

Analyses Accreditation Summary

Analyte	CAS #	Not By NELAP	ANAB ISO 17025
EPA 8315M in Water			
Monomethylhydrazine (MMH)	60-34-4	✓	

Reviewed by:

Rahul R. Nair
Project Manager

ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • LACSD #10143 • NJ-DEP #CA015 • NV-DEP #NAC 445A • SCAQMD #93LA1006

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

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

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

Chain of Custody Record

IL29088

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California	
Address: 14859 E. Clark Avenue, ,	Due Date Requested: 1/11/2022	Analysis Requested	
City: City of Industry	TAT Requested (days):		
State, Zip: CA, 91745			
Phone:	PO #:		
Email:	WO #:		
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446		
Site:	SSOW#:		

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck-Hydrazine) Weck-Hydrazine	SUB (Weck-Hydrazine) Weck-Hydrazine (Hold)
			Preservation Code:		X	X		
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08:30 Pacific		Water			X	
Outfall001_20211226_Comp_Extra (570-80124-2)	12/26/21	08:30 Pacific		Water				X

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under 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 ac Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are r
Unconfirmed	Return To Client / Disposal By Lab
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 12/28/21 1615	Company	Received by: Date/Time: 12/29

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80124 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **EC#44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R/A Total Recoverable Metals (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R TCDD (and all congeners) (E1613B)	R BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	R Surfactants (MBAS) (SM5540C/E425.1)	R/A Cl, F, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	R Turbidity TDS (SM2540C/E180.1)	R TSS (160.2 (SM2540D))	R Ammonia-N (E350.2)	A Priority Pollutants-Pesticides+PCBs (E608)	A Priority Pollutants-SVOCs (E625)	R Total Recoverable Metals: Mercury (E245.1)	Comments
Outfall 001	Outfall001_20211226_Comp	12/26/2021 1030	WM	500 mL Poly	1	HNO_3	80	No	X										
			WM	1 L Glass Amber	2	None	110	No		X									
			WM	1 L Poly	1	None	115	No			X								
			WM	500 mL Poly	2	None	120	No				X							
			WM	500 mL Poly	2	None	125	No					X						48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X					48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X			
			WM	1 L Glass Amber	2	None	250	No									X		
			WM	1 L Glass Amber	2	None	175	No										X	
			WM	1 L Poly	1	None	185	No							X				
	Outfall001_20211226_Comp_Extra	12/26/2021 0830	WM	1 L Glass Amber	2	None	110	No		H									Hold
			WM	500 mL Poly	2	None	120	No				H							Hold
			WM	500 mL Poly	2	None	125	No					H						Hold
			WM	1 L Glass Amber	2	None	250	No								H			Hold
			WM	1 L Glass Amber	2	None	175	No									H		Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company	Received By	Date/Time:
[signature]	12/27/2021/1445	H.A	[signature] EG	12/27/21 1445
[signature]	12/27/21 1735		[signature]	12/27/21 1735

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

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

Data Requirements: (Check)
No Level IV: _____ All Level IV: ___X___

2.2|3.1, 2.7|3.6, 1.9|2.8 & SCS

Page 11 of 19

2/8/2022

2019-2020 Rainy Season
Version 5

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

									R/A	R	R	R	A	A	A	A	R	QRSW	
Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108			Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011 018] Outfall 001 Comp						ANALYSIS REQUIRED										
Eurofins Calscience Irvine Contact: Virendra Patel ECI#44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218									Total Dissolved Metals. (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8) Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0) Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura CA	1 4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/EDV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals Mercury (E245.1)	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Comments
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.			Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)																
Sampler: MARK DOMINICK			Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)																
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD											
Outfall 001	Outfall001_20211226_Comp_F	12/26/2021 1083	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall001_20211226_Comp	12/26/2021 0930 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No			X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~										X	Extract within 24-Hours of sampling at Weck Labs at OE001.002.011 or 018.
	Outfall001_20211226_Comp_Extra	12/26/2021 0830	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	2	None	255	No							H				Hold

Legend A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12/27/2021 1445	H:A	[signature]	ECI 12/27/21 1445
[signature]	12/27/21 1735		[signature]	12/27/21 1735

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

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

Hand-delivered to ABC Labs by H:A

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147895 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80124-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/25/2022			
City: Earth City	TAT Requested (days):			
State Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08.30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

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

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

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/28/21 1252				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

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

Ver 06/08/2021

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147926 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80124-2
Address: 880 Riverside Parkway,	Due Date Requested: 1/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605	PO #:			
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfalls	SSOW#:			
Site				

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08 30 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L, Use Boeing glassware
Outfall001_20211226_Comp_Extra (570-80124-2)	12/26/21	08 30 Pacific		Water				X	2	See QAS, Boeing_w/u to zero ug/L, Use Boeing glassware

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

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

Empty Kit Relinquished by	Date	Time:	Method of Shipment:

Relinquished by:	Date/Time: 12/28/21 1500	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 06/08/2021

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-147943 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80124-2
Address: 14859 E Clark Avenue ,	Due Date Requested: 1/11/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08 30 Pacific		Water			X		1	Level IV needed
Outfall001_20211226_Comp_Extra (570-80124-2)	12/26/21	08 30 Pacific		Water				X	1	Level IV needed

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

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

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
[signature]	12/28/21 1615				
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company

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

Ver 06/08/2021

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80124-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 200.7 Outfall 001/002/011 Totals List	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	245.1/245.1_Prep Mercury	180 1/ Turbidity	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	4500_CN_E_LL/Distill_CN	SM5310B/ Organic Carbon, Total (TOC)	200.7/FILTRATION 200.7 Outfall 001/002/011 Diss List	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	245.1/FILTRATION Diss Mercury	Total Number of containers	Special Instructions/Note.
			Preservation Code:																		
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08.30 Pacific		Water			X	X	X	X	X	X	X	X	X	X				6	, use VOA vials from LL Hg Kit-Clean Hands procedure.
Outfall001_20211226_Comp_F (570-80124-3)	12/26/21	08 30 Pacific		Water													X	X	X	3	Filter w/in 24 hours, Filter within 24 hours, use VOA vials from LL Hg Kit-Clean Hands

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

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements: TR-89 1.4/1.4

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
1		12/28/21	G			
2	Relinquished by:	Date/Time:	Company	Received by: Olga Oinelas	Date/Time: 12/28/21 1752	Company: ECLT
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

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

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147901 2
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80124-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2340B/Filtration_AC Diss hardness	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08.30 Pacific		Water				6	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall001_20211226_Comp_F (570-80124-3)	12/26/21	08 30 Pacific		Water			X	3	Filter w/in 24 hours Filter within 24 hours use VOA vials from LL Hg Kit-Clean Hands

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements: IR-89 1.4/1 4

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/28/21	EC			
2		Date/Time	Company	Received by: Olga Omelas	12/28/21 1752	Company ECLT
3		Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Custody Seal No

Cooler Temperature(s) °C and Other Remarks

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 440-177693 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80124-1
Address: 7440 Lincoln Way	Due Date Requested: 1/10/2022			
City: Garden Grove	TAT Requested (days):			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - 001 Comp	Project #: 44024446			
Site:	SSOW#:			

Preservation Codes

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

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/ CL, SO4, F	300_ORGFMS/ Nitrate + Nitrite as N	NO2NO3_Calc_IC/ Nitrate-Nitrite as N	314.0/ Perchlorate	608.3_PCB_LL/608_Prep_PCB_LL PCBs	608.3_Pest_LL/608_Prep_LL Pesticides	625.1_SIM/625_Prep Priority pollutant list	8260B_SIM/5030C (MOD) 1,4-Dioxane only	218.6_CR3/ Trivalent Chromium	218.6_ORGFM/ Chromium, Hexavalent	SM5210B_BODCalc/ Biological Oxygen Demand - 5 Day	5540C/5540C_Prep Methylene Blue Active Substances (MBAS)	SM5310D/ Total Organic Carbon	Total Number of containers	Special Instructions/Note
			Preservation Code:																		
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08 30 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X	X	X	1	

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

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

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		1/17/22	ECT		1/17/22 1446	ECL
2		1/17/22 1427	ECL		1-17-2022 14:27	ECL
3		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: 570-80124-4

Login Number: 80124
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

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

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80141-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab
Revision: 1

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

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/15/2022 3:27:45 PM

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

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 6
Client Sample Results 7
Surrogate Summary 12
QC Sample Results 13
QC Association Summary 21
Lab Chronicle 23
Certification Summary 24
Method Summary 25
Sample Summary 26
Subcontract Data 27
Chain of Custody 39
Receipt Checklists 44

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80141-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
BU	Analyzed out of holding time

General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time
BV	Sample received after holding time expired

Glossary

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

Job ID: 570-80141-1

Laboratory: Eurofins Calscience

Narrative

CASE NARRATIVE

Client: Haley & Aldrich, Inc.

Project: Boeing NPDES SSFL Outfall - Outfall 001 Grab

Report Number: 570-80141-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 12/27/2021 at 5:35 PM; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.1º C and 3.5º C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2 degrees Celsius of the required temperature or method specified range. For samples with a specified temperature of 4 degrees Celsius, samples with a temperature ranging from just above freezing temperature of water to 6 degrees Celsius shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

VOLATILE ORGANIC COMPOUNDS
Samples Outfall001_20211224_Grab (570-80141-1) and TB-20211224 (570-80141-3) were analyzed for Volatile Organic Compounds in accordance with EPA SW-846 Method 624.1 Low Level. The samples were analyzed on 01/07/2022.

The following sample(s) was analyzed outside of analytical holding time due to laboratory relocation and requiring method validations. Clients were notified of hold time issues. Outfall001_20211224_Grab (570-80141-1) and TB-20211224 (570-80141-3).

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

GASOLINE RANGE ORGANICS (GRO)
Sample Outfall001_20211224_Grab (570-80141-1) was analyzed for Gasoline range organics (GRO) in accordance with EPA SW-846 Method 8015B. The samples were analyzed on 01/05/2022.

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

DIESEL RANGE ORGANICS
Sample Outfall001_20211224_Grab (570-80141-1) was analyzed for Diesel Range Organics in accordance with EPA SW-846 Method 8015B - DRO. The samples were prepared on 12/29/2021 and analyzed on 12/30/2021.

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

Job ID: 570-80141-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

HEM: OIL AND GREASE
Sample Outfall001_20211224_Grab (570-80141-1) was analyzed for HEM: Oil and Grease in accordance with EPA SW-846 Method 1664A. The samples were prepared and analyzed on 01/05/2022.

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

SPECIFIC CONDUCTIVITY
Sample Outfall001_20211224_Grab (570-80141-1) was analyzed for specific conductivity in accordance with SM 2510B. The samples were analyzed on 01/04/2022.

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

SETTLEABLE SOLIDS
Sample Outfall001_20211224_Grab (570-80141-1) was analyzed for Settleable solids in accordance with SM 2540F. The samples were analyzed on 01/18/2022.

The following sample was received outside of holding time: Outfall001_20211224_Grab (570-80141-1).

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

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

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

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80141-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab

Client Sample ID: Outfall001_20211224_Grab
Lab Sample ID: 570-80141-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C13-C28	0.13		0.048	0.035	mg/L	1		8015B	Total/NA
Specific Conductance	110		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA
Settleable Solids	0.10	BU BV	0.10	0.10	mL/L/Hr	1		SM 2540F	Total/NA

Client Sample ID: TB-20211224
Lab Sample ID: 570-80141-3

No Detections.

This Detection Summary does not include radiochemical test results.

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

Client Sample ID: Outfall001_20211224_Grab **Lab Sample ID: 570-80141-1**
Date Collected: 12/24/21 10:00 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	BU	0.50	0.25	ug/L			01/07/22 02:59	1
1,1,2,2-Tetrachloroethane	ND	BU	0.50	0.20	ug/L			01/07/22 02:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	BU	2.0	0.33	ug/L			01/07/22 02:59	1
1,1,2-Trichloroethane	ND	BU	0.50	0.17	ug/L			01/07/22 02:59	1
1,1-Dichloroethane	ND	BU	0.50	0.39	ug/L			01/07/22 02:59	1
1,1-Dichloroethene	ND	BU	0.50	0.33	ug/L			01/07/22 02:59	1
1,2-Dichloro-1,1,2-trifluoroethane	ND	BU	2.0	0.58	ug/L			01/07/22 02:59	1
1,2-Dichlorobenzene	ND	BU	0.50	0.16	ug/L			01/07/22 02:59	1
1,2-Dichloroethane	ND	BU	0.50	0.15	ug/L			01/07/22 02:59	1
1,2-Dichloropropane	ND	BU	0.50	0.17	ug/L			01/07/22 02:59	1
1,3-Dichlorobenzene	ND	BU	0.50	0.16	ug/L			01/07/22 02:59	1
1,4-Dichlorobenzene	ND	BU	0.50	0.11	ug/L			01/07/22 02:59	1
2-Chloroethyl vinyl ether	ND	BU	2.0	1.1	ug/L			01/07/22 02:59	1
Acrolein	ND	BU	5.0	4.6	ug/L			01/07/22 02:59	1
Acrylonitrile	ND	BU	2.0	1.4	ug/L			01/07/22 02:59	1
Benzene	ND	BU	0.50	0.28	ug/L			01/07/22 02:59	1
Bromodichloromethane	ND	BU	0.50	0.19	ug/L			01/07/22 02:59	1
Bromoform	ND	BU	1.0	0.25	ug/L			01/07/22 02:59	1
Bromomethane	ND	BU	0.50	0.22	ug/L			01/07/22 02:59	1
Carbon tetrachloride	ND	BU	0.50	0.28	ug/L			01/07/22 02:59	1
Chlorobenzene	ND	BU	0.50	0.19	ug/L			01/07/22 02:59	1
Chloroethane	ND	BU	1.0	0.29	ug/L			01/07/22 02:59	1
Chloroform	ND	BU	0.50	0.19	ug/L			01/07/22 02:59	1
Chloromethane	ND	BU	0.50	0.30	ug/L			01/07/22 02:59	1
cis-1,2-Dichloroethene	ND	BU	0.50	0.21	ug/L			01/07/22 02:59	1
cis-1,3-Dichloropropene	ND	BU	0.50	0.30	ug/L			01/07/22 02:59	1
Cyclohexane	ND	BU	2.0	0.79	ug/L			01/07/22 02:59	1
Dibromochloromethane	ND	BU	0.50	0.15	ug/L			01/07/22 02:59	1
Ethylbenzene	ND	BU	0.50	0.25	ug/L			01/07/22 02:59	1
m,p-Xylene	ND	BU	1.0	0.17	ug/L			01/07/22 02:59	1
Methylene Chloride	ND	BU	2.0	0.57	ug/L			01/07/22 02:59	1
Naphthalene	ND	BU	1.0	0.33	ug/L			01/07/22 02:59	1
o-Xylene	ND	BU	0.50	0.15	ug/L			01/07/22 02:59	1
Tetrachloroethene	ND	BU	0.50	0.21	ug/L			01/07/22 02:59	1
Toluene	ND	BU	0.50	0.23	ug/L			01/07/22 02:59	1
trans-1,2-Dichloroethene	ND	BU	0.50	0.24	ug/L			01/07/22 02:59	1
trans-1,3-Dichloropropene	ND	BU	0.50	0.18	ug/L			01/07/22 02:59	1
Trichloroethene	ND	BU	0.50	0.17	ug/L			01/07/22 02:59	1
Trichlorofluoromethane	ND	BU	0.50	0.29	ug/L			01/07/22 02:59	1
Vinyl chloride	ND	BU	0.50	0.47	ug/L			01/07/22 02:59	1
Xylenes, Total	ND	BU	1.0	0.17	ug/L			01/07/22 02:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*60 - 140*		*01/07/22 02:59*	*1*
Dibromofluoromethane (Surr)	*109*		*60 - 140*		*01/07/22 02:59*	*1*
Toluene-d8 (Surr)	*109*		*60 - 140*		*01/07/22 02:59*	*1*

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

Client Sample ID: TB-20211224
Date Collected: 12/24/21 10:00
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80141-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	BU	0.50	0.25	ug/L			01/07/22 03:28	1
1,1,2,2-Tetrachloroethane	ND	BU	0.50	0.20	ug/L			01/07/22 03:28	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	BU	2.0	0.33	ug/L			01/07/22 03:28	1
1,1,2-Trichloroethane	ND	BU	0.50	0.17	ug/L			01/07/22 03:28	1
1,1-Dichloroethane	ND	BU	0.50	0.39	ug/L			01/07/22 03:28	1
1,1-Dichloroethene	ND	BU	0.50	0.33	ug/L			01/07/22 03:28	1
1,2-Dichloro-1,1,2-trifluoroethane	ND	BU	2.0	0.58	ug/L			01/07/22 03:28	1
1,2-Dichlorobenzene	ND	BU	0.50	0.16	ug/L			01/07/22 03:28	1
1,2-Dichloroethane	ND	BU	0.50	0.15	ug/L			01/07/22 03:28	1
1,2-Dichloropropane	ND	BU	0.50	0.17	ug/L			01/07/22 03:28	1
1,3-Dichlorobenzene	ND	BU	0.50	0.16	ug/L			01/07/22 03:28	1
1,4-Dichlorobenzene	ND	BU	0.50	0.11	ug/L			01/07/22 03:28	1
2-Chloroethyl vinyl ether	ND	BU	2.0	1.1	ug/L			01/07/22 03:28	1
Acrolein	ND	BU	5.0	4.6	ug/L			01/07/22 03:28	1
Acrylonitrile	ND	BU	2.0	1.4	ug/L			01/07/22 03:28	1
Benzene	ND	BU	0.50	0.28	ug/L			01/07/22 03:28	1
Bromodichloromethane	ND	BU	0.50	0.19	ug/L			01/07/22 03:28	1
Bromoform	ND	BU	1.0	0.25	ug/L			01/07/22 03:28	1
Bromomethane	ND	BU	0.50	0.22	ug/L			01/07/22 03:28	1
Carbon tetrachloride	ND	BU	0.50	0.28	ug/L			01/07/22 03:28	1
Chlorobenzene	ND	BU	0.50	0.19	ug/L			01/07/22 03:28	1
Chloroethane	ND	BU	1.0	0.29	ug/L			01/07/22 03:28	1
Chloroform	ND	BU	0.50	0.19	ug/L			01/07/22 03:28	1
Chloromethane	ND	BU	0.50	0.30	ug/L			01/07/22 03:28	1
cis-1,2-Dichloroethene	ND	BU	0.50	0.21	ug/L			01/07/22 03:28	1
cis-1,3-Dichloropropene	ND	BU	0.50	0.30	ug/L			01/07/22 03:28	1
Cyclohexane	ND	BU	2.0	0.79	ug/L			01/07/22 03:28	1
Dibromochloromethane	ND	BU	0.50	0.15	ug/L			01/07/22 03:28	1
Ethylbenzene	ND	BU	0.50	0.25	ug/L			01/07/22 03:28	1
m,p-Xylene	ND	BU	1.0	0.17	ug/L			01/07/22 03:28	1
Methylene Chloride	ND	BU	2.0	0.57	ug/L			01/07/22 03:28	1
Naphthalene	ND	BU	1.0	0.33	ug/L			01/07/22 03:28	1
o-Xylene	ND	BU	0.50	0.15	ug/L			01/07/22 03:28	1
Tetrachloroethene	ND	BU	0.50	0.21	ug/L			01/07/22 03:28	1
Toluene	ND	BU	0.50	0.23	ug/L			01/07/22 03:28	1
trans-1,2-Dichloroethene	ND	BU	0.50	0.24	ug/L			01/07/22 03:28	1
trans-1,3-Dichloropropene	ND	BU	0.50	0.18	ug/L			01/07/22 03:28	1
Trichloroethene	ND	BU	0.50	0.17	ug/L			01/07/22 03:28	1
Trichlorofluoromethane	ND	BU	0.50	0.29	ug/L			01/07/22 03:28	1
Vinyl chloride	ND	BU	0.50	0.47	ug/L			01/07/22 03:28	1
Xylenes, Total	ND	BU	1.0	0.17	ug/L			01/07/22 03:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*60 - 140*		*01/07/22 03:28*	*1*
Dibromofluoromethane (Surr)	*111*		*60 - 140*		*01/07/22 03:28*	*1*
Toluene-d8 (Surr)	*108*		*60 - 140*		*01/07/22 03:28*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80141-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab

Method: 8015B - Gasoline Range Organics - (GC)

Client Sample ID: Outfall001_20211224_Grab
Lab Sample ID: 570-80141-1
Date Collected: 12/24/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		50	30	ug/L			01/05/22 08:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*69*		*20 - 144*		*01/05/22 08:56*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80141-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab

Method: 8015B - Diesel Range Organics (DRO) (GC)

Client Sample ID: Outfall001_20211224_Grab
Lab Sample ID: 570-80141-1
Date Collected: 12/24/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C28	0.13		0.048	0.035	mg/L		12/29/21 10:02	12/30/21 20:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*104*		*53 - 151*	*12/29/21 10:02*	*12/30/21 20:54*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80141-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab

General Chemistry

Client Sample ID: Outfall001_20211224_Grab
Lab Sample ID: 570-80141-1
Date Collected: 12/24/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	ND		1.1	0.55	mg/L		01/05/22 09:11	01/05/22 09:11	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	**110**		1.0	1.0	umhos/cm			01/04/22 11:54	1
Settleable Solids	**0.10**	**BU BV**	0.10	0.10	mL/L/Hr			01/18/22 13:03	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80141-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab

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

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

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(60-140)	(60-140)	(60-140)
570-80141-1	Outfall001_20211224_Grab	105	109	109
570-80141-3	TB-20211224	103	111	108
570-80528-G-1 MS	Matrix Spike	112	103	103
570-80528-I-1 MSD	Matrix Spike Duplicate	108	103	104
LCS 440-663938/1004	Lab Control Sample	109	98	99
LCS 440-663938/1005	Lab Control Sample	99	107	109
MB 440-663938/6	Method Blank	100	107	111

Surrogate Legend

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

Method: 8015B - Gasoline Range Organics - (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)
		BFB1
Lab Sample ID	Client Sample ID	(20-144)
440-293584-D-1 MS	Matrix Spike	97
440-293584-D-1 MSD	Matrix Spike Duplicate	97
570-80141-1	Outfall001_20211224_Grab	69
LCS 570-205458/3	Lab Control Sample	98
LCSD 570-205458/4	Lab Control Sample Dup	93
MB 570-205458/5	Method Blank	72

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: 8015B - Diesel Range Organics (DRO) (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)
		OTCSN1
Lab Sample ID	Client Sample ID	(53-151)
570-80141-1	Outfall001_20211224_Grab	104
LCS 570-204429/4-A	Lab Control Sample	107
LCSD 570-204429/5-A	Lab Control Sample Dup	119
MB 570-204429/1-A	Method Blank	110

Surrogate Legend

OTCSN = n-Octacosane (Surr)

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

Lab Sample ID: MB 440-663938/6
Matrix: Water
Analysis Batch: 663938

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/06/22 19:47	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/06/22 19:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			01/06/22 19:47	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/06/22 19:47	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/06/22 19:47	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/06/22 19:47	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	0.58	ug/L			01/06/22 19:47	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/06/22 19:47	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/06/22 19:47	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/06/22 19:47	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/06/22 19:47	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/06/22 19:47	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/06/22 19:47	1
Acrolein	ND		5.0	4.6	ug/L			01/06/22 19:47	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/06/22 19:47	1
Benzene	ND		0.50	0.28	ug/L			01/06/22 19:47	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/06/22 19:47	1
Bromoform	ND		1.0	0.25	ug/L			01/06/22 19:47	1
Bromomethane	ND		0.50	0.22	ug/L			01/06/22 19:47	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/06/22 19:47	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/06/22 19:47	1
Chloroethane	ND		1.0	0.29	ug/L			01/06/22 19:47	1
Chloroform	ND		0.50	0.19	ug/L			01/06/22 19:47	1
Chloromethane	ND		0.50	0.30	ug/L			01/06/22 19:47	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/06/22 19:47	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/06/22 19:47	1
Cyclohexane	ND		2.0	0.79	ug/L			01/06/22 19:47	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/06/22 19:47	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/06/22 19:47	1
m,p-Xylene	ND		1.0	0.17	ug/L			01/06/22 19:47	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/06/22 19:47	1
Naphthalene	ND		1.0	0.33	ug/L			01/06/22 19:47	1
o-Xylene	ND		0.50	0.15	ug/L			01/06/22 19:47	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/06/22 19:47	1
Toluene	ND		0.50	0.23	ug/L			01/06/22 19:47	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/06/22 19:47	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/06/22 19:47	1
Trichloroethene	ND		0.50	0.17	ug/L			01/06/22 19:47	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			01/06/22 19:47	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/06/22 19:47	1
Xylenes, Total	ND		1.0	0.17	ug/L			01/06/22 19:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*60 - 140*		*01/06/22 19:47*	*1*
Dibromofluoromethane (Surr)	*107*		*60 - 140*		*01/06/22 19:47*	*1*
Toluene-d8 (Surr)	*111*		*60 - 140*		*01/06/22 19:47*	*1*

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

Lab Sample ID: LCS 440-663938/1004
Matrix: Water
Analysis Batch: 663938

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	25.5		ug/L		102	69 - 151
1,1,2,2-Tetrachloroethane	25.0	31.0		ug/L		124	68 - 136
1,1,2-Trichloroethane	25.0	28.6		ug/L		114	75 - 136
1,1-Dichloroethane	25.0	26.9		ug/L		108	71 - 143
1,1-Dichloroethene	25.0	27.4		ug/L		109	19 - 212
1,2-Dichlorobenzene	25.0	24.5		ug/L		98	59 - 174
1,2-Dichloroethane	25.0	27.1		ug/L		108	72 - 137
1,2-Dichloropropane	25.0	28.0		ug/L		112	19 - 181
1,3-Dichlorobenzene	25.0	24.9		ug/L		100	75 - 144
1,4-Dichlorobenzene	25.0	24.7		ug/L		99	59 - 174
2-Chloroethyl vinyl ether	25.0	29.5		ug/L		118	10 - 252
Acrolein	24.7	28.7		ug/L		116	50 - 150
Acrylonitrile	250	300		ug/L		120	50 - 150
Benzene	25.0	25.5		ug/L		102	75 - 125
Bromodichloromethane	25.0	27.1		ug/L		108	50 - 140
Bromoform	25.0	23.8		ug/L		95	57 - 156
Bromomethane	25.0	28.2		ug/L		113	10 - 206
Carbon tetrachloride	25.0	25.4		ug/L		101	65 - 125
Chlorobenzene	25.0	24.9		ug/L		99	82 - 137
Chloroethane	25.0	29.4		ug/L		118	42 - 202
Chloroform	25.0	25.6		ug/L		102	68 - 121
Chloromethane	25.0	31.6		ug/L		127	10 - 230
cis-1,2-Dichloroethene	25.0	23.1		ug/L		93	60 - 140
cis-1,3-Dichloropropene	25.0	28.7		ug/L		115	5 - 195
Dibromochloromethane	25.0	25.7		ug/L		103	69 - 133
Ethylbenzene	25.0	24.1		ug/L		97	75 - 134
m,p-Xylene	25.0	23.5		ug/L		94	60 - 140
Methylene Chloride	25.0	25.0		ug/L		100	10 - 205
Naphthalene	25.0	23.6		ug/L		95	60 - 140
o-Xylene	25.0	23.5		ug/L		94	60 - 140
Tetrachloroethene	25.0	23.5		ug/L		94	70 - 130
Toluene	25.0	24.8		ug/L		99	75 - 134
trans-1,2-Dichloroethene	25.0	23.2		ug/L		93	70 - 130
trans-1,3-Dichloropropene	25.0	29.0		ug/L		116	38 - 162
Trichloroethene	25.0	22.7		ug/L		91	75 - 138
Trichlorofluoromethane	25.0	29.8		ug/L		119	45 - 158
Vinyl chloride	25.0	31.8		ug/L		127	10 - 218
Xylenes, Total	50.0	47.0		ug/L		94	

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*60 - 140*
Dibromofluoromethane (Surr)	*98*		*60 - 140*
Toluene-d8 (Surr)	*99*		*60 - 140*

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

Lab Sample ID: LCS 440-663938/1005
Matrix: Water
Analysis Batch: 663938

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2-Dichloro-1,1,2-trifluoroethane			25.0	23.3		ug/L		93	60 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*60 - 140*
Dibromofluoromethane (Surr)	*107*		*60 - 140*
Toluene-d8 (Surr)	*109*		*60 - 140*

Lab Sample ID: 570-80528-G-1 MS
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,1,1-Trichloroethane	ND		25.0	25.9		ug/L		104	52 - 162		
1,1,2,2-Tetrachloroethane	ND		25.0	30.5		ug/L		122	46 - 157		
1,1,2-Trichloroethane	ND		25.0	27.8		ug/L		111	52 - 150		
1,1-Dichloroethane	ND		25.0	26.8		ug/L		107	59 - 155		
1,1-Dichloroethene	ND		25.0	29.6		ug/L		119	10 - 234		
1,2-Dichloro-1,1,2-trifluoroethane	ND		25.0	27.5		ug/L		110	60 - 140		
1,2-Dichlorobenzene	ND		25.0	24.2		ug/L		97	18 - 190		
1,2-Dichloroethane	ND		25.0	27.2		ug/L		109	49 - 155		
1,2-Dichloropropane	ND		25.0	28.0		ug/L		112	10 - 210		
1,3-Dichlorobenzene	ND		25.0	24.2		ug/L		97	59 - 156		
1,4-Dichlorobenzene	ND		25.0	24.6		ug/L		98	18 - 190		
2-Chloroethyl vinyl ether	ND		25.0	29.5		ug/L		118	10 - 305		
Acrolein	ND		24.7	18.4		ug/L		74	40 - 160		
Acrylonitrile	ND		250	273		ug/L		109	40 - 160		
Benzene	ND		25.0	25.9		ug/L		104	37 - 151		
Bromodichloromethane	ND		25.0	27.6		ug/L		110	35 - 155		
Bromoform	ND		25.0	24.9		ug/L		100	45 - 169		
Bromomethane	ND		25.0	29.4		ug/L		118	10 - 242		
Carbon tetrachloride	ND		25.0	27.3		ug/L		109	70 - 140		
Chlorobenzene	ND		25.0	25.4		ug/L		102	37 - 160		
Chloroethane	ND		25.0	30.1		ug/L		121	14 - 230		
Chloroform	ND		25.0	26.3		ug/L		105	51 - 138		
Chloromethane	ND		25.0	32.8		ug/L		131	10 - 273		
cis-1,2-Dichloroethene	ND		25.0	24.4		ug/L		98	60 - 140		
cis-1,3-Dichloropropene	ND		25.0	28.6		ug/L		115	10 - 227		
Dibromochloromethane	ND		25.0	26.1		ug/L		104	53 - 149		
Ethylbenzene	ND		25.0	25.4		ug/L		102	37 - 162		
m,p-Xylene	ND		25.0	24.4		ug/L		98	60 - 140		
Methylene Chloride	ND		25.0	24.5		ug/L		98	10 - 221		
Naphthalene	ND		25.0	23.3		ug/L		93	60 - 140		
o-Xylene	ND		25.0	24.9		ug/L		99	60 - 140		
Tetrachloroethene	ND		25.0	25.1		ug/L		100	64 - 148		
Toluene	ND		25.0	26.1		ug/L		104	47 - 150		
trans-1,2-Dichloroethene	ND		25.0	23.0		ug/L		92	54 - 156		
trans-1,3-Dichloropropene	ND		25.0	28.6		ug/L		114	17 - 183		
Trichloroethene	ND		25.0	23.5		ug/L		94	70 - 157		

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

Lab Sample ID: 570-80528-G-1 MS **Client Sample ID: Matrix Spike**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 663938

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	ND		25.0	30.9		ug/L		124	17 - 181
Vinyl chloride	ND		25.0	35.4		ug/L		142	10 - 251
Xylenes, Total	ND		50.0	49.3		ug/L		99	

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*60 - 140*
Dibromofluoromethane (Surr)	*103*		*60 - 140*
Toluene-d8 (Surr)	*103*		*60 - 140*

Lab Sample ID: 570-80528-I-1 MSD **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 663938

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		25.0	26.3		ug/L		105	52 - 162	2	36
1,1,2,2-Tetrachloroethane	ND		25.0	31.3		ug/L		125	46 - 157	3	61
1,1,2-Trichloroethane	ND		25.0	28.1		ug/L		112	52 - 150	1	45
1,1-Dichloroethane	ND		25.0	27.9		ug/L		112	59 - 155	4	40
1,1-Dichloroethene	ND		25.0	30.4		ug/L		121	10 - 234	2	32
1,2-Dichloro-1,1,2-trifluoroethane	ND		25.0	31.8		ug/L		127	60 - 140	14	35
1,2-Dichlorobenzene	ND		25.0	24.3		ug/L		97	18 - 190	1	57
1,2-Dichloroethane	ND		25.0	26.8		ug/L		107	49 - 155	1	49
1,2-Dichloropropane	ND		25.0	27.9		ug/L		112	10 - 210	0	55
1,3-Dichlorobenzene	ND		25.0	24.0		ug/L		96	59 - 156	1	43
1,4-Dichlorobenzene	ND		25.0	23.9		ug/L		96	18 - 190	3	57
2-Chloroethyl vinyl ether	ND		25.0	28.9		ug/L		116	10 - 305	2	71
Acrolein	ND		24.7	24.4		ug/L		99	40 - 160	28	60
Acrylonitrile	ND		250	303		ug/L		121	40 - 160	10	60
Benzene	ND		25.0	26.1		ug/L		104	37 - 151	1	61
Bromodichloromethane	ND		25.0	27.0		ug/L		108	35 - 155	2	56
Bromoform	ND		25.0	25.5		ug/L		102	45 - 169	2	42
Bromomethane	ND		25.0	28.3		ug/L		113	10 - 242	4	61
Carbon tetrachloride	ND		25.0	27.3		ug/L		109	70 - 140	0	41
Chlorobenzene	ND		25.0	24.4		ug/L		98	37 - 160	4	53
Chloroethane	ND		25.0	29.7		ug/L		119	14 - 230	1	78
Chloroform	ND		25.0	26.7		ug/L		107	51 - 138	1	54
Chloromethane	ND		25.0	31.7		ug/L		127	10 - 273	3	60
cis-1,2-Dichloroethene	ND		25.0	25.1		ug/L		101	60 - 140	3	35
cis-1,3-Dichloropropene	ND		25.0	28.6		ug/L		114	10 - 227	0	58
Dibromochloromethane	ND		25.0	25.3		ug/L		101	53 - 149	3	50
Ethylbenzene	ND		25.0	25.3		ug/L		101	37 - 162	0	63
m,p-Xylene	ND		25.0	23.3		ug/L		93	60 - 140	4	35
Methylene Chloride	ND		25.0	25.5		ug/L		102	10 - 221	4	28
Naphthalene	ND		25.0	23.6		ug/L		94	60 - 140	1	35
o-Xylene	ND		25.0	24.4		ug/L		97	60 - 140	2	35
Tetrachloroethene	ND		25.0	25.3		ug/L		101	64 - 148	1	39
Toluene	ND		25.0	25.8		ug/L		103	47 - 150	1	41
trans-1,2-Dichloroethene	ND		25.0	24.2		ug/L		97	54 - 156	5	45

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

Lab Sample ID: 570-80528-I-1 MSD **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 663938

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,3-Dichloropropene	ND		25.0	28.9		ug/L		115	17 - 183	1	86
Trichloroethene	ND		25.0	23.4		ug/L		94	70 - 157	0	48
Trichlorofluoromethane	ND		25.0	31.4		ug/L		125	17 - 181	1	84
Vinyl chloride	ND		25.0	35.2		ug/L		141	10 - 251	1	66
Xylenes, Total	ND		50.0	47.7		ug/L		95		3	

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*60 - 140*
Dibromofluoromethane (Surr)	*103*		*60 - 140*
Toluene-d8 (Surr)	*104*		*60 - 140*

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 570-205458/5 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 205458

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		50	30	ug/L			01/04/22 19:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*72*		*20 - 144*		*01/04/22 19:05*	*1*

Lab Sample ID: LCS 570-205458/3 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 205458

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (C4-C13)			1970	1850		ug/L		94	71 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*20 - 144*

Lab Sample ID: LCSD 570-205458/4 **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 205458

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)			1970	1760		ug/L		89	71 - 120	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*20 - 144*

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: 440-293584-D-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205458

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (C4-C13)	ND		1970	1820		ug/L		92	54 - 125		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*20 - 144*

Lab Sample ID: 440-293584-D-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205458

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	ND		1970	1880		ug/L		95	54 - 125	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*20 - 144*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 570-204429/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204515 — **Prep Batch: 204429**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C28	ND		0.050	0.036	mg/L		12/29/21 10:02	12/29/21 19:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*110*		*53 - 151*	*12/29/21 10:02*	*12/29/21 19:28*	*1*

Lab Sample ID: LCS 570-204429/4-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204515 — **Prep Batch: 204429**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C28			4.00	4.57		mg/L		114	70 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane (Surr)	*107*		*53 - 151*

Lab Sample ID: LCSD 570-204429/5-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204515 — **Prep Batch: 204429**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28			4.00	4.97		mg/L		124	70 - 131	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane (Surr)	*119*		*53 - 151*

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-205573/1-A
Matrix: Water
Analysis Batch: 205710

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205573

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	ND		1.0	0.51	mg/L		01/05/22 09:11	01/05/22 09:11	1

Lab Sample ID: LCS 570-205573/2-A
Matrix: Water
Analysis Batch: 205710

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205573

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM: Oil and Grease	40.0	34.5		mg/L		86	78 - 114

Lab Sample ID: LCSD 570-205573/3-A
Matrix: Water
Analysis Batch: 205710

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205573

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM: Oil and Grease	40.0	40.2		mg/L		101	78 - 114	15	18

Lab Sample ID: 440-293778-A-1-A MS
Matrix: Water
Analysis Batch: 205710

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 205573

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM: Oil and Grease	1.9		38.7	41.2		mg/L		102	78 - 114

Lab Sample ID: 440-293778-C-1-A MSD
Matrix: Water
Analysis Batch: 205710

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 205573

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM: Oil and Grease	1.9		37.2	39.7		mg/L		102	78 - 114	4	18

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 440-663757/3
Matrix: Water
Analysis Batch: 663757

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

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			01/04/22 11:54	1

Lab Sample ID: LCS 440-663757/4
Matrix: Water
Analysis Batch: 663757

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	687	671		umhos/cm		98	90 - 110

Method: SM 2510B - Conductivity, Specific Conductance (Continued)

Lab Sample ID: 570-80129-N-1 DU
Matrix: Water
Analysis Batch: 663757

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Specific Conductance	210			213		umhos/cm				0	5

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80141-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab

GC/MS VOA

Analysis Batch: 663938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80141-1	Outfall001_20211224_Grab	Total/NA	Water	624.1	
570-80141-3	TB-20211224	Total/NA	Water	624.1	
MB 440-663938/6	Method Blank	Total/NA	Water	624.1	
LCS 440-663938/1004	Lab Control Sample	Total/NA	Water	624.1	
LCS 440-663938/1005	Lab Control Sample	Total/NA	Water	624.1	
570-80528-G-1 MS	Matrix Spike	Total/NA	Water	624.1	
570-80528-I-1 MSD	Matrix Spike Duplicate	Total/NA	Water	624.1	

GC VOA

Analysis Batch: 205458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80141-1	Outfall001_20211224_Grab	Total/NA	Water	8015B	
MB 570-205458/5	Method Blank	Total/NA	Water	8015B	
LCS 570-205458/3	Lab Control Sample	Total/NA	Water	8015B	
LCSD 570-205458/4	Lab Control Sample Dup	Total/NA	Water	8015B	
440-293584-D-1 MS	Matrix Spike	Total/NA	Water	8015B	
440-293584-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B	

GC Semi VOA

Prep Batch: 204429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80141-1	Outfall001_20211224_Grab	Total/NA	Water	3510C	
MB 570-204429/1-A	Method Blank	Total/NA	Water	3510C	
LCS 570-204429/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 570-204429/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 204515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-204429/1-A	Method Blank	Total/NA	Water	8015B	204429
LCS 570-204429/4-A	Lab Control Sample	Total/NA	Water	8015B	204429
LCSD 570-204429/5-A	Lab Control Sample Dup	Total/NA	Water	8015B	204429

Analysis Batch: 204739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80141-1	Outfall001_20211224_Grab	Total/NA	Water	8015B	204429

General Chemistry

Prep Batch: 205573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80141-1	Outfall001_20211224_Grab	Total/NA	Water	1664A	
MB 570-205573/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-205573/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-205573/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	
440-293778-A-1-A MS	Matrix Spike	Total/NA	Water	1664A	
440-293778-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1664A	

Analysis Batch: 205710

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80141-1	Outfall001_20211224_Grab	Total/NA	Water	1664A	205573

General Chemistry (Continued)

Analysis Batch: 205710 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-205573/1-A	Method Blank	Total/NA	Water	1664A	205573
LCS 570-205573/2-A	Lab Control Sample	Total/NA	Water	1664A	205573
LCSD 570-205573/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	205573
440-293778-A-1-A MS	Matrix Spike	Total/NA	Water	1664A	205573
440-293778-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1664A	205573

Analysis Batch: 663757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80141-1	Outfall001_20211224_Grab	Total/NA	Water	SM 2510B	
MB 440-663757/3	Method Blank	Total/NA	Water	SM 2510B	
LCS 440-663757/4	Lab Control Sample	Total/NA	Water	SM 2510B	
570-80129-N-1 DU	Duplicate	Total/NA	Water	SM 2510B	

Analysis Batch: 664723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80141-1	Outfall001_20211224_Grab	Total/NA	Water	SM 2540F	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80141-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab

Client Sample ID: Outfall001_20211224_Grab
Lab Sample ID: 570-80141-1
Date Collected: 12/24/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	663938	01/07/22 02:59	N1A	IRV 2
	Instrument ID: GCMS13									
Total/NA	Analysis	8015B		1	5 mL	5 mL	205458	01/05/22 08:56	P1R	ECL 2
	Instrument ID: GC1									
Total/NA	Prep	3510C			259.7 mL	2.5 mL	204429	12/29/21 10:02	UFLU	ECL 1
Total/NA	Analysis	8015B		1			204739	12/30/21 20:54	N5Y3	ECL 1
	Instrument ID: GC48									
Total/NA	Prep	1664A			932 mL	1000 mL	205573	01/05/22 09:11	UWEZ	ECL 1
Total/NA	Analysis	1664A		1			205710	01/05/22 09:11	USUL	ECL 1
	Instrument ID: ICPMS05									
Total/NA	Analysis	SM 2510B		1			663757	01/04/22 11:54	VY3D	IRV 2
	Instrument ID: COND13									
Total/NA	Analysis	SM 2540F		1	1000 mL	1000 mL	664723	01/18/22 13:03	W1BQ	IRV 2
	Instrument ID: NOEQUIP									

Client Sample ID: TB-20211224
Lab Sample ID: 570-80141-3
Date Collected: 12/24/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	663938	01/07/22 03:28	N1A	IRV 2
	Instrument ID: GCMS13									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

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

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80141-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab

Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
624.1		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
624.1		Water	1,2-Dichloro-1,1,2-trifluoroethane
624.1		Water	cis-1,2-Dichloroethene
624.1		Water	Cyclohexane
624.1		Water	Naphthalene
624.1		Water	Xylenes, Total

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

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80141-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	IRV 2
8015B	Gasoline Range Organics - (GC)	SW846	ECL 2
8015B	Diesel Range Organics (DRO) (GC)	SW846	ECL 1
1664A	HEM and SGT-HEM	1664A	ECL 1
SM 2510B	Conductivity, Specific Conductance	SM	IRV 2
SM 2540F	Solids, Settleable	SM	IRV 2
Subcontract	9223- Colilert 18 - E. Coli - level 4 required	None	Enthalpy
1664A	HEM and SGT-HEM (Aqueous)	1664A	ECL 1
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ECL 1
5030C	Purge and Trap	SW846	ECL 2

Protocol References:

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

None = None

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

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

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

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

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80141-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 001 Grab

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80141-1	Outfall001_20211224_Grab	Water	12/24/21 10:00	12/27/21 17:35
570-80141-3	TB-20211224	Water	12/24/21 10:00	12/27/21 17:35

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

enthalpy.com

Lab Job Number: 456044
Report Level: IV
Report Date: 02/15/2022

Microbiology Tests

Analytical Report *prepared for:*

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

Project: BOEING NPDES SSFL - Boeing NPDES SSFL Outfalls #44024446

Authorized for release by:

Quynhgiao Le

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

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

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

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	Lab Job #: Project No: Location: Date Received:	456044 BOEING NPDES SSFL Boeing NPDES SSFL Outfalls #44024446 12/28/21

Sample ID	Lab ID	Collected	Matrix
OUTFALL001_20211224_GRAB (570-80141-1)	456044-001	12/24/21 10:00	Water

ENTHALPY ANALYTICAL

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience, Inc. 7440 Lincoln Way Garden Grove, CA 92841-1427 Virendra Patel	Lab Job Number: 456044 Location: Boeing NPDES SSFL Outfalls #44024446 Date Received: 12/28/21

This data package contains sample and QC results for one water sample, requested for the above referenced project on 12/28/21. See attached cooler receipt form for any sample receipt problems or discrepancies.

Total Coliform / E. coli by Quanti-Tray (SM 9223Bb):

No analytical problems were encountered.

Chain of Custody

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

456044

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-147893.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-80141-1
Address: 931 W. Barkley Ave,	Due Date Requested: 1/7/2022			
City: Orange	TAT Requested (days):			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (9223- Colilert 18 - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
				Preservation Code:					
Outfall001_20211224_Grab (570-80141-1)	12/24/21	10:00 Pacific		Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

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

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For ______ Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 12/28/21	Company: EC	Received by: [signature]	Date/Time: 12/28/21 1514	Company: EA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Eurofins Calscience Garden Grove Project: Boeing NPDES SSFL Outfall

Date Received: 12/28/21 Sampler's Name Present: ☐ Yes ☐ No

Section 2

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

Sample Temp (°C), One from each cooler: #1: 0.4 #2: _____ #3: _____ #4: _____

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

Shipping Information: _____

Section 3

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

Cooler Temp (°C): #1: 0.1 #2: _____ #3: _____ #4: _____

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

Section 5 Explanations/Comments

Received outside holding time.

Section 6

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

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

Project Manager's response:

Completed By: _____ Date: 12/28/21

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

Quynhgiao Le

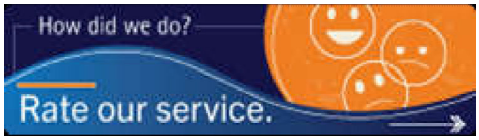
From: Patel, Virendra <Virendra.Patel@eurofinset.com> on behalf of Patel, Virendra
Sent: Tuesday, December 28, 2021 3:35 PM
To: Quynhgiao Le
Subject: [EXTERNAL] RE: Boeing NPDES SSFL Outfalls Samples Received Today - Out of Hold

Follow Up Flag: Follow up
Flag Status: Flagged

Yes – please proceed outside of hold. The client had to collect and hold over the holiday. Thank you!

Best Regards,

Virendra Patel
Project Manager



Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
P: +1 714 895 5494
F: +1 714 894 7501

Email: Virendra.Patel@eurofinsET.com
Website: www.eurofinsUS.com/Calscience

For up-to-date business information, visit our website and follow us on Facebook and LinkedIn.

From: Quynhgiao Le <quynhgiao.le@enthalpy.com>
Sent: Tuesday, December 28, 2021 3:34 PM
To: Patel, Virendra <Virendra.Patel@eurofinset.com>
Subject: Boeing NPDES SSFL Outfalls Samples Received Today - Out of Hold
Importance: High

EXTERNAL EMAIL*

HI Patel,

All 5 samples received today are out of hold. Please let me know if you'd still like to proceed with the analysis. Thanks!

Happy Holidays from Enthalpy Analytical. We will be closed on Dec 24th, Dec 25th , Jan 1st and Jan 3rd. Sample Receiving will be closed at 3PM on Dec 31st. Please contact your project manager in advance for sample submittals with short hold time and please submit them by Tuesday Dec. 21st for the week of Dec. 20 and by Wednesday, Dec 29th for the week of Dec. 27. Microbiological samples submitted after Dec 17th may incur holiday surcharges.

Quynhgiao Le
Project Manager Assistant
ENTHALPY ANALYTICAL
931 W. Barkley Ave., Orange, CA 92868
O: 714.771.6900 X 9929
Quynhgiao.Le@enthalpy.com

To help protect the air we breathe, the water we drink, and the soil that feeds us.

Please take a moment to provide customer feedback
Terms and Conditions & Enthalpy Sample Acceptance Policy

https://enthalpy.com/news-events/

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 456044 **Project#:** BOEING NPDES SSFL

Client: Eurofins Calscience Tustin **Location:** Boeing NPDES SSFL Outfalls #44024446

Field ID:	OUTFALL001_20211224_GRAB (570-80141-1)	**Batch#:**	280855	**Analyzed:**	12/29/21 10:53
Lab ID:	456044-001	**Sampled:**	12/24/21 10:00	**Prep:**	
Matrix:	Water	**Received:**	12/28/21	**Analysis:**	SM 9223Bb
Dil'n Fac:	1.000	**Prepared:**	12/28/21 16:22	**Analyst:**	SZL

Analyte	Result	RL	Units	Qual
Coliform, E. Coli	**150**	1.0	MPN/100ml	H

Legend

H: Holding time was exceeded

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: SL Prep Date/Time: 12/28/21 1622 QC Batch ID: 280855 Batch Page 1 of 2

Read Analyst: SL Read Date/Time 12/29/21 1053

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: HT510 Pipette Lot #: A103665, A103909, & A103931

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 12/1/21 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: A Incubator In, Temp/Time: 34.8 1646 Incubator Out, Temp/Time: 1053 35.1

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

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
ECL GG		456046-001	1X	49	48	>2419.6	>2400	40	9	95.9	96					EU-01
↓		↓	10X	49	36	866.4	8700	8	1	9.7	97					↓
			100X	36	5	69.7	7000	0	0	<1	<100					
		456044-001	1X	49	48	>2419.6	>2400	46	10	146.7	150					EU2-01
		↓	10X	49	39	1046.2	10,000	7	3	10.7	110					↓
			100X	28	5	47.3	4700	0	0	<1	<100					
		456049-001	1X	49	48	>2419.6	>2400	3	0	3.1	3.1					EU3-01
		↓	10X	49	~~48~~ 25	461.1	4600	1	0	1.0	10					↓
			100X	34	5	63.1	6300	0	0	<1	<100					
		456047-001	1X	49	48	>2419.6	>2400	31	4	52.9	53					EU4-01
		↓	10X	49	48	>2419.6	>24000	1	0	1.0	10					↓
			100X	49	47	2419.6	240000	0	0	<1	<100					
↓		456052-001	1X	33	4	58.3	58	0	0	<1	<1					EU5-01
Quality Control		**Culture ID**														
Positive +/+ (E. Coli)		12/06/21		49	48	>2419.6	>2400	49	48	>2419.6	>2400					
Positive +/- (K. Pneumonia)		↓		49	48	>2419.6	>2400	0	0	<1	<1					
Negative -/- (P. Aeruginosa)		↓		0	0	<1	<1	0	0	<1	<1					

N/A 12/30/21 (written diagonally across the Fecal Coliform columns)

Data Entered By: [initials] 12/30/21 Data Reviewed By:

SM 9223 B-b, Quanti-Tray

Prep Analyst: SL Prep Date/Time: 12/28/21 1622 QC Batch ID: 280855 Batch Page 2 of 2

Read Analyst: SL Read Date/Time 12/29/21 1053

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: HT510 Pipette Lot #: A103665, A103909, & A103931

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 12/1/21 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: A Incubator In, Temp/Time: 34.8 1646 Incubator Out, Temp/Time: 1035 35.1

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

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts (Colilert 18) Large Wells	Total Coliform Counts (Colilert 18) Small Wells	MPN Table Value	Final Result, MPN	E. coli Counts (Colilert 18) Large Wells	E. coli Counts (Colilert 18) Small Wells	MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only) Large Wells	Fecal Coliform Counts (Colilert 18 only) Small Wells	MPN Table Value	Final Result, MPN	Comments
ECL GG		456053-001	10X	1	1	2.0	20	0	0	<1	<10					EU5-01
↓		↓	100X	1	0	1.0	100	0	0	<1	<100					↓

MV 12/30/21

MV 12/30/21

Quality Control	Culture ID
Positive +/+ (E. Coli)	12/26/21
Positive +/- (K. Pneumonia)	↓
Negative -/- (P. Aeruginosa)	

Data Entered By: MV 12/30/21 Data Reviewed By:

80141

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80141 Chain of Custody

WYR7R59L

Client Name/Address.	Project:	ANALYSIS REQUIRED	Field Readings	Meter serial #
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 001 Grab		Field Readings: (Include units) Time of Readings: 0945	
Eurofins Calscience Irvine Contact: Virendra Patel **EC#44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218			DO 10.09 mg/L pH 7.12 pH unit Temp 49.1 °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)		TRC 0.0 mg/L	
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Field readings QC Checked by: MDominick Date/Time: 12-24-2021/0945	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	MST-Bacteroidates, Human (SAM348-357) Source Molecular in Miami Lakes, FL	E. coli (SM9221) Enterolyt Analytical Orange CA	Settleable Solids (E160.5 (SM2540F))	Conductivity (SM2510B / E120 1)	Oil & Grease (E1664A-HEM)	VOCs + VOCs PP + xylenes, Freon 11 Freon 113, Freon 123A, Cyclohexane cis-1 2-DCE (E624)	VOCs only A+A+2CVE (E624)	TPH: gas (GRO(C4-C12)) (SW8015B)	TPH: diesel/jet fuel (DRO (C13-C28)) (SW8015B)	Comments
Outfall 001	Outfall001_20211224_Grab	12/24/2021/1000	WM	125mL Sterile Poly	1	None	5	No	X									Deliver to lab ASAP 8 hr hold time
			WM	125mL Sterile Poly	3	$Na_2S_2O_3$	10	No		X								Deliver to lab ASAP 8 hr hold time Need 1x, 10x, 100x dilutions
			WM	1 L Glass Amber	2	HCl	15	No					X					
			WM	40 mL VOA	3	HCl	45	No						X				
			WM	40 mL VOA	3	None	55	No							X			
			WM	40 mL VOA	3	HCl	60	No								X		
			WM	1 L Glass Amber	2	None	65	No									X	
			WM	1 L Poly	1	None	70	No			X							
			WM	500 mL Poly	1	None	75	No				X						
	Outfall001_20211224_Grab_Extra	12/24/2021/1000	WM	1 L Glass Amber	2	HCl	15	No					H					Hold
			WM	40 mL VOA	3	HCl	45	No						H				Hold
			WM	40 mL VOA	3	None	55	No							H			Hold
			WM	500 mL Poly	1	None	75	No				H						Hold
Trip Blanks	TB-20211224	12/24/2021/1000	WQ	40 mL VOA	2	HCl	45	No						X				
			WQ	40 mL VOA	2	None	55	No							X			

Legend: A=Annual, R=Routine, Q=Quarterly

Relinquished By	Date/Time:	Company	Received By	Date/Time:
[signature]	12/27/2021/1445	H. A	[signature]	12/27/21 1445
[signature]	12/27/ 1735		[signature]	12/27/21 1735

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__

Deliver 1 sparkle/y to Source Molecular via FedEX

26/3.5, 2.2/3 SCS

2/15/2022 (Rev. 1)

2019-2020 Rainy Season
Version 5

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80141-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2540F/ Solids, Settleable	624.1_LL/624_Prep_3D PP+xyl+fr113,11,123A+cyclohex+A+A+2CVE	2510B	Total Number of containers	Special Instructions/Note.
			Preservation Code:								
Outfall001_20211224_Grab (570-80141-1)	12/24/21	10 00 Pacific		Water			X	X	X	2	Analyze on "Closed System only"

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II, III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements IR-89 2.0/2.0

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/28/21	EC			
2	Relinquished by:	Date/Time:	Company	Received by: Olga Oinelos	Date/Time 12/28/21 1752	Company ECT
3	Relinquished by:	Date/Time:	Company	Received by	Date/Time	Company

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

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80141-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2540F/ Solids, Settleable	624.1_LL/624_Prep_3D PP+xyl+fr113,11,123A+cyclohex+A+A+2CVE	2510B	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X				X	
Outfall001_20211224_Grab (570-80141-1)	12/24/21	10 00 Pacific		Water			X	X	X	2	, Analyze on "Closed System only"

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements: IR-89 2.0/2.0

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/23/21	EC			
2		Date/Time:	Company	Olga Oinelos	12/28/21 1752	ECT
3	Relinquished by	Date/Time:	Company	Received by	Date/Time	Company

Custody Seals Intact: Custody Seal No

Cooler Temperature(s) °C and Other Remarks.

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147901 2
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80132-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2340B/Filtration_AC Diss hardness	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10 00 Pacific		Water				5	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall002_20211226_Comp_F (570-80132-3)	12/26/21	10 00 Pacific		Water			X	3	Filter w/in 24 hours Filter within 24 hours use VOA vials from LL Hg Kit-Clean Hands

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements: ER-89 2.0/2.0

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/28/21	GC			
2		Date/Time	Company	Received by: Olga Omelos	Date/Time 12-28/21 1752	Company ECTH
3	Relinquished by	Date/Time	Company	Received by:	Date/Time	Company

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

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148948 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80141-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 001 Grab	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	624.1_LL/624_Prep_3D PP+xyl+fr113,11,123A+cyclohex+A+A+2CVE	Total Number of containers	Special Instructions/Note:
Preservation Code:					X	X		X	
TB-20211224 (570-80141-3)	12/24/21	10 00 Pacific		Water			X	6	Analyze on "Closed System only"

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements: IR-89 1.4/1.4

Empty Kit Relinquished by	Date	Time	Method of Shipment

Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
	01/05/22	EZ1			
Relinquished by:	Date/Time	Company	Received by: Cher Cinelas	Date/Time: 01/05/22 1130	Company ECT
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

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

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80141-1

Login Number: 80141
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: 570-80141-1

Login Number: 80141
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 12/29/21 10:10 AM

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

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80141-1

Login Number: 80141
List Number: 3
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 01/05/22 01:07 PM

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

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80129-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab
Revision: 1

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

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/15/2022 3:22:53 PM

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

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Client Sample Results 6
Surrogate Summary 11
QC Sample Results 12
QC Association Summary 19
Lab Chronicle 21
Certification Summary 22
Method Summary 23
Sample Summary 24
Subcontract Data 25
Chain of Custody 35
Receipt Checklists 41

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80129-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
BU	Analyzed out of holding time

General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time
BV	Sample received after holding time expired

Glossary

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

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-80129-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Job ID: 570-80129-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80129-1

Comments
No additional comments.

Receipt
The samples were received on 12/27/2021 5:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.8º C.

GC/MS VOA
Method 624.1: The following sample(s) was analyzed outside of analytical holding time due to laboratory relocation and requiring method validations. Clients were notified of hold time issues. Outfall002_20211224_Grab (570-80129-1) and TB-20211224 (570-80129-3).

Method 624.1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 440-663938 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

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

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 2540F: The following sample was received outside of holding time: Outfall002_20211224_Grab (570-80129-1).

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

Organic Prep
Method 1664A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-203858. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 1664.

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

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

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

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80129-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Client Sample ID: Outfall002_20211224_Grab
Lab Sample ID: 570-80129-1

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	210		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: TB-20211224
Lab Sample ID: 570-80129-3

No Detections.

This Detection Summary does not include radiochemical test results.

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

Client Sample ID: Outfall002_20211224_Grab
Lab Sample ID: 570-80129-1
Date Collected: 12/24/21 09:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	BU	0.50	0.25	ug/L			01/07/22 01:04	1
1,1,2,2-Tetrachloroethane	ND	BU	0.50	0.20	ug/L			01/07/22 01:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	BU	2.0	0.33	ug/L			01/07/22 01:04	1
1,1,2-Trichloroethane	ND	BU	0.50	0.17	ug/L			01/07/22 01:04	1
1,1-Dichloroethane	ND	BU	0.50	0.39	ug/L			01/07/22 01:04	1
1,1-Dichloroethene	ND	BU	0.50	0.33	ug/L			01/07/22 01:04	1
1,2-Dichloro-1,1,2-trifluoroethane	ND	BU	2.0	0.58	ug/L			01/07/22 01:04	1
1,2-Dichlorobenzene	ND	BU	0.50	0.16	ug/L			01/07/22 01:04	1
1,2-Dichloroethane	ND	BU	0.50	0.15	ug/L			01/07/22 01:04	1
1,2-Dichloropropane	ND	BU	0.50	0.17	ug/L			01/07/22 01:04	1
1,3-Dichlorobenzene	ND	BU	0.50	0.16	ug/L			01/07/22 01:04	1
1,4-Dichlorobenzene	ND	BU	0.50	0.11	ug/L			01/07/22 01:04	1
2-Chloroethyl vinyl ether	ND	BU	2.0	1.1	ug/L			01/07/22 01:04	1
Acrolein	ND	BU	5.0	4.6	ug/L			01/07/22 01:04	1
Acrylonitrile	ND	BU	2.0	1.4	ug/L			01/07/22 01:04	1
Benzene	ND	BU	0.50	0.28	ug/L			01/07/22 01:04	1
Bromodichloromethane	ND	BU	0.50	0.19	ug/L			01/07/22 01:04	1
Bromoform	ND	BU	1.0	0.25	ug/L			01/07/22 01:04	1
Bromomethane	ND	BU	0.50	0.22	ug/L			01/07/22 01:04	1
Carbon tetrachloride	ND	BU	0.50	0.28	ug/L			01/07/22 01:04	1
Chlorobenzene	ND	BU	0.50	0.19	ug/L			01/07/22 01:04	1
Chloroethane	ND	BU	1.0	0.29	ug/L			01/07/22 01:04	1
Chloroform	ND	BU	0.50	0.19	ug/L			01/07/22 01:04	1
Chloromethane	ND	BU	0.50	0.30	ug/L			01/07/22 01:04	1
cis-1,2-Dichloroethene	ND	BU	0.50	0.21	ug/L			01/07/22 01:04	1
cis-1,3-Dichloropropene	ND	BU	0.50	0.30	ug/L			01/07/22 01:04	1
Cyclohexane	ND	BU	2.0	0.79	ug/L			01/07/22 01:04	1
Dibromochloromethane	ND	BU	0.50	0.15	ug/L			01/07/22 01:04	1
Ethylbenzene	ND	BU	0.50	0.25	ug/L			01/07/22 01:04	1
m,p-Xylene	ND	BU	1.0	0.17	ug/L			01/07/22 01:04	1
Methylene Chloride	ND	BU	2.0	0.57	ug/L			01/07/22 01:04	1
Naphthalene	ND	BU	1.0	0.33	ug/L			01/07/22 01:04	1
o-Xylene	ND	BU	0.50	0.15	ug/L			01/07/22 01:04	1
Tetrachloroethene	ND	BU	0.50	0.21	ug/L			01/07/22 01:04	1
Toluene	ND	BU	0.50	0.23	ug/L			01/07/22 01:04	1
trans-1,2-Dichloroethene	ND	BU	0.50	0.24	ug/L			01/07/22 01:04	1
trans-1,3-Dichloropropene	ND	BU	0.50	0.18	ug/L			01/07/22 01:04	1
Trichloroethene	ND	BU	0.50	0.17	ug/L			01/07/22 01:04	1
Trichlorofluoromethane	ND	BU	0.50	0.29	ug/L			01/07/22 01:04	1
Vinyl chloride	ND	BU	0.50	0.47	ug/L			01/07/22 01:04	1
Xylenes, Total	ND	BU	1.0	0.17	ug/L			01/07/22 01:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*60 - 140*		*01/07/22 01:04*	*1*
Dibromofluoromethane (Surr)	*107*		*60 - 140*		*01/07/22 01:04*	*1*
Toluene-d8 (Surr)	*107*		*60 - 140*		*01/07/22 01:04*	*1*

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

Client Sample ID: TB-20211224
Date Collected: 12/24/21 09:30
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80129-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	BU	0.50	0.25	ug/L			01/07/22 01:33	1
1,1,2,2-Tetrachloroethane	ND	BU	0.50	0.20	ug/L			01/07/22 01:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	BU	2.0	0.33	ug/L			01/07/22 01:33	1
1,1,2-Trichloroethane	ND	BU	0.50	0.17	ug/L			01/07/22 01:33	1
1,1-Dichloroethane	ND	BU	0.50	0.39	ug/L			01/07/22 01:33	1
1,1-Dichloroethene	ND	BU	0.50	0.33	ug/L			01/07/22 01:33	1
1,2-Dichloro-1,1,2-trifluoroethane	ND	BU	2.0	0.58	ug/L			01/07/22 01:33	1
1,2-Dichlorobenzene	ND	BU	0.50	0.16	ug/L			01/07/22 01:33	1
1,2-Dichloroethane	ND	BU	0.50	0.15	ug/L			01/07/22 01:33	1
1,2-Dichloropropane	ND	BU	0.50	0.17	ug/L			01/07/22 01:33	1
1,3-Dichlorobenzene	ND	BU	0.50	0.16	ug/L			01/07/22 01:33	1
1,4-Dichlorobenzene	ND	BU	0.50	0.11	ug/L			01/07/22 01:33	1
2-Chloroethyl vinyl ether	ND	BU	2.0	1.1	ug/L			01/07/22 01:33	1
Acrolein	ND	BU	5.0	4.6	ug/L			01/07/22 01:33	1
Acrylonitrile	ND	BU	2.0	1.4	ug/L			01/07/22 01:33	1
Benzene	ND	BU	0.50	0.28	ug/L			01/07/22 01:33	1
Bromodichloromethane	ND	BU	0.50	0.19	ug/L			01/07/22 01:33	1
Bromoform	ND	BU	1.0	0.25	ug/L			01/07/22 01:33	1
Bromomethane	ND	BU	0.50	0.22	ug/L			01/07/22 01:33	1
Carbon tetrachloride	ND	BU	0.50	0.28	ug/L			01/07/22 01:33	1
Chlorobenzene	ND	BU	0.50	0.19	ug/L			01/07/22 01:33	1
Chloroethane	ND	BU	1.0	0.29	ug/L			01/07/22 01:33	1
Chloroform	ND	BU	0.50	0.19	ug/L			01/07/22 01:33	1
Chloromethane	ND	BU	0.50	0.30	ug/L			01/07/22 01:33	1
cis-1,2-Dichloroethene	ND	BU	0.50	0.21	ug/L			01/07/22 01:33	1
cis-1,3-Dichloropropene	ND	BU	0.50	0.30	ug/L			01/07/22 01:33	1
Cyclohexane	ND	BU	2.0	0.79	ug/L			01/07/22 01:33	1
Dibromochloromethane	ND	BU	0.50	0.15	ug/L			01/07/22 01:33	1
Ethylbenzene	ND	BU	0.50	0.25	ug/L			01/07/22 01:33	1
m,p-Xylene	ND	BU	1.0	0.17	ug/L			01/07/22 01:33	1
Methylene Chloride	ND	BU	2.0	0.57	ug/L			01/07/22 01:33	1
Naphthalene	ND	BU	1.0	0.33	ug/L			01/07/22 01:33	1
o-Xylene	ND	BU	0.50	0.15	ug/L			01/07/22 01:33	1
Tetrachloroethene	ND	BU	0.50	0.21	ug/L			01/07/22 01:33	1
Toluene	ND	BU	0.50	0.23	ug/L			01/07/22 01:33	1
trans-1,2-Dichloroethene	ND	BU	0.50	0.24	ug/L			01/07/22 01:33	1
trans-1,3-Dichloropropene	ND	BU	0.50	0.18	ug/L			01/07/22 01:33	1
Trichloroethene	ND	BU	0.50	0.17	ug/L			01/07/22 01:33	1
Trichlorofluoromethane	ND	BU	0.50	0.29	ug/L			01/07/22 01:33	1
Vinyl chloride	ND	BU	0.50	0.47	ug/L			01/07/22 01:33	1
Xylenes, Total	ND	BU	1.0	0.17	ug/L			01/07/22 01:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*60 - 140*		*01/07/22 01:33*	*1*
Dibromofluoromethane (Surr)	*109*		*60 - 140*		*01/07/22 01:33*	*1*
Toluene-d8 (Surr)	*110*		*60 - 140*		*01/07/22 01:33*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80129-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Method: 8015B - Gasoline Range Organics - (GC)

Client Sample ID: Outfall002_20211224_Grab
Lab Sample ID: 570-80129-1
Date Collected: 12/24/21 09:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		50	30	ug/L			01/05/22 08:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*20 - 144*		*01/05/22 08:08*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80129-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Method: 8015B - Diesel Range Organics (DRO) (GC)

Client Sample ID: Outfall002_20211224_Grab
Lab Sample ID: 570-80129-1
Date Collected: 12/24/21 09:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C28	ND		0.051	0.037	mg/L		12/29/21 10:02	12/30/21 20:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*109*		*53 - 151*	*12/29/21 10:02*	*12/30/21 20:12*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80129-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

General Chemistry

Client Sample ID: Outfall002_20211224_Grab
Lab Sample ID: 570-80129-1
Date Collected: 12/24/21 09:30
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	ND		1.1	0.55	mg/L		12/28/21 13:00	12/28/21 13:00	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	**210**		1.0	1.0	umhos/cm			01/04/22 11:54	1
Settleable Solids	ND	BU BV	0.10	0.10	mL/L/Hr			01/18/22 14:31	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Job ID: 570-80129-1

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)
570-80129-1	Outfall002_20211224_Grab	109	107	107
570-80129-3	TB-20211224	103	109	110
570-80528-G-1 MS	Matrix Spike	112	103	103
570-80528-I-1 MSD	Matrix Spike Duplicate	108	103	104
LCS 440-663938/1004	Lab Control Sample	109	98	99
LCS 440-663938/1005	Lab Control Sample	99	107	109
MB 440-663938/6	Method Blank	100	107	111

Surrogate Legend

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

Method: 8015B - Gasoline Range Organics - (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)
		BFB1
Lab Sample ID	Client Sample ID	(20-144)
440-293584-D-1 MS	Matrix Spike	97
440-293584-D-1 MSD	Matrix Spike Duplicate	97
570-80129-1	Outfall002_20211224_Grab	88
LCS 570-205458/3	Lab Control Sample	98
LCSD 570-205458/4	Lab Control Sample Dup	93
MB 570-205458/5	Method Blank	72

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: 8015B - Diesel Range Organics (DRO) (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)
		OTCSN1
Lab Sample ID	Client Sample ID	(53-151)
570-80129-1	Outfall002_20211224_Grab	109
LCS 570-204429/2-A	Lab Control Sample	113
LCSD 570-204429/3-A	Lab Control Sample Dup	112
MB 570-204429/1-A	Method Blank	110

Surrogate Legend

OTCSN = n-Octacosane (Surr)

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

Lab Sample ID: MB 440-663938/6
Matrix: Water
Analysis Batch: 663938

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/06/22 19:47	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/06/22 19:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			01/06/22 19:47	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/06/22 19:47	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/06/22 19:47	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/06/22 19:47	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	0.58	ug/L			01/06/22 19:47	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/06/22 19:47	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/06/22 19:47	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/06/22 19:47	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/06/22 19:47	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/06/22 19:47	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/06/22 19:47	1
Acrolein	ND		5.0	4.6	ug/L			01/06/22 19:47	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/06/22 19:47	1
Benzene	ND		0.50	0.28	ug/L			01/06/22 19:47	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/06/22 19:47	1
Bromoform	ND		1.0	0.25	ug/L			01/06/22 19:47	1
Bromomethane	ND		0.50	0.22	ug/L			01/06/22 19:47	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/06/22 19:47	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/06/22 19:47	1
Chloroethane	ND		1.0	0.29	ug/L			01/06/22 19:47	1
Chloroform	ND		0.50	0.19	ug/L			01/06/22 19:47	1
Chloromethane	ND		0.50	0.30	ug/L			01/06/22 19:47	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/06/22 19:47	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/06/22 19:47	1
Cyclohexane	ND		2.0	0.79	ug/L			01/06/22 19:47	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/06/22 19:47	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/06/22 19:47	1
m,p-Xylene	ND		1.0	0.17	ug/L			01/06/22 19:47	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/06/22 19:47	1
Naphthalene	ND		1.0	0.33	ug/L			01/06/22 19:47	1
o-Xylene	ND		0.50	0.15	ug/L			01/06/22 19:47	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/06/22 19:47	1
Toluene	ND		0.50	0.23	ug/L			01/06/22 19:47	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/06/22 19:47	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/06/22 19:47	1
Trichloroethene	ND		0.50	0.17	ug/L			01/06/22 19:47	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			01/06/22 19:47	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/06/22 19:47	1
Xylenes, Total	ND		1.0	0.17	ug/L			01/06/22 19:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*60 - 140*		*01/06/22 19:47*	*1*
Dibromofluoromethane (Surr)	*107*		*60 - 140*		*01/06/22 19:47*	*1*
Toluene-d8 (Surr)	*111*		*60 - 140*		*01/06/22 19:47*	*1*

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

Lab Sample ID: LCS 440-663938/1004
Matrix: Water
Analysis Batch: 663938

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	25.5		ug/L		102	69 - 151
1,1,2,2-Tetrachloroethane	25.0	31.0		ug/L		124	68 - 136
1,1,2-Trichloroethane	25.0	28.6		ug/L		114	75 - 136
1,1-Dichloroethane	25.0	26.9		ug/L		108	71 - 143
1,1-Dichloroethene	25.0	27.4		ug/L		109	19 - 212
1,2-Dichlorobenzene	25.0	24.5		ug/L		98	59 - 174
1,2-Dichloroethane	25.0	27.1		ug/L		108	72 - 137
1,2-Dichloropropane	25.0	28.0		ug/L		112	19 - 181
1,3-Dichlorobenzene	25.0	24.9		ug/L		100	75 - 144
1,4-Dichlorobenzene	25.0	24.7		ug/L		99	59 - 174
2-Chloroethyl vinyl ether	25.0	29.5		ug/L		118	10 - 252
Acrolein	24.7	28.7		ug/L		116	50 - 150
Acrylonitrile	250	300		ug/L		120	50 - 150
Benzene	25.0	25.5		ug/L		102	75 - 125
Bromodichloromethane	25.0	27.1		ug/L		108	50 - 140
Bromoform	25.0	23.8		ug/L		95	57 - 156
Bromomethane	25.0	28.2		ug/L		113	10 - 206
Carbon tetrachloride	25.0	25.4		ug/L		101	65 - 125
Chlorobenzene	25.0	24.9		ug/L		99	82 - 137
Chloroethane	25.0	29.4		ug/L		118	42 - 202
Chloroform	25.0	25.6		ug/L		102	68 - 121
Chloromethane	25.0	31.6		ug/L		127	10 - 230
cis-1,2-Dichloroethene	25.0	23.1		ug/L		93	60 - 140
cis-1,3-Dichloropropene	25.0	28.7		ug/L		115	5 - 195
Dibromochloromethane	25.0	25.7		ug/L		103	69 - 133
Ethylbenzene	25.0	24.1		ug/L		97	75 - 134
m,p-Xylene	25.0	23.5		ug/L		94	60 - 140
Methylene Chloride	25.0	25.0		ug/L		100	10 - 205
Naphthalene	25.0	23.6		ug/L		95	60 - 140
o-Xylene	25.0	23.5		ug/L		94	60 - 140
Tetrachloroethene	25.0	23.5		ug/L		94	70 - 130
Toluene	25.0	24.8		ug/L		99	75 - 134
trans-1,2-Dichloroethene	25.0	23.2		ug/L		93	70 - 130
trans-1,3-Dichloropropene	25.0	29.0		ug/L		116	38 - 162
Trichloroethene	25.0	22.7		ug/L		91	75 - 138
Trichlorofluoromethane	25.0	29.8		ug/L		119	45 - 158
Vinyl chloride	25.0	31.8		ug/L		127	10 - 218
Xylenes, Total	50.0	47.0		ug/L		94	

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*60 - 140*
Dibromofluoromethane (Surr)	*98*		*60 - 140*
Toluene-d8 (Surr)	*99*		*60 - 140*

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

Lab Sample ID: LCS 440-663938/1005
Matrix: Water
Analysis Batch: 663938

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2-Dichloro-1,1,2-trifluoroethane			25.0	23.3		ug/L		93	60 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*60 - 140*
Dibromofluoromethane (Surr)	*107*		*60 - 140*
Toluene-d8 (Surr)	*109*		*60 - 140*

Lab Sample ID: 570-80528-G-1 MS
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,1,1-Trichloroethane	ND		25.0	25.9		ug/L		104	52 - 162		
1,1,2,2-Tetrachloroethane	ND		25.0	30.5		ug/L		122	46 - 157		
1,1,2-Trichloroethane	ND		25.0	27.8		ug/L		111	52 - 150		
1,1-Dichloroethane	ND		25.0	26.8		ug/L		107	59 - 155		
1,1-Dichloroethene	ND		25.0	29.6		ug/L		119	10 - 234		
1,2-Dichloro-1,1,2-trifluoroethane	ND		25.0	27.5		ug/L		110	60 - 140		
1,2-Dichlorobenzene	ND		25.0	24.2		ug/L		97	18 - 190		
1,2-Dichloroethane	ND		25.0	27.2		ug/L		109	49 - 155		
1,2-Dichloropropane	ND		25.0	28.0		ug/L		112	10 - 210		
1,3-Dichlorobenzene	ND		25.0	24.2		ug/L		97	59 - 156		
1,4-Dichlorobenzene	ND		25.0	24.6		ug/L		98	18 - 190		
2-Chloroethyl vinyl ether	ND		25.0	29.5		ug/L		118	10 - 305		
Acrolein	ND		24.7	18.4		ug/L		74	40 - 160		
Acrylonitrile	ND		250	273		ug/L		109	40 - 160		
Benzene	ND		25.0	25.9		ug/L		104	37 - 151		
Bromodichloromethane	ND		25.0	27.6		ug/L		110	35 - 155		
Bromoform	ND		25.0	24.9		ug/L		100	45 - 169		
Bromomethane	ND		25.0	29.4		ug/L		118	10 - 242		
Carbon tetrachloride	ND		25.0	27.3		ug/L		109	70 - 140		
Chlorobenzene	ND		25.0	25.4		ug/L		102	37 - 160		
Chloroethane	ND		25.0	30.1		ug/L		121	14 - 230		
Chloroform	ND		25.0	26.3		ug/L		105	51 - 138		
Chloromethane	ND		25.0	32.8		ug/L		131	10 - 273		
cis-1,2-Dichloroethene	ND		25.0	24.4		ug/L		98	60 - 140		
cis-1,3-Dichloropropene	ND		25.0	28.6		ug/L		115	10 - 227		
Dibromochloromethane	ND		25.0	26.1		ug/L		104	53 - 149		
Ethylbenzene	ND		25.0	25.4		ug/L		102	37 - 162		
m,p-Xylene	ND		25.0	24.4		ug/L		98	60 - 140		
Methylene Chloride	ND		25.0	24.5		ug/L		98	10 - 221		
Naphthalene	ND		25.0	23.3		ug/L		93	60 - 140		
o-Xylene	ND		25.0	24.9		ug/L		99	60 - 140		
Tetrachloroethene	ND		25.0	25.1		ug/L		100	64 - 148		
Toluene	ND		25.0	26.1		ug/L		104	47 - 150		
trans-1,2-Dichloroethene	ND		25.0	23.0		ug/L		92	54 - 156		
trans-1,3-Dichloropropene	ND		25.0	28.6		ug/L		114	17 - 183		
Trichloroethene	ND		25.0	23.5		ug/L		94	70 - 157		

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

Lab Sample ID: 570-80528-G-1 MS **Client Sample ID: Matrix Spike**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 663938

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	ND		25.0	30.9		ug/L		124	17 - 181
Vinyl chloride	ND		25.0	35.4		ug/L		142	10 - 251
Xylenes, Total	ND		50.0	49.3		ug/L		99	

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*60 - 140*
Dibromofluoromethane (Surr)	*103*		*60 - 140*
Toluene-d8 (Surr)	*103*		*60 - 140*

Lab Sample ID: 570-80528-I-1 MSD **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 663938

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		25.0	26.3		ug/L		105	52 - 162	2	36
1,1,2,2-Tetrachloroethane	ND		25.0	31.3		ug/L		125	46 - 157	3	61
1,1,2-Trichloroethane	ND		25.0	28.1		ug/L		112	52 - 150	1	45
1,1-Dichloroethane	ND		25.0	27.9		ug/L		112	59 - 155	4	40
1,1-Dichloroethene	ND		25.0	30.4		ug/L		121	10 - 234	2	32
1,2-Dichloro-1,1,2-trifluoroethane	ND		25.0	31.8		ug/L		127	60 - 140	14	35
1,2-Dichlorobenzene	ND		25.0	24.3		ug/L		97	18 - 190	1	57
1,2-Dichloroethane	ND		25.0	26.8		ug/L		107	49 - 155	1	49
1,2-Dichloropropane	ND		25.0	27.9		ug/L		112	10 - 210	0	55
1,3-Dichlorobenzene	ND		25.0	24.0		ug/L		96	59 - 156	1	43
1,4-Dichlorobenzene	ND		25.0	23.9		ug/L		96	18 - 190	3	57
2-Chloroethyl vinyl ether	ND		25.0	28.9		ug/L		116	10 - 305	2	71
Acrolein	ND		24.7	24.4		ug/L		99	40 - 160	28	60
Acrylonitrile	ND		250	303		ug/L		121	40 - 160	10	60
Benzene	ND		25.0	26.1		ug/L		104	37 - 151	1	61
Bromodichloromethane	ND		25.0	27.0		ug/L		108	35 - 155	2	56
Bromoform	ND		25.0	25.5		ug/L		102	45 - 169	2	42
Bromomethane	ND		25.0	28.3		ug/L		113	10 - 242	4	61
Carbon tetrachloride	ND		25.0	27.3		ug/L		109	70 - 140	0	41
Chlorobenzene	ND		25.0	24.4		ug/L		98	37 - 160	4	53
Chloroethane	ND		25.0	29.7		ug/L		119	14 - 230	1	78
Chloroform	ND		25.0	26.7		ug/L		107	51 - 138	1	54
Chloromethane	ND		25.0	31.7		ug/L		127	10 - 273	3	60
cis-1,2-Dichloroethene	ND		25.0	25.1		ug/L		101	60 - 140	3	35
cis-1,3-Dichloropropene	ND		25.0	28.6		ug/L		114	10 - 227	0	58
Dibromochloromethane	ND		25.0	25.3		ug/L		101	53 - 149	3	50
Ethylbenzene	ND		25.0	25.3		ug/L		101	37 - 162	0	63
m,p-Xylene	ND		25.0	23.3		ug/L		93	60 - 140	4	35
Methylene Chloride	ND		25.0	25.5		ug/L		102	10 - 221	4	28
Naphthalene	ND		25.0	23.6		ug/L		94	60 - 140	1	35
o-Xylene	ND		25.0	24.4		ug/L		97	60 - 140	2	35
Tetrachloroethene	ND		25.0	25.3		ug/L		101	64 - 148	1	39
Toluene	ND		25.0	25.8		ug/L		103	47 - 150	1	41
trans-1,2-Dichloroethene	ND		25.0	24.2		ug/L		97	54 - 156	5	45

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

Lab Sample ID: 570-80528-I-1 MSD **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 663938

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,3-Dichloropropene	ND		25.0	28.9		ug/L		115	17 - 183	1	86
Trichloroethene	ND		25.0	23.4		ug/L		94	70 - 157	0	48
Trichlorofluoromethane	ND		25.0	31.4		ug/L		125	17 - 181	1	84
Vinyl chloride	ND		25.0	35.2		ug/L		141	10 - 251	1	66
Xylenes, Total	ND		50.0	47.7		ug/L		95		3	

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*60 - 140*
Dibromofluoromethane (Surr)	*103*		*60 - 140*
Toluene-d8 (Surr)	*104*		*60 - 140*

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 570-205458/5 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 205458

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		50	30	ug/L			01/04/22 19:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*72*		*20 - 144*		*01/04/22 19:05*	*1*

Lab Sample ID: LCS 570-205458/3 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 205458

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (C4-C13)			1970	1850		ug/L		94	71 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*20 - 144*

Lab Sample ID: LCSD 570-205458/4 **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 205458

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)			1970	1760		ug/L		89	71 - 120	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*20 - 144*

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: 440-293584-D-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205458

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (C4-C13)	ND		1970	1820		ug/L		92	54 - 125		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*20 - 144*

Lab Sample ID: 440-293584-D-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205458

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	ND		1970	1880		ug/L		95	54 - 125	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*20 - 144*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 570-204429/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204515 — **Prep Batch: 204429**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C28	ND		0.050	0.036	mg/L		12/29/21 10:02	12/29/21 19:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*110*		*53 - 151*	*12/29/21 10:02*	*12/29/21 19:28*	*1*

Lab Sample ID: LCS 570-204429/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204515 — **Prep Batch: 204429**

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane (Surr)	*113*		*53 - 151*

Lab Sample ID: LCSD 570-204429/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204515 — **Prep Batch: 204429**

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane (Surr)	*112*		*53 - 151*

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-203858/1-A
Matrix: Water
Analysis Batch: 204595

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 203858

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	ND		1.0	0.51	mg/L		12/27/21 13:19	12/27/21 13:19	1

Lab Sample ID: LCS 570-203858/2-A
Matrix: Water
Analysis Batch: 204595

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 203858

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
HEM: Oil and Grease			40.0	34.9		mg/L		87	78 - 114		

Lab Sample ID: LCSD 570-203858/3-A
Matrix: Water
Analysis Batch: 204595

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 203858

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM: Oil and Grease			40.0	33.4		mg/L		83	78 - 114	4	18

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 440-663757/3
Matrix: Water
Analysis Batch: 663757

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

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			01/04/22 11:54	1

Lab Sample ID: LCS 440-663757/4
Matrix: Water
Analysis Batch: 663757

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Specific Conductance			687	671		umhos/cm		98	90 - 110		

Lab Sample ID: 570-80129-1 DU
Matrix: Water
Analysis Batch: 663757

Client Sample ID: Outfall002_20211224_Grab
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Specific Conductance	210			213		umhos/cm				0	5

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80129-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

GC/MS VOA

Analysis Batch: 663938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80129-1	Outfall002_20211224_Grab	Total/NA	Water	624.1	
570-80129-3	TB-20211224	Total/NA	Water	624.1	
MB 440-663938/6	Method Blank	Total/NA	Water	624.1	
LCS 440-663938/1004	Lab Control Sample	Total/NA	Water	624.1	
LCS 440-663938/1005	Lab Control Sample	Total/NA	Water	624.1	
570-80528-G-1 MS	Matrix Spike	Total/NA	Water	624.1	
570-80528-I-1 MSD	Matrix Spike Duplicate	Total/NA	Water	624.1	

GC VOA

Analysis Batch: 205458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80129-1	Outfall002_20211224_Grab	Total/NA	Water	8015B	
MB 570-205458/5	Method Blank	Total/NA	Water	8015B	
LCS 570-205458/3	Lab Control Sample	Total/NA	Water	8015B	
LCSD 570-205458/4	Lab Control Sample Dup	Total/NA	Water	8015B	
440-293584-D-1 MS	Matrix Spike	Total/NA	Water	8015B	
440-293584-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B	

GC Semi VOA

Prep Batch: 204429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80129-1	Outfall002_20211224_Grab	Total/NA	Water	3510C	
MB 570-204429/1-A	Method Blank	Total/NA	Water	3510C	
LCS 570-204429/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 570-204429/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 204515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-204429/1-A	Method Blank	Total/NA	Water	8015B	204429
LCS 570-204429/2-A	Lab Control Sample	Total/NA	Water	8015B	204429
LCSD 570-204429/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	204429

Analysis Batch: 204739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80129-1	Outfall002_20211224_Grab	Total/NA	Water	8015B	204429

General Chemistry

Prep Batch: 203858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80129-1	Outfall002_20211224_Grab	Total/NA	Water	1664A	
MB 570-203858/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-203858/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-203858/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

Analysis Batch: 204595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80129-1	Outfall002_20211224_Grab	Total/NA	Water	1664A	203858
MB 570-203858/1-A	Method Blank	Total/NA	Water	1664A	203858
LCS 570-203858/2-A	Lab Control Sample	Total/NA	Water	1664A	203858

General Chemistry (Continued)

Analysis Batch: 204595 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 570-203858/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	203858

Analysis Batch: 663757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80129-1	Outfall002_20211224_Grab	Total/NA	Water	SM 2510B	
MB 440-663757/3	Method Blank	Total/NA	Water	SM 2510B	
LCS 440-663757/4	Lab Control Sample	Total/NA	Water	SM 2510B	
570-80129-1 DU	Outfall002_20211224_Grab	Total/NA	Water	SM 2510B	

Analysis Batch: 664736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80129-1	Outfall002_20211224_Grab	Total/NA	Water	SM 2540F	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80129-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Client Sample ID: Outfall002_20211224_Grab
Lab Sample ID: 570-80129-1
Date Collected: 12/24/21 09:30
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	663938	01/07/22 01:04	N1A	IRV 2
	Instrument ID: GCMS13									
Total/NA	Analysis	8015B		1	5 mL	5 mL	205458	01/05/22 08:08	P1R	ECL 2
	Instrument ID: GC1									
Total/NA	Prep	3510C			245.7 mL	2.5 mL	204429	12/29/21 10:02	UFLU	ECL 1
Total/NA	Analysis	8015B		1			204739	12/30/21 20:12	N5Y3	ECL 1
	Instrument ID: GC48									
Total/NA	Prep	1664A			934 mL	1000 mL	203858	12/28/21 13:00	USUL	ECL 1
Total/NA	Analysis	1664A		1			204595	12/28/21 13:00	OM8W	ECL 1
	Instrument ID: ICPMS05									
Total/NA	Analysis	SM 2510B		1			663757	01/04/22 11:54	VY3D	IRV 2
	Instrument ID: COND13									
Total/NA	Analysis	SM 2540F		1	1000 mL	1000 mL	664736	01/18/22 14:31	W1BQ	IRV 2
	Instrument ID: NOEQUIP									

Client Sample ID: TB-20211224
Lab Sample ID: 570-80129-3
Date Collected: 12/24/21 09:30
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	663938	01/07/22 01:33	N1A	IRV 2
	Instrument ID: GCMS13									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

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

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80129-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
624.1		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
624.1		Water	1,2-Dichloro-1,1,2-trifluoroethane
624.1		Water	cis-1,2-Dichloroethene
624.1		Water	Cyclohexane
624.1		Water	Naphthalene
624.1		Water	Xylenes, Total

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

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80129-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	IRV 2
8015B	Gasoline Range Organics - (GC)	SW846	ECL 2
8015B	Diesel Range Organics (DRO) (GC)	SW846	ECL 1
1664A	HEM and SGT-HEM	1664A	ECL 1
SM 2510B	Conductivity, Specific Conductance	SM	IRV 2
SM 2540F	Solids, Settleable	SM	IRV 2
Subcontract	9223- Colilert 18 - E. Coli - level 4 required	None	Enthalpy
1664A	HEM and SGT-HEM (Aqueous)	1664A	ECL 1
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ECL 1
5030C	Purge and Trap	SW846	ECL 2

Protocol References:

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

None = None

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

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

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

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

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80129-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80129-1	Outfall002_20211224_Grab	Water	12/24/21 09:30	12/27/21 17:35
570-80129-3	TB-20211224	Water	12/24/21 09:30	12/27/21 17:35

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

enthalpy.com

Lab Job Number: 456046
Report Level: IV
Report Date: 02/15/2022

Microbiology Tests

Analytical Report *prepared for:*

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

Project: BOEING NPDES SSFL - Boeing NPDES SSFL Outfalls #44024446

Authorized for release by:

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

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

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

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	Lab Job #: Project No: Location: Date Received:	456046 BOEING NPDES SSFL Boeing NPDES SSFL Outfalls #44024446 12/28/21

Sample ID	Lab ID	Collected	Matrix
OUTFALL002_20211224_GRAB (570-80129-1)	456046-001	12/24/21 09:30	Water

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience, Inc. 7440 Lincoln Way Garden Grove, CA 92841-1427 Virendra Patel	Lab Job Number: 456046 Location: Boeing NPDES SSFL Outfalls #44024446 Date Received: 12/28/21

This data package contains sample and QC results for one water sample, requested for the above referenced project on 12/28/21. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-147893.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-80129-1
Address: 931 W. Barkley Ave, ,	Due Date Requested: 1/7/2022	Analysis Requested		Preservation Codes:
City: Orange	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: CA, 92868				
Phone:	PO #:			Other:
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (9223- Colilert 18 - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall002_20211224_Grab (570-80129-1)	12/24/21	09:30 Pacific		Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/28/21	EC		12/28/21 1524	EC
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Eurofins Calscience Garden Grove Project: Boeing NPDES SSFL Outfall

Date Received: 12/28/21 Sampler's Name Present: ☐ Yes ☐ No

Section 2

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

Sample Temp (°C), One from each cooler: #1: 0.4 #2: _____ #3: _____ #4: _____

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

Shipping Information: _____

Section 3

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

Cooler Temp (°C): #1: 0.1 #2: _____ #3: _____ #4: _____

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

Section 5 Explanations/Comments

Received outside holding time.

Section 6

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

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

Project Manager's response:

Completed By: _____ Date: 12/28/21

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 456046 **Project#:** BOEING NPDES SSFL

Client: Eurofins Calscience Tustin **Location:** Boeing NPDES SSFL Outfalls #44024446

Field ID:	OUTFALL002_20211224_GRAB (570-80129-1)	**Batch#:**	280855	**Analyzed:**	12/29/21 10:53
Lab ID:	456046-001	**Sampled:**	12/24/21 09:30	**Prep:**	
Matrix:	Water	**Received:**	12/28/21	**Analysis:**	SM 9223Bb
DiIn Fac:	1.000	**Prepared:**	12/28/21 16:22	**Analyst:**	SZL

Analyte	Result	RL	Units	Qual
Coliform, E. Coli	**96**	1.0	MPN/100ml	H

Legend

H: Holding time was exceeded

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: SL Prep Date/Time: 12/28/21 1622 QC Batch ID: 280855 Batch Page 1 of 2

Read Analyst: SL Read Date/Time 12/29/21 1053

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: HT510 Pipette Lot #: A103665, A103909, & A103931

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 12/1/21 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: A Incubator In, Temp/Time: 34.8 1646 Incubator Out, Temp/Time: 1053 35.1

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

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
ECL GG		456046-001	1X	49	48	>2419.6	>2400	40	9	95.9	96					EU1-01
↓		↓	10X	49	36	866.4	8700	8	1	9.7	97					↓
			100X	36	5	69.7	7000	0	0	<1	<100					
		456044-001	1X	49	48	>2419.6	>2400	46	10	146.7	150					EU2-01
		↓	10X	49	39	1046.2	10,000	7	3	10.7	110					↓
			100X	28	5	47.3	4700	0	0	<1	<100			NA 12/30/21		
		456049-001	1X	49	48	>2419.6	>2400	3	0	3.1	3.1					EU3-01
		↓	10X	49	~~48~~ 25	461.1	4600	1	0	1.0	10					↓
			100X	34	5	63.1	6300	0	0	<1	<100					
		456047-001	1X	49	48	>2419.6	>2400	31	4	52.9	53					EU4-01
		↓	10X	49	48	>2419.6	>24000	1	0	1.0	10					↓
			100X	49	47	2419.6	240000	0	0	<1	<100					
↓		456052-001	1X	33	4	58.3	58	0	0	<1	<1					EU5-01
Quality Control		**Culture ID**														
Positive +/+ (E. Coli)		12/06/21		49	48	>2419.6	>2400	49	48	>2419.6	>2400					
Positive +/- (K. Pneumonia)		↓		49	48	>2419.6	>2400	0	0	<1	<1					
Negative -/- (P. Aeruginosa)				0	0	<1	<1	0	0	<1	<1					

Data Entered By: [signature] 12/30/21 Data Reviewed By:

SM 9223 B-b, Quanti-Tray

Prep Analyst: SL Prep Date/Time: 12/28/21 1622 QC Batch ID: 280855 Batch Page 2 of 2

Read Analyst: SL Read Date/Time 12/29/21 1053

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: HT510 Pipette Lot #: A103665, A103909, & A103931

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 12/1/21 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: A Incubator In, Temp/Time: 34.8 1646 Incubator Out, Temp/Time: 1035 35.1

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

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts (Colilert 18) Large Wells	Total Coliform Counts (Colilert 18) Small Wells	MPN Table Value	Final Result, MPN	E. coli Counts (Colilert 18) Large Wells	E. coli Counts (Colilert 18) Small Wells	MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only) Large Wells	Fecal Coliform Counts (Colilert 18 only) Small Wells	MPN Table Value	Final Result, MPN	Comments
ECL GG		456053-001	10X	1	1	2.0	20	0	0	<1	<10					EU5-01
↓		↓	100X	1	0	1.0	100	0	0	<1	<100					↓

Quality Control	Culture ID
Positive +/+ (E. Coli)	12/26/21
Positive +/- (K. Pneumonia)	↓
Negative -/- (P. Aeruginosa)	

Data Entered By: 12/30/21 Data Reviewed By:

80129

Eurofins Calscience Irvine

CHAIN OF COUSTODY FORM

570-80129 Chain of Custody

WY127RS9L

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

Eurofins Calscience Irvine Contact. Virendra Patel **ECI# 44024446**
17461 Derian Ave Suite #100
Irvine CA 92614
Tel 949-260-3218

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Sampler: MARK DOMINICK

Project:
Boeing-SSFL NPDES
Permit 2021
Annual Outfall [001, 002, 011, 018]
Outfall 002
Grab

Project Manager: Katherine Miller
520.289.8606, 520.904.6944 (cell)

Field Manager: Mark Dominick
978.234.5033, 818.599.0702 (cell)

Field Readings | Meter serial #

Field Readings: (Include units)
Time of Readings: 0915
DO 9.73 **mg/L**
pH 6.72 **pH unit**
Temp 49.9 **°C/F**
TRC 0.0 **mg/L**
Field readings QC
Checked by: [signature]
Date/Time: 12-24-2021/0915

ANALYSIS REQUIRED

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	MST-Bacteroidales, Human (SAM348-357) Source Molecular in Miami Lakes, FL (A)	E. coli (SM9221) Enthalpy Analytical Orange CA (A)	Settleable Solids (E160.5 (SM2540F)) (R)	Conductivity (SM2510B / E120.1) (R)	Oil & Grease (E1664A-HEM) (R)	VOCs + VOCs PP + xylenes, Freon 11 Freon 113, Freon 123A, Cyclohexane cis-1 2-DCE (E624) (R/Q/A)	VOCs only A+A+2CVE (E624) (A)	TPH gas (GRO(C4-C12)) (SW8015B) (A)	TPH diesel/jet fuel (DRO (C13-C28)) (SW8015B) (A)	Comments
Outfall 002	Outfall002_20211224_Grab	12/24/2021/0930 *	WM	125mL Sterile Poly	1	None	5	No	X									Deliver to lab ASAP 8 hr hold time
			WM	125mL Sterile Poly	3	$Na_2S_2O_3$	10	No		X								Deliver to lab ASAP 8 hr hold time Need 1x, 10x, 100x dilutions
			WM	1 L Glass Amber	2	HCl	15	No					X					
			WM	40 mL VOA	3	HCl	45	No						X				
			WM	40 mL VOA	3	None	55	No							X			
			WM	40 mL VOA	3	HCl	60	No								X		
			WM	1 L Glass Amber	2	None	65	No									X	
			WM	1 L Poly	1	None	70	No			X							
			WM	500 mL Poly	1	None	75	No				X						
	Outfall002_20211224_Grab_Extra	12/24/2021/0930	WM	1 L Glass Amber	2	HCl	15	No					H					Hold
			WM	40 mL VOA	3	HCl	45	No						H				Hold
			WM	40 mL VOA	3	None	55	No							H			Hold
			WM	500 mL Poly	1	None	75	No				H						Hold
Trip Blanks	TB-20211224	12/24/2021/0930	WQ	40 mL VOA	2	HCl	45	No						X				
			WQ	40 mL VOA	2	None	55	No							X			

Legend: A=Annual, R=Routine, Q=Quarterly

Relinquished By	Date/Time:	Company	Received By	Date/Time:
[signature]	12-27-2021/1445	ITiA	[signature]	ECI 12/27/21 1445
[signature]	12/27/21 1735		[signature]	12/27/21 1735

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

Delivered seperately via FedEx

29.3 8

2019-2020 Rainy Season
Version 5

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80129-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days)			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2540F/ Solids, Settleable	624.1_LL/624_Prep_3D PP+xyl+fr113,11,123A+cyclohex+A+A+2CVE	2510B	Total Number of containers	Special Instructions/Note.
Preservation Code:											
Outfall002_20211224_Grab (570-80129-1)	12/24/21	09:30 Pacific		Water			X	X	X	2	Analyze on "Closed System only"

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements IR-89 2.0/2.0

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company
1		12/28/21	GC			
2	Relinquished by:	Date/Time	Company	Received by: Olga Oinelos	Date/Time: 12/28/21 1752	Company ECT
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Custody Seal No

Cooler Temperature(s) °C and Other Remarks.

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80129-1
Address: 2841 Dow Avenue	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2540F/ Solids, Settleable	624.1_LL/624_Prep_3D PP+xyl+fr113,11,123A+cyclohex+A+A+2CVE	2510B	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
Outfall002_20211224_Grab (570-80129-1)	12/24/21	09 30 Pacific		Water			X	X	X	2	, Analyze on "Closed System only"

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements IR-89 2.0/2.0

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/24/21	GC			
2				Olga Oinelos	12/28/21 1752	FCT
3						

Custody Seals Intact: Custody Seal No

Cooler Temperature(s) °C and Other Remarks

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80124-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 200.7 Outfall 001/002/011 Totals List	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	245.1/245.1_Prep Mercury	180.1/ Turbidity	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	4500_CN_E_LL/Distill_CN	SM5310B/ Organic Carbon, Total (TOC)	200.7/FILTRATION 200.7 Outfall 001/002/011 Diss List	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	245.1/FILTRATION Diss Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08 30 Pacific		Water			X	X	X	X	X	X	X	X	X	X				6	use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall001_20211226_Comp_F (570-80124-3)	12/26/21	08 30 Pacific		Water													X	X	X	3	Filter w/in 24 hours Filter within 24 hours use VOA vials from LL Hg Kit-Clean Hands

Preservation Codes.

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

Other:

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements. IR-89 1.4/1.4

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
		12/28/21				
	Relinquished by:	Date/Time: 12/28/21	Company: ECT	Received by: Olga Olmelos	Date/Time: 12/28/21 1752	Company: ECT
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Custody Seal No

Cooler Temperature(s) °C and Other Remarks

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-147901 2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80124-1
Address: 2841 Dow Avenue	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G - Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA

M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2340B/Filtration_AC Diss hardness	Total Number of containers	Special Instructions/Note:
				Preservation Code:					
Outfall001_20211226_Comp (570-80124-1)	12/26/21	08 30 Pacific		Water				6	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall001_20211226_Comp_F (570-80124-3)	12/26/21	08 30 Pacific		Water			X	3	Filter w/in 24 hours Filter within 24 hours, use VOA vials from LL Hg Kit-Clean Hands

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

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*

Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2

Special Instructions/QC Requirements IR-89 1.4/1 4

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	12/28/21	EC	Olga Ornelas		
Relinquished by:	Date/Time:	Company	Received by:	12/28/21 1752	ECIT
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Custody Seal No

Cooler Temperature(s) °C and Other Remarks:

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-148948 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80129-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780	PO #:			
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Grab	SSOW#:			
Site:				

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	624.1_LL/624_Prep_3D PP+xyl+fr113,11,123A+cyclohex+A+A+2CVE	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
TB-20211224 (570-80129-3)	12/24/21	09 30 Pacific		Water			X	4	Analyze on "Closed System only"

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

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

Empty Kit Relinquished by:	Date	Time	Method of Shipment.

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
1		01/05/22	EC	Olga Olmelas		
2	Relinquished by:	Date/Time	Company	Received by:	Date/Time: 01/05/22 1130	Company: EAT
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time 01/05/22 1130	Company EC-T

Custody Seals Intact: | Custody Seal No

Cooler Temperature(s) °C and Other Remarks. 1.2&9 1.3/1.3

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80129-1

Login Number: 80129
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: 570-80129-1

Login Number: 80129
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 12/29/21 10:10 AM

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

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80129-1

Login Number: 80129
List Number: 3
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 01/05/22 01:21 PM

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

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80132-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

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

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/24/2022 3:03:08 PM

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

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 5
Detection Summary 7
Client Sample Results 8
Surrogate Summary 26
QC Sample Results 28
QC Association Summary 50
Lab Chronicle 56
Certification Summary 58
Method Summary 59
Sample Summary 60
Chain of Custody 61
Receipt Checklists 70

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
BU	Analyzed out of holding time
BV	Sample received after holding time expired
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

Metals

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Glossary

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

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80132-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80132-1

Comments
No additional comments.

Receipt
The samples were received on 12/27/2021 5:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.8º C, 3.2º C and 3.4º C.

GC/MS VOA
Method 8260B SIM: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-205613.

Method 8260B SIM: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: Outfall002_20211226_Comp (570-80132-1). Elevated reporting limits (RLs) are provided.

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

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

HPLC/IC
Method 218.6: The following sample was diluted due to the nature of the sample matrix: Outfall002_20211226_Comp (570-80132-1). Elevated reporting limits (RLs) are provided.

Method 218.6: The following sample was received outside of holding time: Outfall002_20211226_Comp (570-80132-1).

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

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall002_20211226_Comp_F (570-80132-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method 200.7 Rev 4.4: The matrix spike / matrix spike duplicate (MS/MSD) recoveries of Iron for preparation batch 440-663922 and analytical batch 440-664049 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.(440-293568-D-2-C MS)

Methods 245.1, 7470A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Mercurypreparation batch 440-664059 and analytical batch 440-664187 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 245.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate(MS/MSD) associated with preparation batch 440-663587 and 440-664073.

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall002_20211226_Comp_F (570-80132-3). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to Tustin relocation.

12/29/21 @ 14:40 hours
2.5 mL HNO3

Job ID: 570-80132-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

HNO3 Lot # 0000280251

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall002_20211226_Comp_F (570-80132-3). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to Tustin relocation.

12/29/21 @ 15:47 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

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

General Chemistry
Method 180.1: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: Outfall002_20211226_Comp (570-80132-1).

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 570-203919. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 608.3

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-204353. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 625.1 Sim

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

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

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Butyl benzyl phthalate	0.70	J,DX	5.3	0.59	ug/L	1		625.1 SIM	Total/NA
Dimethyl phthalate	0.082	J,DX	2.1	0.076	ug/L	1		625.1 SIM	Total/NA
Endrin aldehyde	0.011	PI	0.010	0.0051	ug/L	1		608.3	Total/NA
Chloride	5.3		5.0	1.8	mg/L	5		300.0	Total/NA
Nitrite as N	0.21	J,DX	0.50	0.090	mg/L	5		300.0	Total/NA
Nitrate as N	3.6		0.50	0.12	mg/L	5		300.0	Total/NA
Sulfate	5.7		5.0	1.2	mg/L	5		300.0	Total/NA
Nitrate Nitrite as N	3.8		0.20	0.071	mg/L	1		NO2NO3 Calc	Total/NA
Barium	28		10	2.2	ug/L	1		200.7 Rev 4.4	Total Recoverable
Boron	65		50	25	ug/L	1		200.7 Rev 4.4	Total Recoverable
Chromium	4.2	J,DX	5.0	2.5	ug/L	1		200.7 Rev 4.4	Total Recoverable
Iron	2500		100	50	ug/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	37		20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Vanadium	6.4	J,DX	10	2.1	ug/L	1		200.7 Rev 4.4	Total Recoverable
Copper	4.6		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	1.4		1.0	0.50	ug/L	1		200.8	Total Recoverable
Hardness, as CaCO3	40		0.91	0.17	mg/L	1		SM 2340B	Total Recoverable
Turbidity	170	BU	2.0	0.80	NTU	20		180.1	Total/NA
Total Dissolved Solids	280		10	3.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	100		5.0	2.5	mg/L	1		SM 2540D	Total/NA
Ammonia (as N)	0.402		0.200	0.100	mg/L	1		SM 4500 NH3 G	Total/NA
Carbon, Total Organic	16		0.50	0.026	mg/L	1		SM 5310D	Total/NA
Biochemical Oxygen Demand	4.0		3.1	1.8	mg/L	1		SM5210B	Total/NA

Client Sample ID: Outfall002_20211226_Comp_F
Lab Sample ID: 570-80132-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	16		10	2.2	ug/L	1		200.7 Rev 4.4	Dissolved
Boron	63		50	25	ug/L	1		200.7 Rev 4.4	Dissolved
Iron	480		100	50	ug/L	1		200.7 Rev 4.4	Dissolved
Manganese	9.9	J,DX	20	6.8	ug/L	1		200.7 Rev 4.4	Dissolved
Vanadium	3.2	J,DX	10	2.1	ug/L	1		200.7 Rev 4.4	Dissolved
Copper	3.7		2.0	0.50	ug/L	1		200.8	Dissolved
Lead	0.54	J,DX	1.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.00013	J,DX BU	0.00025	0.00012	mg/L	1		245.1	Dissolved
Hardness, as CaCO3	37		0.91	0.17	mg/L	1		SM 2340B	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		2.0	1.1	ug/L			01/05/22 18:31	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dichlorobutane (Surr)	*114*		*67 - 133*		*01/05/22 18:31*	*2*

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

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.21	0.14	ug/L		12/29/21 05:48	12/30/21 15:50	1
1,2-Dichlorobenzene	ND		0.21	0.14	ug/L		12/29/21 05:48	12/30/21 15:50	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.21	0.073	ug/L		12/29/21 05:48	12/30/21 15:50	1
1,3-Dichlorobenzene	ND		0.21	0.13	ug/L		12/29/21 05:48	12/30/21 15:50	1
1,4-Dichlorobenzene	ND		0.21	0.13	ug/L		12/29/21 05:48	12/30/21 15:50	1
2,4,6-Trichlorophenol	ND		1.1	0.071	ug/L		12/29/21 05:48	12/30/21 15:50	1
2,4-Dichlorophenol	ND		1.1	0.10	ug/L		12/29/21 05:48	12/30/21 15:50	1
2,4-Dimethylphenol	ND		0.21	0.14	ug/L		12/29/21 05:48	12/30/21 15:50	1
2,4-Dinitrophenol	ND		5.3	1.0	ug/L		12/29/21 05:48	12/30/21 15:50	1
2,4-Dinitrotoluene	ND		0.21	0.11	ug/L		12/29/21 05:48	12/30/21 15:50	1
2,6-Dinitrotoluene	ND		0.21	0.14	ug/L		12/29/21 05:48	12/30/21 15:50	1
2-Chloronaphthalene	ND		0.21	0.14	ug/L		12/29/21 05:48	12/30/21 15:50	1
2-Chlorophenol	ND		0.21	0.086	ug/L		12/29/21 05:48	12/30/21 15:50	1
2-Nitrophenol	ND		5.3	1.5	ug/L		12/29/21 05:48	12/30/21 15:50	1
3,3'-Dichlorobenzidine	ND		5.3	1.7	ug/L		12/29/21 05:48	12/30/21 15:50	1
4,6-Dinitro-2-methylphenol	ND		5.3	4.2	ug/L		12/29/21 05:48	12/30/21 15:50	1
4-Bromophenyl phenyl ether	ND		0.21	0.081	ug/L		12/29/21 05:48	12/30/21 15:50	1
4-Chloro-3-methylphenol	ND		1.1	0.12	ug/L		12/29/21 05:48	12/30/21 15:50	1
4-Chlorophenyl phenyl ether	ND		0.21	0.095	ug/L		12/29/21 05:48	12/30/21 15:50	1
4-Nitrophenol	ND		5.3	1.2	ug/L		12/29/21 05:48	12/30/21 15:50	1
Acenaphthene	ND		0.21	0.090	ug/L		12/29/21 05:48	12/30/21 15:50	1
Acenaphthylene	ND		0.21	0.089	ug/L		12/29/21 05:48	12/30/21 15:50	1
Anthracene	ND		0.21	0.076	ug/L		12/29/21 05:48	12/30/21 15:50	1
Benzidine	ND		5.3	2.4	ug/L		12/29/21 05:48	12/30/21 15:50	1
Benzo[a]anthracene	ND		0.21	0.073	ug/L		12/29/21 05:48	12/30/21 15:50	1
Benzo[a]pyrene	ND		0.21	0.076	ug/L		12/29/21 05:48	12/30/21 15:50	1
Benzo[b]fluoranthene	ND		0.21	0.11	ug/L		12/29/21 05:48	12/30/21 15:50	1
Benzo[g,h,i]perylene	ND		0.21	0.13	ug/L		12/29/21 05:48	12/30/21 15:50	1
Benzo[k]fluoranthene	ND		0.21	0.081	ug/L		12/29/21 05:48	12/30/21 15:50	1
bis (2-chloroisopropyl) ether	ND		0.21	0.097	ug/L		12/29/21 05:48	12/30/21 15:50	1
Bis(2-chloroethoxy)methane	ND		0.21	0.15	ug/L		12/29/21 05:48	12/30/21 15:50	1
Bis(2-chloroethyl)ether	ND		0.21	0.10	ug/L		12/29/21 05:48	12/30/21 15:50	1
Bis(2-ethylhexyl) phthalate	ND		5.3	1.9	ug/L		12/29/21 05:48	12/30/21 15:50	1
Butyl benzyl phthalate	**0.70**	**J,DX**	5.3	0.59	ug/L		12/29/21 05:48	12/30/21 15:50	1
Chrysene	ND		0.21	0.061	ug/L		12/29/21 05:48	12/30/21 15:50	1
Dibenz(a,h)anthracene	ND		0.21	0.15	ug/L		12/29/21 05:48	12/30/21 15:50	1
Diethyl phthalate	ND		2.1	0.14	ug/L		12/29/21 05:48	12/30/21 15:50	1
Dimethyl phthalate	**0.082**	**J,DX**	2.1	0.076	ug/L		12/29/21 05:48	12/30/21 15:50	1
Di-n-butyl phthalate	ND		2.1	0.72	ug/L		12/29/21 05:48	12/30/21 15:50	1
Di-n-octyl phthalate	ND		5.3	0.67	ug/L		12/29/21 05:48	12/30/21 15:50	1
Fluoranthene	ND		0.21	0.10	ug/L		12/29/21 05:48	12/30/21 15:50	1
Fluorene	ND		0.21	0.085	ug/L		12/29/21 05:48	12/30/21 15:50	1
Hexachlorobenzene	ND		0.21	0.099	ug/L		12/29/21 05:48	12/30/21 15:50	1
Hexachlorobutadiene	ND		0.21	0.18	ug/L		12/29/21 05:48	12/30/21 15:50	1
Hexachlorocyclopentadiene	ND		0.21	0.10	ug/L		12/29/21 05:48	12/30/21 15:50	1
Hexachloroethane	ND		0.21	0.16	ug/L		12/29/21 05:48	12/30/21 15:50	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.13	ug/L		12/29/21 05:48	12/30/21 15:50	1
Isophorone	ND		0.21	0.093	ug/L		12/29/21 05:48	12/30/21 15:50	1
Naphthalene	ND		0.21	0.10	ug/L		12/29/21 05:48	12/30/21 15:50	1

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

Client Sample ID: Outfall002_20211226_Comp **Lab Sample ID: 570-80132-1**
Date Collected: 12/26/21 10:00 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		0.21	0.10	ug/L		12/29/21 05:48	12/30/21 15:50	1
N-Nitrosodimethylamine	ND		0.21	0.15	ug/L		12/29/21 05:48	12/30/21 15:50	1
N-Nitrosodi-n-propylamine	ND		0.21	0.065	ug/L		12/29/21 05:48	12/30/21 15:50	1
N-Nitrosodiphenylamine	ND		0.21	0.10	ug/L		12/29/21 05:48	12/30/21 15:50	1
Pentachlorophenol	ND		1.1	0.11	ug/L		12/29/21 05:48	12/30/21 15:50	1
Phenanthrene	ND		0.21	0.078	ug/L		12/29/21 05:48	12/30/21 15:50	1
Phenol	ND		0.21	0.080	ug/L		12/29/21 05:48	12/30/21 15:50	1
Pyrene	ND		0.21	0.084	ug/L		12/29/21 05:48	12/30/21 15:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*74*		*28 - 127*	*12/29/21 05:48*	*12/30/21 15:50*	*1*
2-Fluorobiphenyl (Surr)	*49*		*31 - 120*	*12/29/21 05:48*	*12/30/21 15:50*	*1*
2-Fluorophenol	*43*		*17 - 120*	*12/29/21 05:48*	*12/30/21 15:50*	*1*
Nitrobenzene-d5	*55*		*27 - 120*	*12/29/21 05:48*	*12/30/21 15:50*	*1*
Phenol-d6 (Surr)	*31*		*10 - 120*	*12/29/21 05:48*	*12/30/21 15:50*	*1*
p-Terphenyl-d14 (Surr)	*57*		*45 - 120*	*12/29/21 05:48*	*12/30/21 15:50*	*1*

Method: 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall002_20211226_Comp **Lab Sample ID: 570-80132-1**
Date Collected: 12/26/21 10:00 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00070	ug/L		12/28/21 12:24	12/29/21 15:42	1
alpha-BHC	ND		0.0013	0.00080	ug/L		12/28/21 12:24	12/29/21 15:42	1
beta-BHC	ND		0.0020	0.0017	ug/L		12/28/21 12:24	12/29/21 15:42	1
delta-BHC	ND		0.0013	0.0011	ug/L		12/28/21 12:24	12/29/21 15:42	1
gamma-BHC (Lindane)	ND		0.0013	0.00090	ug/L		12/28/21 12:24	12/29/21 15:42	1
Chlordane (technical)	ND		0.010	0.0065	ug/L		12/28/21 12:24	12/29/21 15:42	1
4,4'-DDD	ND		0.0013	0.00080	ug/L		12/28/21 12:24	12/29/21 15:42	1
4,4'-DDE	ND		0.0013	0.00050	ug/L		12/28/21 12:24	12/29/21 15:42	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		12/28/21 12:24	12/29/21 15:42	1
Dieldrin	ND		0.0013	0.00050	ug/L		12/28/21 12:24	12/29/21 15:42	1
Endosulfan I	ND		0.0013	0.00070	ug/L		12/28/21 12:24	12/29/21 15:42	1
Endosulfan II	ND		0.0013	0.00050	ug/L		12/28/21 12:24	12/29/21 15:42	1
Endosulfan sulfate	ND		0.0013	0.00060	ug/L		12/28/21 12:24	12/29/21 15:42	1
Endrin	ND		0.0013	0.00070	ug/L		12/28/21 12:24	12/29/21 15:42	1
Endrin aldehyde	**0.011**	**PI**	0.010	0.0051	ug/L		12/28/21 12:24	12/29/21 15:42	1
Heptachlor	ND		0.0013	0.00070	ug/L		12/28/21 12:24	12/29/21 15:42	1
Heptachlor epoxide	ND		0.0013	0.00040	ug/L		12/28/21 12:24	12/29/21 15:42	1
Toxaphene	ND		0.10	0.013	ug/L		12/28/21 12:24	12/29/21 15:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*57*		*20 - 139*	*12/28/21 12:24*	*12/29/21 15:42*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

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

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		12/28/21 12:24	01/04/22 01:27	1
Aroclor 1221	ND		0.10	0.044	ug/L		12/28/21 12:24	01/04/22 01:27	1
Aroclor 1232	ND		0.10	0.044	ug/L		12/28/21 12:24	01/04/22 01:27	1
Aroclor 1242	ND		0.10	0.044	ug/L		12/28/21 12:24	01/04/22 01:27	1
Aroclor 1248	ND		0.10	0.044	ug/L		12/28/21 12:24	01/04/22 01:27	1
Aroclor 1254	ND		0.10	0.052	ug/L		12/28/21 12:24	01/04/22 01:27	1
Aroclor 1260	ND		0.10	0.052	ug/L		12/28/21 12:24	01/04/22 01:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*123*		*20 - 154*	*12/28/21 12:24*	*01/04/22 01:27*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND	BU BV	2.0	0.19	ug/L			12/28/21 14:31	10

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.3**		5.0	1.8	mg/L			12/28/21 06:47	5
Nitrite as N	**0.21**	**J,DX**	0.50	0.090	mg/L			12/28/21 06:47	5
Fluoride	ND		0.50	0.23	mg/L			12/28/21 06:47	5
Nitrate as N	**3.6**		0.50	0.12	mg/L			12/28/21 06:47	5
Sulfate	**5.7**		5.0	1.2	mg/L			12/28/21 06:47	5

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 314.0 - Perchlorate (IC)

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	9.1	ug/L			12/28/21 15:27	10

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	3.8		0.20	0.071	mg/L			01/03/22 16:35	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/07/22 08:10	01/07/22 18:51	1
Barium	**28**		10	2.2	ug/L		01/07/22 08:10	01/07/22 18:51	1
Beryllium	ND		2.0	0.44	ug/L		01/07/22 08:10	01/07/22 18:51	1
Boron	**65**		50	25	ug/L		01/07/22 08:10	01/07/22 18:51	1
Chromium	**4.2**	**J,DX**	5.0	2.5	ug/L		01/07/22 08:10	01/07/22 18:51	1
Cobalt	ND		10	2.8	ug/L		01/07/22 08:10	01/07/22 18:51	1
Iron	**2500**		100	50	ug/L		01/07/22 08:10	01/07/22 18:51	1
Manganese	**37**		20	6.8	ug/L		01/07/22 08:10	01/07/22 18:51	1
Nickel	ND		10	5.0	ug/L		01/07/22 08:10	01/07/22 18:51	1
Vanadium	**6.4**	**J,DX**	10	2.1	ug/L		01/07/22 08:10	01/07/22 18:51	1
Zinc	ND		20	12	ug/L		01/07/22 08:10	01/07/22 18:51	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: Outfall002_20211226_Comp_F
Lab Sample ID: 570-80132-3
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		12/30/21 07:56	12/30/21 14:35	1
Barium	**16**		10	2.2	ug/L		12/30/21 07:56	12/30/21 14:35	1
Beryllium	ND		2.0	0.44	ug/L		12/30/21 07:56	12/30/21 14:35	1
Boron	**63**		50	25	ug/L		12/30/21 07:56	12/30/21 14:35	1
Chromium	ND		5.0	2.5	ug/L		12/30/21 07:56	12/30/21 14:35	1
Cobalt	ND		10	2.8	ug/L		12/30/21 07:56	12/30/21 14:35	1
Iron	**480**		100	50	ug/L		12/30/21 07:56	12/30/21 14:35	1
Manganese	**9.9**	**J,DX**	20	6.8	ug/L		12/30/21 07:56	12/30/21 14:35	1
Nickel	ND		10	5.0	ug/L		12/30/21 07:56	12/30/21 14:35	1
Vanadium	**3.2**	**J,DX**	10	2.1	ug/L		12/30/21 07:56	12/30/21 14:35	1
Zinc	ND		20	12	ug/L		12/30/21 07:56	12/30/21 14:35	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

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

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:50	1
Cadmium	ND		1.0	0.25	ug/L		01/07/22 07:06	01/07/22 11:50	1
Copper	**4.6**		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:50	1
Lead	**1.4**		1.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:50	1
Antimony	ND		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:50	1
Selenium	ND		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:50	1
Thallium	ND		1.0	0.20	ug/L		01/07/22 07:06	01/07/22 11:50	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

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

Client Sample ID: Outfall002_20211226_Comp_F
Lab Sample ID: 570-80132-3
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:59	1
Cadmium	ND		1.0	0.25	ug/L		12/29/21 16:21	12/30/21 12:59	1
Copper	**3.7**		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:59	1
Lead	**0.54**	**J,DX**	1.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:59	1
Antimony	ND		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:59	1
Selenium	ND		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:59	1
Thallium	ND		1.0	0.20	ug/L		12/29/21 16:21	12/30/21 12:59	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 245.1 - Mercury (CVAA)

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:10	01/10/22 18:25	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall002_20211226_Comp_F
Lab Sample ID: 570-80132-3
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00013	J,DX BU	0.00025	0.00012	mg/L		01/19/22 17:58	01/20/22 19:54	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	40		0.91	0.17	mg/L			01/07/22 17:16	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Client Sample ID: Outfall002_20211226_Comp_F
Lab Sample ID: 570-80132-3
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	37		0.91	0.17	mg/L			01/06/22 17:20	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

General Chemistry

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	**170**	**BU**	2.0	0.80	NTU			01/19/22 18:28	20
Cr (III)	ND		0.050	0.0069	mg/L			01/12/22 16:10	1
Total Dissolved Solids	**280**		10	3.0	mg/L			12/29/21 10:13	1
Total Suspended Solids	**100**		5.0	2.5	mg/L			12/30/21 12:19	1
Cyanide, Total	ND		5.0	2.5	ug/L		01/07/22 11:02	01/07/22 15:12	1
Ammonia (as N)	**0.402**		0.200	0.100	mg/L			01/07/22 13:23	1
Carbon, Total Organic	**16**		0.50	0.026	mg/L			01/18/22 13:57	1
MBAS	ND	BU	0.30	0.15	mg/L		12/30/21 22:00	12/31/21 09:17	1
Biochemical Oxygen Demand	**4.0**		3.1	1.8	mg/L			12/28/21 09:42	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

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

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	14DCBTN (67-133)						
570-80132-1	Outfall002_20211226_Comp	114						
LCS 570-205613/4	Lab Control Sample	99						
LCSD 570-205613/5	Lab Control Sample Dup	103						
MB 570-205613/8	Method Blank	114						

Surrogate Legend

14DCBTN = 1,4-Dichlorobutane (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	TBP (28-127)	FBP (31-120)	2FP (17-120)	NBZ (27-120)	PHL6 (10-120)	TPHd14 (45-120)	
570-80132-1	Outfall002_20211226_Comp	74	49	43	55	31	57	
LCS 570-204353/2-A	Lab Control Sample	88	62	53	64	34	77	
LCSD 570-204353/3-A	Lab Control Sample Dup	80	57	45	58	30	68	
MB 570-204353/1-A	Method Blank	81	61	47	67	31	70	

Surrogate Legend

TBP = 2,4,6-Tribromophenol
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL6 = Phenol-d6 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Method: 608.3 - Organochlorine Pesticides in Water

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

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	TCX1 (20-139)						
570-80132-1	Outfall002_20211226_Comp	57						
LCS 570-203919/2-A	Lab Control Sample	53						
LCSD 570-203919/3-A	Lab Control Sample Dup	57						
MB 570-203919/1-A	Method Blank	56						

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)						
570-80132-1	Outfall002_20211226_Comp	123						
LCS 570-203919/9-A	Lab Control Sample	79						
LCSD 570-203919/10-A	Lab Control Sample Dup	71						
MB 570-203919/1-A	Method Blank	56						

Surrogate Legend

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-205613/8
Matrix: Water
Analysis Batch: 205613

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.55	ug/L			01/05/22 13:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dichlorobutane (Surr)	*114*		*67 - 133*		*01/05/22 13:09*	*1*

Lab Sample ID: LCS 570-205613/4
Matrix: Water
Analysis Batch: 205613

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			20.0	20.7		ug/L		104	75 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dichlorobutane (Surr)	*99*		*67 - 133*

Lab Sample ID: LCSD 570-205613/5
Matrix: Water
Analysis Batch: 205613

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			20.0	20.2		ug/L		101	75 - 120	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dichlorobutane (Surr)	*103*		*67 - 133*

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

Lab Sample ID: MB 570-204353/1-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204353

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
1,2-Dichlorobenzene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.20	0.069	ug/L		12/29/21 05:48	12/30/21 12:18	1
1,3-Dichlorobenzene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
1,4-Dichlorobenzene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,4,6-Trichlorophenol	ND		1.0	0.067	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,4-Dichlorophenol	ND		1.0	0.097	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,4-Dimethylphenol	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,4-Dinitrophenol	ND		5.0	0.99	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,4-Dinitrotoluene	ND		0.20	0.11	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,6-Dinitrotoluene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
2-Chloronaphthalene	ND		0.20	0.14	ug/L		12/29/21 05:48	12/30/21 12:18	1
2-Chlorophenol	ND		0.20	0.082	ug/L		12/29/21 05:48	12/30/21 12:18	1
2-Nitrophenol	ND		5.0	1.4	ug/L		12/29/21 05:48	12/30/21 12:18	1
3,3'-Dichlorobenzidine	ND		5.0	1.6	ug/L		12/29/21 05:48	12/30/21 12:18	1

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

Lab Sample ID: MB 570-204353/1-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204353

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		5.0	4.0	ug/L		12/29/21 05:48	12/30/21 12:18	1
4-Bromophenyl phenyl ether	ND		0.20	0.077	ug/L		12/29/21 05:48	12/30/21 12:18	1
4-Chloro-3-methylphenol	ND		1.0	0.12	ug/L		12/29/21 05:48	12/30/21 12:18	1
4-Chlorophenyl phenyl ether	ND		0.20	0.090	ug/L		12/29/21 05:48	12/30/21 12:18	1
4-Nitrophenol	ND		5.0	1.1	ug/L		12/29/21 05:48	12/30/21 12:18	1
Acenaphthene	ND		0.20	0.086	ug/L		12/29/21 05:48	12/30/21 12:18	1
Acenaphthylene	ND		0.20	0.084	ug/L		12/29/21 05:48	12/30/21 12:18	1
Anthracene	ND		0.20	0.072	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzidine	ND		5.0	2.3	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzo[a]anthracene	ND		0.20	0.070	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzo[a]pyrene	ND		0.20	0.072	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzo[b]fluoranthene	ND		0.20	0.10	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzo[g,h,i]perylene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzo[k]fluoranthene	ND		0.20	0.077	ug/L		12/29/21 05:48	12/30/21 12:18	1
bis (2-chloroisopropyl) ether	ND		0.20	0.092	ug/L		12/29/21 05:48	12/30/21 12:18	1
Bis(2-chloroethoxy)methane	ND		0.20	0.15	ug/L		12/29/21 05:48	12/30/21 12:18	1
Bis(2-chloroethyl)ether	ND		0.20	0.098	ug/L		12/29/21 05:48	12/30/21 12:18	1
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		12/29/21 05:48	12/30/21 12:18	1
Butyl benzyl phthalate	ND		5.0	0.56	ug/L		12/29/21 05:48	12/30/21 12:18	1
Chrysene	ND		0.20	0.058	ug/L		12/29/21 05:48	12/30/21 12:18	1
Dibenz(a,h)anthracene	ND		0.20	0.14	ug/L		12/29/21 05:48	12/30/21 12:18	1
Diethyl phthalate	ND		2.0	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
Dimethyl phthalate	ND		2.0	0.072	ug/L		12/29/21 05:48	12/30/21 12:18	1
Di-n-butyl phthalate	ND		2.0	0.69	ug/L		12/29/21 05:48	12/30/21 12:18	1
Di-n-octyl phthalate	ND		5.0	0.64	ug/L		12/29/21 05:48	12/30/21 12:18	1
Fluoranthene	ND		0.20	0.096	ug/L		12/29/21 05:48	12/30/21 12:18	1
Fluorene	ND		0.20	0.080	ug/L		12/29/21 05:48	12/30/21 12:18	1
Hexachlorobenzene	ND		0.20	0.094	ug/L		12/29/21 05:48	12/30/21 12:18	1
Hexachlorobutadiene	ND		0.20	0.17	ug/L		12/29/21 05:48	12/30/21 12:18	1
Hexachlorocyclopentadiene	ND		0.20	0.098	ug/L		12/29/21 05:48	12/30/21 12:18	1
Hexachloroethane	ND		0.20	0.15	ug/L		12/29/21 05:48	12/30/21 12:18	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.12	ug/L		12/29/21 05:48	12/30/21 12:18	1
Isophorone	ND		0.20	0.088	ug/L		12/29/21 05:48	12/30/21 12:18	1
Naphthalene	ND		0.20	0.098	ug/L		12/29/21 05:48	12/30/21 12:18	1
Nitrobenzene	ND		0.20	0.097	ug/L		12/29/21 05:48	12/30/21 12:18	1
N-Nitrosodimethylamine	ND		0.20	0.14	ug/L		12/29/21 05:48	12/30/21 12:18	1
N-Nitrosodi-n-propylamine	ND		0.20	0.062	ug/L		12/29/21 05:48	12/30/21 12:18	1
N-Nitrosodiphenylamine	ND		0.20	0.096	ug/L		12/29/21 05:48	12/30/21 12:18	1
Pentachlorophenol	ND		1.0	0.11	ug/L		12/29/21 05:48	12/30/21 12:18	1
Phenanthrene	ND		0.20	0.074	ug/L		12/29/21 05:48	12/30/21 12:18	1
Phenol	ND		0.20	0.076	ug/L		12/29/21 05:48	12/30/21 12:18	1
Pyrene	ND		0.20	0.080	ug/L		12/29/21 05:48	12/30/21 12:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*81*		*28 - 127*	*12/29/21 05:48*	*12/30/21 12:18*	*1*
2-Fluorobiphenyl (Surr)	*61*		*31 - 120*	*12/29/21 05:48*	*12/30/21 12:18*	*1*
2-Fluorophenol	*47*		*17 - 120*	*12/29/21 05:48*	*12/30/21 12:18*	*1*
Nitrobenzene-d5	*67*		*27 - 120*	*12/29/21 05:48*	*12/30/21 12:18*	*1*

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

Lab Sample ID: MB 570-204353/1-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204353

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d6 (Surr)	31		10 - 120	12/29/21 05:48	12/30/21 12:18	1
p-Terphenyl-d14 (Surr)	70		45 - 120	12/29/21 05:48	12/30/21 12:18	1

Lab Sample ID: LCS 570-204353/2-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204353

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	20.0	12.8		ug/L		64	57 - 130
1,2-Dichlorobenzene	20.0	14.4		ug/L		72	41 - 100
1,2-Diphenylhydrazine(as Azobenzene)	20.0	14.5		ug/L		72	60 - 115
1,3-Dichlorobenzene	20.0	14.2		ug/L		71	39 - 100
1,4-Dichlorobenzene	20.0	14.5		ug/L		73	40 - 100
2,4,6-Trichlorophenol	20.0	17.0		ug/L		85	52 - 129
2,4-Dichlorophenol	20.0	14.1		ug/L		70	53 - 122
2,4-Dimethylphenol	20.0	14.1		ug/L		71	42 - 120
2,4-Dinitrophenol	20.0	19.6		ug/L		98	1 - 173
2,4-Dinitrotoluene	20.0	16.1		ug/L		80	48 - 127
2,6-Dinitrotoluene	20.0	17.4		ug/L		87	68 - 137
2-Chloronaphthalene	20.0	13.9		ug/L		69	65 - 120
2-Chlorophenol	20.0	16.4		ug/L		82	36 - 120
2-Nitrophenol	20.0	15.4		ug/L		77	45 - 167
3,3'-Dichlorobenzidine	20.0	19.2		ug/L		96	8 - 213
4,6-Dinitro-2-methylphenol	20.0	15.7		ug/L		79	53 - 130
4-Bromophenyl phenyl ether	20.0	15.1		ug/L		75	65 - 120
4-Chloro-3-methylphenol	20.0	13.8		ug/L		69	41 - 128
4-Chlorophenyl phenyl ether	20.0	15.1		ug/L		75	38 - 145
4-Nitrophenol	20.0	9.39		ug/L		47	13 - 129
Acenaphthene	20.0	14.7		ug/L		73	60 - 132
Acenaphthylene	20.0	17.0		ug/L		85	54 - 126
Anthracene	20.0	17.1		ug/L		86	43 - 120
Benzidine	20.0	13.1		ug/L		66	10 - 124
Benzo[a]anthracene	20.0	16.9		ug/L		84	42 - 133
Benzo[a]pyrene	20.0	18.5		ug/L		93	32 - 148
Benzo[b]fluoranthene	20.0	16.3		ug/L		82	42 - 140
Benzo[g,h,i]perylene	20.0	15.3		ug/L		77	1 - 195
Benzo[k]fluoranthene	20.0	16.5		ug/L		83	25 - 146
bis (2-chloroisopropyl) ether	20.0	16.7		ug/L		84	63 - 139
Bis(2-chloroethoxy)methane	20.0	13.4		ug/L		67	49 - 165
Bis(2-chloroethyl)ether	20.0	15.6		ug/L		78	43 - 126
Bis(2-ethylhexyl) phthalate	20.0	19.5		ug/L		98	29 - 137
Butyl benzyl phthalate	20.0	18.5		ug/L		93	1 - 140
Chrysene	20.0	14.8		ug/L		74	44 - 140
Dibenz(a,h)anthracene	20.0	15.4		ug/L		77	1 - 200
Diethyl phthalate	20.0	15.8		ug/L		79	1 - 120
Dimethyl phthalate	20.0	14.8		ug/L		74	1 - 120
Di-n-butyl phthalate	20.0	17.8		ug/L		89	8 - 120
Di-n-octyl phthalate	20.0	22.1		ug/L		111	19 - 132

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

Lab Sample ID: LCS 570-204353/2-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204353

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoranthene			20.0	16.8		ug/L		84	43 - 121		
Fluorene			20.0	15.2		ug/L		76	70 - 120		
Hexachlorobenzene			20.0	14.8		ug/L		74	8 - 142		
Hexachlorobutadiene			20.0	12.5		ug/L		63	38 - 120		
Hexachlorocyclopentadiene			20.0	16.5		ug/L		82	20 - 137		
Hexachloroethane			20.0	14.4		ug/L		72	55 - 120		
Indeno[1,2,3-cd]pyrene			20.0	14.8		ug/L		74	1 - 151		
Isophorone			20.0	14.8		ug/L		74	47 - 180		
Naphthalene			20.0	12.6		ug/L		63	36 - 120		
Nitrobenzene			20.0	12.8		ug/L		64	54 - 158		
N-Nitrosodimethylamine			20.0	11.0		ug/L		55	30 - 100		
N-Nitrosodi-n-propylamine			20.0	18.4		ug/L		92	14 - 198		
N-Nitrosodiphenylamine			20.0	20.2		ug/L		101	75 - 135		
Pentachlorophenol			20.0	15.3		ug/L		77	38 - 152		
Phenanthrene			20.0	15.0		ug/L		75	65 - 120		
Phenol			20.0	7.39		ug/L		37	17 - 120		
Pyrene			20.0	15.2		ug/L		76	70 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*88*		*28 - 127*
2-Fluorobiphenyl (Surr)	*62*		*31 - 120*
2-Fluorophenol	*53*		*17 - 120*
Nitrobenzene-d5	*64*		*27 - 120*
Phenol-d6 (Surr)	*34*		*10 - 120*
p-Terphenyl-d14 (Surr)	*77*		*45 - 120*

Lab Sample ID: LCSD 570-204353/3-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204353

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene			20.0	11.4		ug/L		57	57 - 130	12	30
1,2-Dichlorobenzene			20.0	13.3		ug/L		67	41 - 100	8	20
1,2-Diphenylhydrazine(as Azobenzene)			20.0	13.0		ug/L		65	60 - 115	11	30
1,3-Dichlorobenzene			20.0	12.8		ug/L		64	39 - 100	11	20
1,4-Dichlorobenzene			20.0	13.3		ug/L		67	40 - 100	9	20
2,4,6-Trichlorophenol			20.0	15.1		ug/L		75	52 - 129	12	35
2,4-Dichlorophenol			20.0	13.3		ug/L		66	53 - 122	6	30
2,4-Dimethylphenol			20.0	12.9		ug/L		65	42 - 120	9	35
2,4-Dinitrophenol			20.0	17.3		ug/L		87	1 - 173	12	79
2,4-Dinitrotoluene			20.0	14.9		ug/L		75	48 - 127	8	25
2,6-Dinitrotoluene			20.0	15.3		ug/L		77	68 - 137	13	29
2-Chloronaphthalene			20.0	13.0		ug/L		65	65 - 120	7	15
2-Chlorophenol			20.0	14.4		ug/L		72	36 - 120	13	37
2-Nitrophenol			20.0	13.7		ug/L		69	45 - 167	12	33
3,3'-Dichlorobenzidine			20.0	18.3		ug/L		91	8 - 213	5	65
4,6-Dinitro-2-methylphenol			20.0	14.0		ug/L		70	53 - 130	12	122
4-Bromophenyl phenyl ether			20.0	13.1		ug/L		65	65 - 120	14	26

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

Lab Sample ID: LCSD 570-204353/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 204757 **Prep Batch: 204353**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Chloro-3-methylphenol			20.0	13.2		ug/L		66	41 - 128	5	44
4-Chlorophenyl phenyl ether			20.0	14.3		ug/L		72	38 - 145	5	36
4-Nitrophenol			20.0	8.35		ug/L		42	13 - 129	12	79
Acenaphthene			20.0	13.2		ug/L		66	60 - 132	11	29
Acenaphthylene			20.0	15.5		ug/L		78	54 - 126	9	45
Anthracene			20.0	15.5		ug/L		77	43 - 120	10	40
Benzidine			20.0	12.6		ug/L		63	10 - 124	4	40
Benzo[a]anthracene			20.0	15.8		ug/L		79	42 - 133	7	32
Benzo[a]pyrene			20.0	17.5		ug/L		87	32 - 148	6	43
Benzo[b]fluoranthene			20.0	15.2		ug/L		76	42 - 140	7	43
Benzo[g,h,i]perylene			20.0	14.0		ug/L		70	1 - 195	9	61
Benzo[k]fluoranthene			20.0	15.3		ug/L		77	25 - 146	7	38
bis (2-chloroisopropyl) ether			20.0	15.5		ug/L		77	63 - 139	8	46
Bis(2-chloroethoxy)methane			20.0	12.0		ug/L		60	49 - 165	11	32
Bis(2-chloroethyl)ether			20.0	14.3		ug/L		71	43 - 126	9	65
Bis(2-ethylhexyl) phthalate			20.0	18.2		ug/L		91	29 - 137	7	50
Butyl benzyl phthalate			20.0	17.1		ug/L		85	1 - 140	8	36
Chrysene			20.0	13.8		ug/L		69	44 - 140	7	53
Dibenz(a,h)anthracene			20.0	14.3		ug/L		71	1 - 200	8	75
Diethyl phthalate			20.0	14.3		ug/L		72	1 - 120	10	60
Dimethyl phthalate			20.0	13.7		ug/L		69	1 - 120	8	110
Di-n-butyl phthalate			20.0	16.0		ug/L		80	8 - 120	11	28
Di-n-octyl phthalate			20.0	20.3		ug/L		102	19 - 132	8	42
Fluoranthene			20.0	14.5		ug/L		72	43 - 121	15	40
Fluorene			20.0	14.3		ug/L		71	70 - 120	6	23
Hexachlorobenzene			20.0	13.7		ug/L		69	8 - 142	8	33
Hexachlorobutadiene			20.0	11.2		ug/L		56	38 - 120	11	38
Hexachlorocyclopentadiene			20.0	15.2		ug/L		76	20 - 137	8	20
Hexachloroethane			20.0	13.0		ug/L		65	55 - 120	11	32
Indeno[1,2,3-cd]pyrene			20.0	13.5		ug/L		68	1 - 151	9	60
Isophorone			20.0	13.3		ug/L		67	47 - 180	10	56
Naphthalene			20.0	11.6		ug/L		58	36 - 120	8	39
Nitrobenzene			20.0	11.8		ug/L		59	54 - 158	9	37
N-Nitrosodimethylamine			20.0	10.5		ug/L		52	30 - 100	5	20
N-Nitrosodi-n-propylamine			20.0	15.9		ug/L		80	14 - 198	15	52
N-Nitrosodiphenylamine			20.0	18.8		ug/L		94	75 - 135	7	20
Pentachlorophenol			20.0	14.0		ug/L		70	38 - 152	9	52
Phenanthrene			20.0	14.3		ug/L		71	65 - 120	5	24
Phenol			20.0	6.47		ug/L		32	17 - 120	13	39
Pyrene			20.0	14.0		ug/L		70	70 - 120	8	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol	*80*		*28 - 127*
2-Fluorobiphenyl (Surr)	*57*		*31 - 120*
2-Fluorophenol	*45*		*17 - 120*
Nitrobenzene-d5	*58*		*27 - 120*
Phenol-d6 (Surr)	*30*		*10 - 120*
p-Terphenyl-d14 (Surr)	*68*		*45 - 120*

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-203919/1-A
Matrix: Water
Analysis Batch: 204108

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 203919

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00070	ug/L		12/27/21 15:38	12/28/21 14:19	1
alpha-BHC	ND		0.0013	0.00080	ug/L		12/27/21 15:38	12/28/21 14:19	1
beta-BHC	ND		0.0020	0.0017	ug/L		12/27/21 15:38	12/28/21 14:19	1
delta-BHC	ND		0.0013	0.0011	ug/L		12/27/21 15:38	12/28/21 14:19	1
gamma-BHC (Lindane)	ND		0.0013	0.00090	ug/L		12/27/21 15:38	12/28/21 14:19	1
Chlordane (technical)	ND		0.010	0.0065	ug/L		12/27/21 15:38	12/28/21 14:19	1
4,4'-DDD	ND		0.0013	0.00080	ug/L		12/27/21 15:38	12/28/21 14:19	1
4,4'-DDE	ND		0.0013	0.00050	ug/L		12/27/21 15:38	12/28/21 14:19	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		12/27/21 15:38	12/28/21 14:19	1
Dieldrin	ND		0.0013	0.00050	ug/L		12/27/21 15:38	12/28/21 14:19	1
Endosulfan I	ND		0.0013	0.00070	ug/L		12/27/21 15:38	12/28/21 14:19	1
Endosulfan II	ND		0.0013	0.00050	ug/L		12/27/21 15:38	12/28/21 14:19	1
Endosulfan sulfate	ND		0.0013	0.00060	ug/L		12/27/21 15:38	12/28/21 14:19	1
Endrin	ND		0.0013	0.00070	ug/L		12/27/21 15:38	12/28/21 14:19	1
Endrin aldehyde	ND		0.010	0.0051	ug/L		12/27/21 15:38	12/28/21 14:19	1
Heptachlor	ND		0.0013	0.00070	ug/L		12/27/21 15:38	12/28/21 14:19	1
Heptachlor epoxide	ND		0.0013	0.00040	ug/L		12/27/21 15:38	12/28/21 14:19	1
Toxaphene	ND		0.10	0.013	ug/L		12/27/21 15:38	12/28/21 14:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*56*		*20 - 139*	*12/27/21 15:38*	*12/28/21 14:19*	*1*

Lab Sample ID: LCS 570-203919/2-A
Matrix: Water
Analysis Batch: 204108

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 203919

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.0333	0.0160		ug/L		48	42 - 140
alpha-BHC	0.0333	0.0196		ug/L		59	37 - 140
beta-BHC	0.0333	0.0194		ug/L		58	17 - 147
delta-BHC	0.0333	0.0201		ug/L		60	19 - 140
gamma-BHC (Lindane)	0.0333	0.0171		ug/L		51	32 - 140
4,4'-DDD	0.0333	0.0207		ug/L		62	31 - 141
4,4'-DDE	0.0333	0.0192		ug/L		57	30 - 145
4,4'-DDT	0.0333	0.0207		ug/L		62	25 - 160
Dieldrin	0.0333	0.0190		ug/L		57	36 - 146
Endosulfan I	0.0333	0.0183		ug/L		55	45 - 153
Endosulfan II	0.0333	0.0200		ug/L		60	1 - 202
Endosulfan sulfate	0.0333	0.0184		ug/L		55	26 - 144
Endrin	0.0333	0.0188		ug/L		56	30 - 147
Endrin aldehyde	0.0333	0.0364	PI	ug/L		109	60 - 140
Heptachlor	0.0333	0.0239		ug/L		72	34 - 140
Heptachlor epoxide	0.0333	0.0192		ug/L		58	37 - 142

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*53*		*20 - 139*

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: LCSD 570-203919/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204108
Prep Batch: 203919

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin			0.0333	0.0160		ug/L		48	42 - 140	0	35
alpha-BHC			0.0333	0.0204		ug/L		61	37 - 140	4	36
beta-BHC			0.0333	0.0210		ug/L		63	17 - 147	8	44
delta-BHC			0.0333	0.0214		ug/L		64	19 - 140	6	52
gamma-BHC (Lindane)			0.0333	0.0180		ug/L		54	32 - 140	5	39
4,4'-DDD			0.0333	0.0217		ug/L		65	31 - 141	5	39
4,4'-DDE			0.0333	0.0202		ug/L		61	30 - 145	5	35
4,4'-DDT			0.0333	0.0229		ug/L		69	25 - 160	10	42
Dieldrin			0.0333	0.0203		ug/L		61	36 - 146	6	49
Endosulfan I			0.0333	0.0201		ug/L		60	45 - 153	9	28
Endosulfan II			0.0333	0.0222		ug/L		67	1 - 202	11	53
Endosulfan sulfate			0.0333	0.0217		ug/L		65	26 - 144	16	38
Endrin			0.0333	0.0203		ug/L		61	30 - 147	8	48
Endrin aldehyde			0.0333	0.0350	PI	ug/L		105	60 - 140	4	30
Heptachlor			0.0333	0.0255		ug/L		77	34 - 140	7	43
Heptachlor epoxide			0.0333	0.0200		ug/L		60	37 - 142	4	26

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*57*		*20 - 139*

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

Lab Sample ID: MB 570-203919/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204995
Prep Batch: 203919

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		12/27/21 15:38	01/04/22 00:16	1
Aroclor 1221	ND		0.10	0.044	ug/L		12/27/21 15:38	01/04/22 00:16	1
Aroclor 1232	ND		0.10	0.044	ug/L		12/27/21 15:38	01/04/22 00:16	1
Aroclor 1242	ND		0.10	0.044	ug/L		12/27/21 15:38	01/04/22 00:16	1
Aroclor 1248	ND		0.10	0.044	ug/L		12/27/21 15:38	01/04/22 00:16	1
Aroclor 1254	ND		0.10	0.052	ug/L		12/27/21 15:38	01/04/22 00:16	1
Aroclor 1260	ND		0.10	0.052	ug/L		12/27/21 15:38	01/04/22 00:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*56*		*20 - 154*	*12/27/21 15:38*	*01/04/22 00:16*	*1*

Lab Sample ID: LCS 570-203919/9-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204995
Prep Batch: 203919

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016			0.133	0.179		ug/L		134	50 - 140
Aroclor 1260			0.133	0.172		ug/L		129	8 - 140

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

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

Lab Sample ID: LCSD 570-203919/10-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204995 — **Prep Batch: 203919**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016			0.133	0.165		ug/L		123	50 - 140	8	36
Aroclor 1260			0.133	0.154		ug/L		116	8 - 140	11	38

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*71*		*20 - 154*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 570-204051/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204051

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.20	0.019	ug/L			12/28/21 09:39	1

Lab Sample ID: LCS 570-204051/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204051

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			50.0	51.7		ug/L		103	95 - 107		

Lab Sample ID: LCSD 570-204051/8 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204051

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent			50.0	50.3		ug/L		101	95 - 107	3	20

Lab Sample ID: 570-80145-C-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204051

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent	ND		50.0	50.4		ug/L		101	85 - 121		

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-203940/15 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 203940

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			12/28/21 00:35	1
Nitrate as N	ND		0.10	0.024	mg/L			12/28/21 00:35	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 570-203940/16
Matrix: Water
Analysis Batch: 203940

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	2.39		mg/L		96	90 - 110
Nitrate as N	5.00	4.87		mg/L		97	90 - 110

Lab Sample ID: LCSD 570-203940/17
Matrix: Water
Analysis Batch: 203940

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	2.40		mg/L		96	90 - 110	1	15
Nitrate as N	5.00	4.87		mg/L		97	90 - 110	0	15

Lab Sample ID: MB 570-203941/15
Matrix: Water
Analysis Batch: 203941

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			12/28/21 00:35	1
Fluoride	ND		0.10	0.046	mg/L			12/28/21 00:35	1
Sulfate	ND		1.0	0.24	mg/L			12/28/21 00:35	1

Lab Sample ID: LCS 570-203941/16
Matrix: Water
Analysis Batch: 203941

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	48.2		mg/L		96	90 - 110
Fluoride	2.50	2.41		mg/L		96	90 - 110
Sulfate	50.0	49.2		mg/L		98	90 - 110

Lab Sample ID: LCSD 570-203941/17
Matrix: Water
Analysis Batch: 203941

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50.0	48.1		mg/L		96	90 - 110	0	15
Fluoride	2.50	2.43		mg/L		97	90 - 110	1	15
Sulfate	50.0	49.1		mg/L		98	90 - 110	0	15

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 570-79264-H-1 MS
Matrix: Water
Analysis Batch: 203940

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N - DL	ND		2.50	2.60		mg/L		104	80 - 120
Nitrate as N - DL	0.19	J,DX	5.00	5.15		mg/L		99	80 - 120

Method: 300.0 - Anions, Ion Chromatography - DL (Continued)

Lab Sample ID: 570-79264-H-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 203940

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N - DL	ND		2.50	2.74		mg/L		110	80 - 120	5	20
Nitrate as N - DL	0.19	J,DX	5.00	5.33		mg/L		103	80 - 120	3	20

Lab Sample ID: 570-79264-H-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 203941

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride - DL	26		50.0	72.2		mg/L		92	80 - 120
Fluoride - DL	ND		2.50	3.06	LM	mg/L		122	80 - 120
Sulfate - DL	120		50.0	178		mg/L		108	80 - 120

Lab Sample ID: 570-79264-H-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 203941

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride - DL	26		50.0	74.6		mg/L		97	80 - 120	3	20
Fluoride - DL	ND		2.50	3.19	LM	mg/L		128	80 - 120	4	20
Sulfate - DL	120		50.0	183		mg/L		117	80 - 120	3	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-204101/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204101

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			12/28/21 12:08	1

Lab Sample ID: LCS 570-204101/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204101

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	26.3		ug/L		105	85 - 115

Lab Sample ID: LCSD 570-204101/8 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204101

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	25.0	26.3		ug/L		105	85 - 115	0	15

Method: 314.0 - Perchlorate (IC) - DL

Lab Sample ID: 570-79640-G-1 MS
Matrix: Water
Analysis Batch: 204101

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate - DL	5000		50.0	5240	BB	ug/L		524	80 - 120

Lab Sample ID: 570-79640-G-1 MSD
Matrix: Water
Analysis Batch: 204101

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate - DL	5000		50.0	5230	BB	ug/L		506	80 - 120	0	15

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-663922/1-A
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 663922

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/07/22 08:10	01/07/22 17:42	1
Barium	ND		10	2.2	ug/L		01/07/22 08:10	01/07/22 17:42	1
Beryllium	ND		2.0	0.44	ug/L		01/07/22 08:10	01/07/22 17:42	1
Boron	ND		50	25	ug/L		01/07/22 08:10	01/07/22 17:42	1
Chromium	ND		5.0	2.5	ug/L		01/07/22 08:10	01/07/22 17:42	1
Cobalt	ND		10	2.8	ug/L		01/07/22 08:10	01/07/22 17:42	1
Iron	ND		100	50	ug/L		01/07/22 08:10	01/07/22 17:42	1
Manganese	ND		20	6.8	ug/L		01/07/22 08:10	01/07/22 17:42	1
Nickel	ND		10	5.0	ug/L		01/07/22 08:10	01/07/22 17:42	1
Vanadium	ND		10	2.1	ug/L		01/07/22 08:10	01/07/22 17:42	1
Zinc	ND		20	12	ug/L		01/07/22 08:10	01/07/22 17:42	1

Lab Sample ID: LCS 440-663922/2-A
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 663922

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	498		ug/L		100	85 - 115
Barium	500	502		ug/L		100	85 - 115
Beryllium	500	504		ug/L		101	85 - 115
Boron	500	492		ug/L		98	85 - 115
Calcium	2500	2540		ug/L		102	85 - 115
Chromium	500	504		ug/L		101	85 - 115
Cobalt	500	511		ug/L		102	85 - 115
Iron	500	516		ug/L		103	85 - 115
Magnesium	2500	2530		ug/L		101	85 - 115
Manganese	500	498		ug/L		100	85 - 115
Nickel	500	516		ug/L		103	85 - 115
Vanadium	500	502		ug/L		100	85 - 115
Zinc	500	507		ug/L		101	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 440-293568-D-2-C MS
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 663922

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		500	518		ug/L		104	70 - 130
Barium	36		500	533		ug/L		99	70 - 130
Beryllium	ND		500	508		ug/L		102	70 - 130
Boron	86		500	591		ug/L		101	70 - 130
Calcium	70000		2500	70400	BB	ug/L		29	70 - 130
Chromium	ND		500	501		ug/L		100	70 - 130
Cobalt	ND		500	488		ug/L		98	70 - 130
Iron	1600		500	2300	LM	ug/L		133	70 - 130
Magnesium	18000		2500	20100	BB	ug/L		80	70 - 130
Manganese	56		500	544		ug/L		98	70 - 130
Nickel	ND		500	485		ug/L		97	70 - 130
Vanadium	4.1	J,DX	500	515		ug/L		102	70 - 130
Zinc	89		500	590		ug/L		100	70 - 130

Lab Sample ID: 440-293568-D-2-D MSD
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 663922

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	527		ug/L		105	70 - 130	2	20
Barium	36		500	540		ug/L		101	70 - 130	1	20
Beryllium	ND		500	514		ug/L		103	70 - 130	1	20
Boron	86		500	599		ug/L		103	70 - 130	1	20
Calcium	70000		2500	70700	BB	ug/L		43	70 - 130	0	20
Chromium	ND		500	510		ug/L		102	70 - 130	2	20
Cobalt	ND		500	496		ug/L		99	70 - 130	1	20
Iron	1600		500	2290		ug/L		130	70 - 130	1	20
Magnesium	18000		2500	20300	BB	ug/L		85	70 - 130	1	20
Manganese	56		500	551		ug/L		99	70 - 130	1	20
Nickel	ND		500	494		ug/L		99	70 - 130	2	20
Vanadium	4.1	J,DX	500	521		ug/L		103	70 - 130	1	20
Zinc	89		500	587		ug/L		99	70 - 130	1	20

Lab Sample ID: MB 440-663584/1-C
Matrix: Water
Analysis Batch: 663658

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663619

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		12/30/21 07:56	12/30/21 14:16	1
Barium	ND		10	2.2	ug/L		12/30/21 07:56	12/30/21 14:16	1
Beryllium	ND		2.0	0.44	ug/L		12/30/21 07:56	12/30/21 14:16	1
Boron	ND		50	25	ug/L		12/30/21 07:56	12/30/21 14:16	1
Chromium	ND		5.0	2.5	ug/L		12/30/21 07:56	12/30/21 14:16	1
Cobalt	ND		10	2.8	ug/L		12/30/21 07:56	12/30/21 14:16	1
Iron	ND		100	50	ug/L		12/30/21 07:56	12/30/21 14:16	1
Manganese	ND		20	6.8	ug/L		12/30/21 07:56	12/30/21 14:16	1
Nickel	9.00	J,DX	10	5.0	ug/L		12/30/21 07:56	12/30/21 14:16	1
Vanadium	ND		10	2.1	ug/L		12/30/21 07:56	12/30/21 14:16	1
Zinc	ND		20	12	ug/L		12/30/21 07:56	12/30/21 14:16	1

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: LCS 440-663584/2-C
Matrix: Water
Analysis Batch: 663658

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663619

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			500	465		ug/L		93	85 - 115		
Barium			500	474		ug/L		95	85 - 115		
Beryllium			500	472		ug/L		94	85 - 115		
Boron			500	456		ug/L		91	85 - 115		
Calcium			2500	2360		ug/L		94	85 - 115		
Chromium			500	474		ug/L		95	85 - 115		
Cobalt			500	468		ug/L		94	85 - 115		
Iron			500	473		ug/L		95	85 - 115		
Magnesium			2500	2350		ug/L		94	85 - 115		
Manganese			500	472		ug/L		94	85 - 115		
Nickel			500	470		ug/L		94	85 - 115		
Vanadium			500	470		ug/L		94	85 - 115		
Zinc			500	468		ug/L		94	85 - 115		

Lab Sample ID: 570-80142-C-2-G MS
Matrix: Water
Analysis Batch: 663658

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663619

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic	ND		500	487		ug/L		97	70 - 130		
Barium	11		500	497		ug/L		97	70 - 130		
Beryllium	ND		500	489		ug/L		98	70 - 130		
Boron	38	J,DX	500	510		ug/L		94	70 - 130		
Calcium	6300		2500	8750		ug/L		98	70 - 130		
Chromium	ND		500	487		ug/L		97	70 - 130		
Cobalt	ND		500	485		ug/L		97	70 - 130		
Iron	79	J,DX	500	555		ug/L		95	70 - 130		
Magnesium	1800		2500	4150		ug/L		94	70 - 130		
Manganese	ND		500	485		ug/L		97	70 - 130		
Nickel	ND		500	482		ug/L		96	70 - 130		
Vanadium	2.1	J,DX	500	486		ug/L		97	70 - 130		
Zinc	ND		500	489		ug/L		98	70 - 130		

Lab Sample ID: 570-80142-C-2-H MSD
Matrix: Water
Analysis Batch: 663658

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663619

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	474		ug/L		95	70 - 130	3	20
Barium	11		500	490		ug/L		96	70 - 130	2	20
Beryllium	ND		500	482		ug/L		96	70 - 130	1	20
Boron	38	J,DX	500	503		ug/L		93	70 - 130	1	20
Calcium	6300		2500	8760		ug/L		98	70 - 130	0	20
Chromium	ND		500	479		ug/L		96	70 - 130	2	20
Cobalt	ND		500	480		ug/L		96	70 - 130	1	20
Iron	79	J,DX	500	559		ug/L		96	70 - 130	1	20
Magnesium	1800		2500	4130		ug/L		93	70 - 130	0	20
Manganese	ND		500	477		ug/L		95	70 - 130	2	20
Nickel	ND		500	476		ug/L		95	70 - 130	1	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 570-80142-C-2-H MSD
Matrix: Water
Analysis Batch: 663658

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663619

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vanadium	2.1	J,DX	500	479		ug/L		95	70 - 130	1	20
Zinc	ND		500	482		ug/L		96	70 - 130	2	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-663886/1-A
Matrix: Water
Analysis Batch: 664004

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 663886

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/07/22 07:06	01/07/22 10:56	1
Cadmium	ND		1.0	0.25	ug/L		01/07/22 07:06	01/07/22 10:56	1
Copper	ND		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 10:56	1
Lead	ND		1.0	0.50	ug/L		01/07/22 07:06	01/07/22 10:56	1
Antimony	ND		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 10:56	1
Selenium	ND		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 10:56	1
Thallium	ND		1.0	0.20	ug/L		01/07/22 07:06	01/07/22 10:56	1

Lab Sample ID: LCS 440-663886/2-A
Matrix: Water
Analysis Batch: 664004

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 663886

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	78.1		ug/L		98	85 - 115
Cadmium	80.0	79.4		ug/L		99	85 - 115
Copper	80.0	80.9		ug/L		101	85 - 115
Lead	80.0	80.5		ug/L		101	85 - 115
Antimony	80.0	89.0		ug/L		111	85 - 115
Selenium	80.0	77.3		ug/L		97	85 - 115
Thallium	80.0	79.7		ug/L		100	85 - 115

Lab Sample ID: 440-293542-B-1-D MS
Matrix: Water
Analysis Batch: 664004

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 663886

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	78.5		ug/L		98	70 - 130
Cadmium	ND		80.0	80.4		ug/L		101	70 - 130
Copper	7.7		80.0	89.5		ug/L		102	70 - 130
Lead	1.1		80.0	81.0		ug/L		100	70 - 130
Antimony	1.2	J,DX	80.0	93.3		ug/L		115	70 - 130
Selenium	4.6		80.0	84.3		ug/L		100	70 - 130
Thallium	ND		80.0	79.6		ug/L		99	70 - 130

Lab Sample ID: 440-293542-B-1-E MSD
Matrix: Water
Analysis Batch: 664004

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 663886

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	75.6		ug/L		94	70 - 130	4	20

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

Lab Sample ID: 440-293542-B-1-E MSD
Matrix: Water
Analysis Batch: 664004

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 663886

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	77.6		ug/L		97	70 - 130	4	20
Copper	7.7		80.0	86.4		ug/L		98	70 - 130	4	20
Lead	1.1		80.0	78.6		ug/L		97	70 - 130	3	20
Antimony	1.2	J,DX	80.0	89.9		ug/L		111	70 - 130	4	20
Selenium	4.6		80.0	80.6		ug/L		95	70 - 130	4	20
Thallium	ND		80.0	77.0		ug/L		96	70 - 130	3	20

Lab Sample ID: MB 440-663584/1-B
Matrix: Water
Analysis Batch: 663652

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663593

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:45	1
Cadmium	ND		1.0	0.25	ug/L		12/29/21 16:21	12/30/21 12:45	1
Copper	ND		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:45	1
Lead	ND		1.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:45	1
Antimony	ND		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:45	1
Selenium	ND		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:45	1
Thallium	ND		1.0	0.20	ug/L		12/29/21 16:21	12/30/21 12:45	1

Lab Sample ID: LCS 440-663584/2-B
Matrix: Water
Analysis Batch: 663652

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663593

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	77.6		ug/L		97	85 - 115
Cadmium	80.0	74.8		ug/L		94	85 - 115
Copper	80.0	74.3		ug/L		93	85 - 115
Lead	80.0	75.7		ug/L		95	85 - 115
Antimony	80.0	85.1		ug/L		106	85 - 115
Selenium	80.0	75.1		ug/L		94	85 - 115
Thallium	80.0	75.5		ug/L		94	85 - 115

Lab Sample ID: 570-80142-C-2-D MS
Matrix: Water
Analysis Batch: 663652

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663593

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	78.4		ug/L		98	70 - 130
Cadmium	ND		80.0	75.1		ug/L		94	70 - 130
Copper	2.8		80.0	78.5		ug/L		95	70 - 130
Lead	ND		80.0	76.5		ug/L		96	70 - 130
Antimony	ND		80.0	86.0		ug/L		108	70 - 130
Selenium	ND		80.0	74.6		ug/L		93	70 - 130
Thallium	ND		80.0	76.4		ug/L		95	70 - 130

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

Lab Sample ID: 570-80142-C-2-E MSD
Matrix: Water
Analysis Batch: 663652

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663593

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	80.9		ug/L		101	70 - 130	3	20
Cadmium	ND		80.0	77.6		ug/L		97	70 - 130	3	20
Copper	2.8		80.0	81.6		ug/L		98	70 - 130	4	20
Lead	ND		80.0	79.4		ug/L		99	70 - 130	4	20
Antimony	ND		80.0	89.1		ug/L		111	70 - 130	4	20
Selenium	ND		80.0	76.6		ug/L		96	70 - 130	3	20
Thallium	ND		80.0	79.0		ug/L		99	70 - 130	3	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-664059/1-A
Matrix: Water
Analysis Batch: 664187

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 664059

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:10	01/10/22 18:21	1

Lab Sample ID: LCS 440-664059/2-A
Matrix: Water
Analysis Batch: 664187

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 664059

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.00	5.96		ug/L		99	85 - 115

Lab Sample ID: 570-80132-1 MS
Matrix: Water
Analysis Batch: 664187

Client Sample ID: Outfall002_20211226_Comp
Prep Type: Total/NA
Prep Batch: 664059

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		6.00	9.28	LM	ug/L		155	75 - 125

Lab Sample ID: 570-80132-1 MSD
Matrix: Water
Analysis Batch: 664187

Client Sample ID: Outfall002_20211226_Comp
Prep Type: Total/NA
Prep Batch: 664059

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		6.00	9.04	LM	ug/L		151	75 - 125	3	20

Lab Sample ID: MB 570-208358/1-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 208361

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00025	0.00012	mg/L		01/19/22 17:58	01/20/22 19:43	1

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 570-208358/2-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 208361

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.0100	0.00971		mg/L		97	85 - 115		

Lab Sample ID: LCSD 570-208358/3-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 208361

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			0.0100	0.00972		mg/L		97	85 - 115	0	10

Lab Sample ID: 570-80124-C-3-I MS
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		0.0100	0.00927		mg/L		93	70 - 130		

Lab Sample ID: 570-80124-C-3-L MSD
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.0100	0.00928		mg/L		93	70 - 130	0	10

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 440-664889/6
Matrix: Water
Analysis Batch: 664889

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	ND		0.10	0.05	NTU			01/19/22 18:28	1

Lab Sample ID: MRL 440-664889/5
Matrix: Water
Analysis Batch: 664889

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Turbidity			0.100	0.10		NTU		90	50 - 150		

Lab Sample ID: 570-80231-I-1 DU
Matrix: Water
Analysis Batch: 664889

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Turbidity	0.40			0.35		NTU				10	20

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

Lab Sample ID: MB 440-663505/1
Matrix: Water
Analysis Batch: 663505

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	3.0	mg/L			12/28/21 08:43	1

Lab Sample ID: LCS 440-663505/2
Matrix: Water
Analysis Batch: 663505

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	984		mg/L		98	90 - 110

Lab Sample ID: 440-293601-G-5 DU
Matrix: Water
Analysis Batch: 663505

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	4000		4070		mg/L		1	5

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

Lab Sample ID: MB 440-663645/1
Matrix: Water
Analysis Batch: 663645

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			12/30/21 12:19	1

Lab Sample ID: LCS 440-663645/2
Matrix: Water
Analysis Batch: 663645

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	1000	879		mg/L		88	85 - 115

Lab Sample ID: 440-293642-C-1 DU
Matrix: Water
Analysis Batch: 663645

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	49		47.0		mg/L		5	5

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 440-663989/1-A
Matrix: Water
Analysis Batch: 664019

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 663989

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L		01/07/22 11:02	01/07/22 15:12	1

Method: SM 4500 CN E - Cyanide, Total (Low Level) (Continued)

Lab Sample ID: LCS 440-663989/2-A
Matrix: Water
Analysis Batch: 664019

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 663989

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			100	96.7		ug/L		97	80 - 120		

Lab Sample ID: 570-80124-G-1-C MS
Matrix: Water
Analysis Batch: 664019

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 663989

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total	ND		100	98.9		ug/L		99	75 - 125		

Lab Sample ID: 570-80124-G-1-D MSD
Matrix: Water
Analysis Batch: 664019

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 663989

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		100	99.7		ug/L		100	75 - 125	1	20

Method: SM 4500 NH3 G - Ammonia

Lab Sample ID: MB 440-664022/10
Matrix: Water
Analysis Batch: 664022

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.200	0.100	mg/L			01/07/22 11:11	1

Lab Sample ID: LCS 440-664022/11
Matrix: Water
Analysis Batch: 664022

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia (as N)			5.00	5.370		mg/L		107	90 - 110		

Lab Sample ID: MRL 440-664022/9
Matrix: Water
Analysis Batch: 664022

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia (as N)			0.200	0.1950	J,DX	mg/L		98	50 - 150		

Lab Sample ID: 570-80545-H-1 MS
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia (as N)	0.845		5.00	5.760		mg/L		98	90 - 110		

Method: SM 4500 NH3 G - Ammonia (Continued)

Lab Sample ID: 570-80545-H-1 MSD
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.845		5.00	5.710		mg/L		97	90 - 110	1	15

Method: SM 5310D - Organic Carbon, Total (TOC)

Lab Sample ID: MB 570-208181/35
Matrix: Water
Analysis Batch: 208181

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon, Total Organic	ND		0.50	0.026	mg/L			01/18/22 09:00	1

Lab Sample ID: LCS 570-208181/67
Matrix: Water
Analysis Batch: 208181

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Carbon, Total Organic			5.00	4.94		mg/L		99	85 - 115		

Lab Sample ID: LCSD 570-208181/68
Matrix: Water
Analysis Batch: 208181

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon, Total Organic			5.00	5.06		mg/L		101	85 - 115	3	20

Lab Sample ID: 440-294124-B-1 MS
Matrix: Water
Analysis Batch: 208181

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Carbon, Total Organic	0.45	J,DX	5.00	3.63		mg/L		64	31 - 145		

Lab Sample ID: 440-294124-B-1 MSD
Matrix: Water
Analysis Batch: 208181

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon, Total Organic	0.45	J,DX	5.00	3.33		mg/L		58	31 - 145	9	20

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

Lab Sample ID: MB 570-204906/5-A
Matrix: Water
Analysis Batch: 204896

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204906

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.30	0.15	mg/L		12/30/21 22:00	12/31/21 08:58	1

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

Lab Sample ID: LCS 570-204906/6-A
Matrix: Water
Analysis Batch: 204896

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204906

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
MBAS			1.00	1.07		mg/L		107	85 - 111		

Lab Sample ID: LCSD 570-204906/7-A
Matrix: Water
Analysis Batch: 204896

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204906

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MBAS			1.00	1.09		mg/L		109	85 - 111	2	7

Lab Sample ID: 570-80340-B-1-A MS
Matrix: Water
Analysis Batch: 204896

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 204906

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
MBAS	ND		1.00	1.23		mg/L		123	75 - 125		

Lab Sample ID: 570-80340-B-1-B MSD
Matrix: Water
Analysis Batch: 204896

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 204906

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MBAS	ND		1.00	1.22		mg/L		122	75 - 125	1	12

Method: SM5210B - BOD, 5 Day

Lab Sample ID: SCB 570-204059/2
Matrix: Water
Analysis Batch: 204059

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

Analyte	SCB Result	SCB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	1.13		0.83	0.49	mg/L			12/28/21 09:42	1

Lab Sample ID: USB 570-204059/1
Matrix: Water
Analysis Batch: 204059

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		0.83	0.49	mg/L			12/28/21 09:42	1

Lab Sample ID: LCS 570-204059/3
Matrix: Water
Analysis Batch: 204059

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Biochemical Oxygen Demand			198	183		mg/L		93	84.6 - 115.4		

Method: SM5210B - BOD, 5 Day (Continued)

Lab Sample ID: 570-80106-A-1 DU
Matrix: Water
Analysis Batch: 204059

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Biochemical Oxygen Demand	1600			1720		mg/L				6	25

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

GC/MS VOA

Analysis Batch: 205613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	8260B SIM	
MB 570-205613/8	Method Blank	Total/NA	Water	8260B SIM	
LCS 570-205613/4	Lab Control Sample	Total/NA	Water	8260B SIM	
LCSD 570-205613/5	Lab Control Sample Dup	Total/NA	Water	8260B SIM	

GC/MS Semi VOA

Prep Batch: 204353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	625	
MB 570-204353/1-A	Method Blank	Total/NA	Water	625	
LCS 570-204353/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-204353/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 204757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	625.1 SIM	204353
MB 570-204353/1-A	Method Blank	Total/NA	Water	625.1 SIM	204353
LCS 570-204353/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	204353
LCSD 570-204353/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	204353

GC Semi VOA

Prep Batch: 203919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	608	
MB 570-203919/1-A	Method Blank	Total/NA	Water	608	
LCS 570-203919/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 570-203919/9-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-203919/10-A	Lab Control Sample Dup	Total/NA	Water	608	
LCSD 570-203919/3-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 204108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-203919/1-A	Method Blank	Total/NA	Water	608.3	203919
LCS 570-203919/2-A	Lab Control Sample	Total/NA	Water	608.3	203919
LCSD 570-203919/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	203919

Analysis Batch: 204446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	608.3	203919

Analysis Batch: 204995

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	608.3	203919
MB 570-203919/1-A	Method Blank	Total/NA	Water	608.3	203919
LCS 570-203919/9-A	Lab Control Sample	Total/NA	Water	608.3	203919
LCSD 570-203919/10-A	Lab Control Sample Dup	Total/NA	Water	608.3	203919

HPLC/IC

Analysis Batch: 203940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	300.0	
MB 570-203940/15	Method Blank	Total/NA	Water	300.0	
LCS 570-203940/16	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-203940/17	Lab Control Sample Dup	Total/NA	Water	300.0	
570-79264-H-1 MS - DL	Matrix Spike	Total/NA	Water	300.0	
570-79264-H-1 MSD - DL	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 203941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	300.0	
MB 570-203941/15	Method Blank	Total/NA	Water	300.0	
LCS 570-203941/16	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-203941/17	Lab Control Sample Dup	Total/NA	Water	300.0	
570-79264-H-1 MS - DL	Matrix Spike	Total/NA	Water	300.0	
570-79264-H-1 MSD - DL	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 204051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	218.6	
MB 570-204051/6	Method Blank	Total/NA	Water	218.6	
LCS 570-204051/7	Lab Control Sample	Total/NA	Water	218.6	
LCSD 570-204051/8	Lab Control Sample Dup	Total/NA	Water	218.6	
570-80145-C-1 MS	Matrix Spike	Total/NA	Water	218.6	
570-80145-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	218.6	

Analysis Batch: 204101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	314.0	
MB 570-204101/6	Method Blank	Total/NA	Water	314.0	
LCS 570-204101/7	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-204101/8	Lab Control Sample Dup	Total/NA	Water	314.0	
570-79640-G-1 MS - DL	Matrix Spike	Total/NA	Water	314.0	
570-79640-G-1 MSD - DL	Matrix Spike Duplicate	Total/NA	Water	314.0	

Analysis Batch: 205165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	NO2NO3 Calc	

Metals

Filtration Batch: 208358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-3	Outfall002_20211226_Comp_F	Dissolved	Water	Filtration	
MB 570-208358/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-80124-C-3-I MS	Matrix Spike	Dissolved	Water	Filtration	
570-80124-C-3-L MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

Metals

Prep Batch: 208361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-3	Outfall002_20211226_Comp_F	Dissolved	Water	245.1	208358
MB 570-208358/1-B	Method Blank	Dissolved	Water	245.1	208358
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	245.1	208358
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	208358
570-80124-C-3-I MS	Matrix Spike	Dissolved	Water	245.1	208358
570-80124-C-3-L MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	208358

Analysis Batch: 208671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-3	Outfall002_20211226_Comp_F	Dissolved	Water	245.1	208361
MB 570-208358/1-B	Method Blank	Dissolved	Water	245.1	208361
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	245.1	208361
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	208361
570-80124-C-3-I MS	Matrix Spike	Dissolved	Water	245.1	208361
570-80124-C-3-L MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	208361

Filtration Batch: 663584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-3	Outfall002_20211226_Comp_F	Dissolved	Water	FILTRATION	
MB 440-663584/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-663584/1-C	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663584/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-663584/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
570-80142-C-2-D MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80142-C-2-E MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
570-80142-C-2-G MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80142-C-2-H MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Prep Batch: 663593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-3	Outfall002_20211226_Comp_F	Dissolved	Water	200.2	663584
MB 440-663584/1-B	Method Blank	Dissolved	Water	200.2	663584
LCS 440-663584/2-B	Lab Control Sample	Dissolved	Water	200.2	663584
570-80142-C-2-D MS	Matrix Spike	Dissolved	Water	200.2	663584
570-80142-C-2-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663584

Prep Batch: 663619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-3	Outfall002_20211226_Comp_F	Dissolved	Water	200.2	663584
MB 440-663584/1-C	Method Blank	Dissolved	Water	200.2	663584
LCS 440-663584/2-C	Lab Control Sample	Dissolved	Water	200.2	663584
570-80142-C-2-G MS	Matrix Spike	Dissolved	Water	200.2	663584
570-80142-C-2-H MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663584

Analysis Batch: 663652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-3	Outfall002_20211226_Comp_F	Dissolved	Water	200.8	663593
MB 440-663584/1-B	Method Blank	Dissolved	Water	200.8	663593
LCS 440-663584/2-B	Lab Control Sample	Dissolved	Water	200.8	663593
570-80142-C-2-D MS	Matrix Spike	Dissolved	Water	200.8	663593
570-80142-C-2-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	663593

Metals

Analysis Batch: 663658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-3	Outfall002_20211226_Comp_F	Dissolved	Water	200.7 Rev 4.4	663619
MB 440-663584/1-C	Method Blank	Dissolved	Water	200.7 Rev 4.4	663619
LCS 440-663584/2-C	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	663619
570-80142-C-2-G MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	663619
570-80142-C-2-H MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	663619

Analysis Batch: 663736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-3	Outfall002_20211226_Comp_F	Dissolved	Water	SM 2340B	

Prep Batch: 663886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total Recoverable	Water	200.2	
MB 440-663886/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-663886/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
440-293542-B-1-D MS	Matrix Spike	Total Recoverable	Water	200.2	
440-293542-B-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Prep Batch: 663922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total Recoverable	Water	200.2	
MB 440-663922/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-663922/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
440-293568-D-2-C MS	Matrix Spike	Total Recoverable	Water	200.2	
440-293568-D-2-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 663948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total Recoverable	Water	SM 2340B	

Analysis Batch: 664004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total Recoverable	Water	200.8	663886
MB 440-663886/1-A	Method Blank	Total Recoverable	Water	200.8	663886
LCS 440-663886/2-A	Lab Control Sample	Total Recoverable	Water	200.8	663886
440-293542-B-1-D MS	Matrix Spike	Total Recoverable	Water	200.8	663886
440-293542-B-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	663886

Analysis Batch: 664049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total Recoverable	Water	200.7 Rev 4.4	663922
MB 440-663922/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	663922
LCS 440-663922/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	663922
440-293568-D-2-C MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	663922
440-293568-D-2-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	663922

Prep Batch: 664059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	245.1	
MB 440-664059/1-A	Method Blank	Total/NA	Water	245.1	
LCS 440-664059/2-A	Lab Control Sample	Total/NA	Water	245.1	

Metals (Continued)

Prep Batch: 664059 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1 MS	Outfall002_20211226_Comp	Total/NA	Water	245.1	
570-80132-1 MSD	Outfall002_20211226_Comp	Total/NA	Water	245.1	

Analysis Batch: 664187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	245.1	664059
MB 440-664059/1-A	Method Blank	Total/NA	Water	245.1	664059
LCS 440-664059/2-A	Lab Control Sample	Total/NA	Water	245.1	664059
570-80132-1 MS	Outfall002_20211226_Comp	Total/NA	Water	245.1	664059
570-80132-1 MSD	Outfall002_20211226_Comp	Total/NA	Water	245.1	664059

General Chemistry

Analysis Batch: 204059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	SM5210B	
SCB 570-204059/2	Method Blank	Total/NA	Water	SM5210B	
USB 570-204059/1	Method Blank	Total/NA	Water	SM5210B	
LCS 570-204059/3	Lab Control Sample	Total/NA	Water	SM5210B	
570-80106-A-1 DU	Duplicate	Total/NA	Water	SM5210B	

Analysis Batch: 204896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	SM 5540C	204906
MB 570-204906/5-A	Method Blank	Total/NA	Water	SM 5540C	204906
LCS 570-204906/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	204906
LCSD 570-204906/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	204906
570-80340-B-1-A MS	Matrix Spike	Total/NA	Water	SM 5540C	204906
570-80340-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5540C	204906

Prep Batch: 204906

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	SM 5540C	
MB 570-204906/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-204906/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-204906/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	
570-80340-B-1-A MS	Matrix Spike	Total/NA	Water	SM 5540C	
570-80340-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5540C	

Analysis Batch: 207080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	218.6 CR3	

Analysis Batch: 208181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	SM 5310D	
MB 570-208181/35	Method Blank	Total/NA	Water	SM 5310D	
LCS 570-208181/67	Lab Control Sample	Total/NA	Water	SM 5310D	
LCSD 570-208181/68	Lab Control Sample Dup	Total/NA	Water	SM 5310D	
440-294124-B-1 MS	Matrix Spike	Total/NA	Water	SM 5310D	
440-294124-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310D	

General Chemistry

Analysis Batch: 663505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	SM 2540C	
MB 440-663505/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-663505/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-293601-G-5 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 663645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	SM 2540D	
MB 440-663645/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-663645/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-293642-C-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Prep Batch: 663989

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	Distill/CN	
MB 440-663989/1-A	Method Blank	Total/NA	Water	Distill/CN	
LCS 440-663989/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
570-80124-G-1-C MS	Matrix Spike	Total/NA	Water	Distill/CN	
570-80124-G-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	Distill/CN	

Analysis Batch: 664019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	SM 4500 CN E	663989
MB 440-663989/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	663989
LCS 440-663989/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	663989
570-80124-G-1-C MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	663989
570-80124-G-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	663989

Analysis Batch: 664022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	SM 4500 NH3 G	
MB 440-664022/10	Method Blank	Total/NA	Water	SM 4500 NH3 G	
LCS 440-664022/11	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
MRL 440-664022/9	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
570-80545-H-1 MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 G	
570-80545-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 G	

Analysis Batch: 664889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	180.1	
MB 440-664889/6	Method Blank	Total/NA	Water	180.1	
MRL 440-664889/5	Lab Control Sample	Total/NA	Water	180.1	
570-80231-I-1 DU	Duplicate	Total/NA	Water	180.1	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		2	25 mL	25 mL	205613	01/05/22 18:31	AH8S	ECL 2
	Instrument ID: GCMSFFF									
Total/NA	Prep	625			950.1 mL	2 mL	204353	12/29/21 05:48	H1SH	ECL 1
Total/NA	Analysis	625.1 SIM		1			204757	12/30/21 15:50	ULLI	ECL 1
	Instrument ID: GCMSJJJ									
Total/NA	Prep	608			1500 mL	1.0 mL	203919	12/28/21 12:24	PQS1	ECL 1
Total/NA	Analysis	608.3		1			204446	12/29/21 15:42	UJ3K	ECL 1
	Instrument ID: GC44									
Total/NA	Prep	608			1500 mL	1.0 mL	203919	12/28/21 12:24	PQS1	ECL 1
Total/NA	Analysis	608.3		1			204995	01/04/22 01:27	UHHN	ECL 1
	Instrument ID: GC58									
Total/NA	Analysis	218.6		10			204051	12/28/21 14:31	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	300.0		5			203940	12/28/21 06:47	URMH	ECL 1
	Instrument ID: IC10									
Total/NA	Analysis	300.0		5			203941	12/28/21 06:47	URMH	ECL 1
	Instrument ID: IC10									
Total/NA	Analysis	314.0		10			204101	12/28/21 15:27	URMH	ECL 1
	Instrument ID: IC8									
Total/NA	Analysis	NO2NO3 Calc		1			205165	01/03/22 16:35	URMH	ECL 1
	Instrument ID: IC10									
Total Recoverable	Prep	200.2			25 mL	25 mL	663922	01/07/22 08:10	LZY7	IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664049	01/07/22 18:51	K1UV	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	663886	01/07/22 07:06	LZY7	IRV 2
Total Recoverable	Analysis	200.8		1			664004	01/07/22 11:50	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total/NA	Prep	245.1			20 mL	30 mL	664059	01/10/22 10:10	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664187	01/10/22 18:25	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total Recoverable	Analysis	SM 2340B		1			663948	01/07/22 17:16	P1R	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	180.1		20			664889	01/19/22 18:28	W1BQ	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	218.6 CR3		1			207080	01/12/22 16:10	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	663505	12/29/21 10:13	VY3D	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540D		1	200 mL	1000 mL	663645	12/30/21 12:19	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Prep	Distill/CN			50 mL	50 mL	663989	01/07/22 11:02	GG0B	IRV 2
Total/NA	Analysis	SM 4500 CN E		1			664019	01/07/22 15:12	GG0B	IRV 2
	Instrument ID: Genesys30-5									

Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 NH3 G		1	0.8 mL	8.0 mL	664022	01/07/22 13:23	GG0B	IRV 2
Total/NA	Analysis	SM 5310D		1	40 mL	40 mL	208181	01/18/22 13:57	CY2M	ECL 1
	Instrument ID: TOC12									
Total/NA	Prep	SM 5540C			100 mL	100 mL	204906	12/30/21 22:00	UAPD	ECL 1
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	204896	12/31/21 09:17	UAPD	ECL 1
	Instrument ID: UV9									
Total/NA	Analysis	SM5210B		1	80 mL	300 mL	204059		ZHU8	ECL 1
	Instrument ID: BOD2						(Start)	12/28/21 09:42		
							(End)	01/02/22 09:50		

Client Sample ID: Outfall002_20211226_Comp_F
Lab Sample ID: 570-80132-3
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			125 mL	125 mL	663584	12/29/21 14:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663619	12/30/21 07:56	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			663658	12/30/21 14:35	K1UV	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			125 mL	125 mL	663584	12/29/21 14:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663593	12/29/21 16:21	LZY7	IRV 2
Dissolved	Analysis	200.8		1			663652	12/30/21 12:59	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	208358	01/19/22 17:49	UIAS	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	208361	01/19/22 17:58	VWJ7	ECL 4
Dissolved	Analysis	245.1		1			208671	01/20/22 19:54	VWJ7	ECL 1
	Instrument ID: HG7									
Dissolved	Analysis	SM 2340B		1			663736	01/06/22 17:20	P1R	IRV 2
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

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

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method	Method Description	Protocol	Laboratory
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	ECL 2
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	40CFR136A	ECL 1
608.3	Organochlorine Pesticides in Water	40CFR136A	ECL 1
608.3	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	ECL 1
218.6	Chromium, Hexavalent (Ion Chromatography)	EPA	ECL 1
300.0	Anions, Ion Chromatography	MCAWW	ECL 1
314.0	Perchlorate (IC)	EPA	ECL 1
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	ECL 1
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	ECL 1
245.1	Mercury (CVAA)	EPA	IRV 2
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	IRV 2
180.1	Turbidity, Nephelometric	MCAWW	IRV 2
218.6 CR3	Chromium, Trivalent (Calculation)	EPA	ECL 1
SM 2540C	Solids, Total Dissolved (TDS)	SM	IRV 2
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 2
SM 4500 CN E	Cyanide, Total (Low Level)	SM	IRV 2
SM 4500 NH3 G	Ammonia	SM	IRV 2
SM 5310D	Organic Carbon, Total (TOC)	SM	ECL 1
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	ECL 1
SM5210B	BOD, 5 Day	SM	ECL 1
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	ECL 4
245.1	Preparation, Mercury	EPA	IRV 2
5030C	Purge and Trap	SW846	ECL 2
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	ECL 1
625	Liquid-Liquid Extraction	40CFR136A	ECL 1
Distill/CN	Distillation, Cyanide	None	IRV 2
Filtration	Sample Filtration	None	ECL 4
FILTRATION	Sample Filtration	None	IRV 2
SM 5540C	Preparation, Methylene Blue Active Substances (MBAS)	SM	ECL 1

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80132-1	Outfall002_20211226_Comp	Water	12/26/21 10:00	12/27/21 17:35
570-80132-3	Outfall002_20211226_Comp_F	Water	12/26/21 10:00	12/27/21 17:35

80132

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80132 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel EC# 44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									ANALYSIS REQUIRED																	
									R/A	R	R	R	R/A	R	R	R	A	A	R							
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7) As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- F- SO4, Nitrate-N, Nitrite-N NO3+NO2-N Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals. Mercury (E245.1)				Comments
Outfall 002	Outfall002_20211226_Comp	12/26/2021 1015	WM	500 mL Poly	1	HNO_3	80	No	X										X						
			WM	1 L Glass Amber	2	None	110	No		X															
			WM	1 L Poly	1	None	115	No			X														
			WM	500 mL Poly	2	None	120	No				X													
			WM	500 mL Poly	2	None	125	No					X												48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X											48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X									
			WM	1 L Glass Amber	2	None	250	No									X								
			WM	1 L Glass Amber	2	None	175	No										X							
			WM	1 L Poly	1	None	185	No							X										
	Outfall002_20211226_Comp_Extra	12/26/2021 1015	WM	1 L Glass Amber	2	None	110	No		H															Hold
			WM	500 mL Poly	2	None	120	No				H													Hold
			WM	500 mL Poly	2	None	125	No					H												Hold
			WM	1 L Glass Amber	2	None	250	No									H								Hold
			WM	1 L Glass Amber	2	None	175	No										H							Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	12-27-2021/1445	H;A		EC1 12/27/21 1445
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	12/27/21	1735		12/27/21 1735
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__

19|24, 2-3|3 2, 2 5|3 4 SCS

1/24/2022

2019-2020 Rainy Season
Version 5

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address.	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI# 44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R/A: Total Dissolved Metals (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8) Ag Cd, Cu, Pb, Sb, Se, Tl	R: Cyanide (SM4500-CN-E / E335.2)	R: Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0) Sr-90 (E905.0) Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	R: Chromic Toxicity - Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura, CA	A: 1,4-Dioxane (E624 (SW8260M_SIM))	A: Total Organic Carbon (415.2 (SM 5310B))	A: Monomethyl hydrazine (SW8315M/DV-WC-0077)	A: Cr (VI), Total (E218.6)	R: Total Dissolved Metals. Mercury (E245.1)	QRSW: Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Comments
Outfall 002	Outfall002_20211226_Comp_F	12/26/2021 1000	WM	1 L Poly	1	None	190	No	X											Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No										X		Sample receiving DO NOT OPEN BAG Bag to be opened in Mercury Prep using clean procedures.
	Outfall002_20211226_Comp	12/26/2021 1000 *	WM	500 mL Poly	1	NaOH	220	No		X										
			WM	2.5 Gal Cube	1	None	225	No		\	X									Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No												
			WM	1 Gal Cube	6	None	235	No				X								Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X							
			WM	1 L Glass Amber	1	HCl	245	No						X						
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X					
			WM	500 mL Poly	1	None	260	No								X				
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~											X	Extract within 24-Hours of sampling at Weck Labs at OF001,002,011, or 018.
	Outfall002_20211226_Comp_Extra	12/26/2021 1000	WM	40 mL VOA	3	HCl	240	No					H							Hold
			WM	1 L Glass Amber	2	None	255	No							H					Hold

ANALYSIS REQUIRED

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12-27-2021/1445	T:A	[signature] ECI	12/27/21 1445
[signature]	12/27/21 1735		[signature]	12/27/21 1735

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

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

Data Requirements (Check)
No Level IV: _____ All Level IV: __X__

* Hand-delivered by H. A directly to ABC Labs

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147895 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80132-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/25/2022			
City: Earth City	TAT Requested (days)			
State, Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #			
Email:	WO #			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note.
			Preservation Code:												
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

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

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

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	Relinquished by	12/28/21 1252				
	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

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

Ver: 06/08/2021

1/24/2022

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147926 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80132-2
Address: 880 Riverside Parkway	Due Date Requested: 1/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10 00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L, Use Boeing glassware
Outfall002_20211226_Comp_Extra (570-80132-2)	12/26/21	10:00 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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said compliance to Eurofins Calscience

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

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

Relinquished by:	Date/Time: 12/28/21 1500	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 06/08/2021

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-147943 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc		Accreditations Required (See note): State Program - California		Job #: 570-80132-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/11/2022			
City: City of Industry	TAT Requested (days)			
State, Zip: CA, 91745				
Phone	PO #			
Email:	WO #			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes:

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water			X		1	Level IV needed
Outfall002_20211226_Comp_Extra (570-80132-2)	12/26/21	10:00 Pacific		Water				X	1	Level IV needed

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

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

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

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

Ver 06/08/2021

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80132-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 200.7 Outfall 001/002/011 Totals List	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	245.1/245.1_Prep Mercury	180.1/ Turbidity	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	4500_CN_E_LL/Distill_CN	SM5310B/ Organic Carbon, Total (TOC)	200.7/FILTRATION 200 7 Outfall 001/002/011 Diss List	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	245.1/FILTRATION Diss Mercury	Total Number of containers	Special Instructions/Note
			Preservation Code:																		
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water			X	X	X	X	X	X	X	X	X	X				5	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall002_20211226_Comp_F (570-80132-3)	12/26/21	10 00 Pacific		Water													X	X	X	3	Filter w/in 24 hours, Filter within 24 hours use VOA vials from LL Hg Kit-Clean Hands

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements IR-89 1.4/14

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

	Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
1		12/28/21	CC			
2	Relinquished by:	Date/Time	Company	Received by: Olga Oinelas	Date/Time 12/28/21 1752	Company ECT
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time.	Company

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

1/24/2022

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147901.2
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80132-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2340B/Filtration_AC Diss hardness	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water				5	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall002_20211226_Comp_F (570-80132-3)	12/26/21	10 00 Pacific		Water			X	3	Filter w/in 24 hours, Filter within 24 hours, use VOA vials from LL Hg Kit-Clean Hands

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

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank. 2

Special Instructions/QC Requirements: IR-89 2.0/2.0

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by: [signature]	Date/Time: 12/28/21	Company: GC	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by: Olga Ornelas	Date/Time: 12-28/21 1752	Company: ECTIF
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

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

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 440-177693 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80132-1
Address: 7440 Lincoln Way, ,	Due Date Requested: 1/10/2022			
City: Garden Grove	TAT Requested (days):			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/ CL, SO4, F	300_ORGFMS/ Nitrate + Nitrite as N	NO2NO3_Calc_IC/ Nitrate-Nitrite as N	314.0/ Perchlorate	608.3_PCB_LL/608_Prep_PCB_LL PCBs	608.3_Pest_LL/608_Prep_LL Pesticides	625.1_SIM/625_Prep Priority pollutant list	8260B_SIM/5030C (MOD) 1,4-Dioxane only	218.6_CR3/ Trivalent Chromium	218.6_ORGFM/ Chromium, Hexavalent	SM5210B_BODCalc/ Biological Oxygen Demand - 5 Day	5540C/5540C_Prep Methylene Blue Active Substances (MBAS)	SM5310D/ Total Organic Carbon	Total Number of containers	Special Instructions/Note.
			Preservation Code:																		
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X	X	X	1	

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

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

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	1/17/22	ECT		1/17/22 1446	EC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	1/17/22 1427	EC		1-7-2022 14:27	ECI
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks
		3.1/4.6 SC 6

Ver 06/08/2021

1/24/2022

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone	E Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80132-1
Address: 2841 Dow Avenue	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 Outfall 001/002/2011 Totals List	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	245.1/245.1_Prep Mercury	180.1/ Turbidity	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	4500_CN_E_LL/Distill_CN	SM5310B/ Organic Carbon, Total (TOC)	200.7/FILTRATION 200.7 Outfall 001/002/2011 Diss List	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	245.1/FILTRATION Diss Mercury	Total Number of containers	Special Instructions/Note
			Preservation Code:																		
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water			X	X	X	X	X	X	X	X	X	X				5	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall002_20211226_Comp_F (570-80132-3)	12/26/21	10 00 Pacific		Water													X	X	X	3	Filter w/in 24 hours Filter within 24 hours use VOA vials from LL Hg Kit-Clean Hands

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

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements: IR-89 1.4/14

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
		12/28/21	EC			
	Relinquished by	Date/Time	Company	Received by: Olga Oinelas	Date/Time: 12/28/21 1752	Company: EQT
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

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

1/24/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80132-1

Login Number: 80132
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: 570-80132-1

Login Number: 80132
List Number: 3
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 12/29/21 10:00 AM

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

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80132-2
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

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

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/2/2022 5:45:42 PM

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

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Client Sample Results 6
Surrogate Summary 9
Isotope Dilution Summary 10
QC Sample Results 12
QC Association Summary 16
Lab Chronicle 17
Certification Summary 18
Method Summary 19
Sample Summary 20
Subcontract Data 21
Chain of Custody 38
Receipt Checklists 47

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80132-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

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

Job ID: 570-80132-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80132-2

Comments
No additional comments.

Receipt
The samples were received on 12/27/2021 5:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.8º C, 3.2º C and 3.4º C.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 10D5 exceeded this criteria: (CCV 320-557344/2), (LCS 320-555916/2-A), (LCSD 320-555916/3-A) and (MB 320-555916/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 10D5 exceeded this criteria: Outfall002_20211226_Comp (570-80132-1) and (CCV 320-557869/16). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: Outfall002_20211226_Comp (570-80132-1), (CCV 320-557644/2) and (MB 320-555916/1-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.

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

Subcontract Work
Method Chronic-Selenestrum: This method was subcontracted to Aquatic Bioassay & Consulting. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.0000011	J,DX	0.000052	0.00000033	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.00000095	J,DX q	0.000052	0.00000028	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.00000058	J,DX q	0.000052	0.00000028	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000024	J,DX MB	0.000052	0.00000033	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.00000096	J,DX q	0.000052	0.00000036	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000011	J,DX	0.000052	0.00000030	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.00000086	J,DX	0.000052	0.00000023	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.00000073	J,DX	0.000052	0.00000025	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.00000073	J,DX q	0.000052	0.00000022	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.00000065	J,DX	0.000052	0.00000021	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000014	J,DX MB	0.000052	0.00000025	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000047	J,DX MB	0.000052	0.00000027	ug/L	1		1613B	Total/NA
OCDD	0.000092	J,DX MB	0.00010	0.00000038	ug/L	1		1613B	Total/NA
OCDF	0.0000079	J,DX	0.00010	0.00000034	ug/L	1		1613B	Total/NA
Total TCDD	0.0000021	J,DX q MB	0.000010	0.00000033	ug/L	1		1613B	Total/NA
Total TCDF	0.00000081	J,DX MB	0.000010	0.00000017	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000011	J,DX	0.000052	0.00000033	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000015	J,DX q	0.000052	0.00000028	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000065	J,DX q MB	0.000052	0.00000030	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000050	J,DX q	0.000052	0.00000021	ug/L	1		1613B	Total/NA
Total HpCDD	0.000025	J,DX MB	0.000052	0.00000025	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000086	J,DX MB	0.000052	0.00000027	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

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

Client Sample ID: Outfall002_20211226_Comp
Date Collected: 12/26/21 10:00
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80132-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000033	ug/L		01/04/22 13:59	01/14/22 06:03	1
1,2,3,7,8-PeCDD	**0.0000011**	**J,DX**	0.000052	0.00000033	ug/L		01/04/22 13:59	01/14/22 06:03	1
1,2,3,7,8-PeCDF	**0.00000095**	**J,DX q**	0.000052	0.00000028	ug/L		01/04/22 13:59	01/14/22 06:03	1
2,3,4,7,8-PeCDF	**0.00000058**	**J,DX q**	0.000052	0.00000028	ug/L		01/04/22 13:59	01/14/22 06:03	1
1,2,3,4,7,8-HxCDD	**0.0000024**	**J,DX MB**	0.000052	0.00000033	ug/L		01/04/22 13:59	01/14/22 06:03	1
1,2,3,6,7,8-HxCDD	**0.00000096**	**J,DX q**	0.000052	0.00000036	ug/L		01/04/22 13:59	01/14/22 06:03	1
1,2,3,7,8,9-HxCDD	**0.0000011**	**J,DX**	0.000052	0.00000030	ug/L		01/04/22 13:59	01/14/22 06:03	1
1,2,3,4,7,8-HxCDF	**0.00000086**	**J,DX**	0.000052	0.00000023	ug/L		01/04/22 13:59	01/14/22 06:03	1
1,2,3,6,7,8-HxCDF	**0.00000073**	**J,DX**	0.000052	0.00000025	ug/L		01/04/22 13:59	01/14/22 06:03	1
1,2,3,7,8,9-HxCDF	**0.00000073**	**J,DX q**	0.000052	0.00000022	ug/L		01/04/22 13:59	01/14/22 06:03	1
2,3,4,6,7,8-HxCDF	**0.00000065**	**J,DX**	0.000052	0.00000021	ug/L		01/04/22 13:59	01/14/22 06:03	1
1,2,3,4,6,7,8-HpCDD	**0.000014**	**J,DX MB**	0.000052	0.00000025	ug/L		01/04/22 13:59	01/14/22 06:03	1
1,2,3,4,6,7,8-HpCDF	**0.0000047**	**J,DX MB**	0.000052	0.00000027	ug/L		01/04/22 13:59	01/14/22 06:03	1
1,2,3,4,7,8,9-HpCDF	ND		0.000052	0.00000030	ug/L		01/04/22 13:59	01/14/22 06:03	1
OCDD	**0.000092**	**J,DX MB**	0.00010	0.00000038	ug/L		01/04/22 13:59	01/14/22 06:03	1
OCDF	**0.0000079**	**J,DX**	0.00010	0.00000034	ug/L		01/04/22 13:59	01/14/22 06:03	1
Total TCDD	**0.0000021**	**J,DX q MB**	0.000010	0.00000033	ug/L		01/04/22 13:59	01/14/22 06:03	1
Total TCDF	**0.00000081**	**J,DX MB**	0.000010	0.00000017	ug/L		01/04/22 13:59	01/14/22 06:03	1
Total PeCDD	**0.0000011**	**J,DX**	0.000052	0.00000033	ug/L		01/04/22 13:59	01/14/22 06:03	1
Total PeCDF	**0.0000015**	**J,DX q**	0.000052	0.00000028	ug/L		01/04/22 13:59	01/14/22 06:03	1
Total HxCDD	**0.0000065**	**J,DX q MB**	0.000052	0.00000030	ug/L		01/04/22 13:59	01/14/22 06:03	1
Total HxCDF	**0.0000050**	**J,DX q**	0.000052	0.00000021	ug/L		01/04/22 13:59	01/14/22 06:03	1
Total HpCDD	**0.000025**	**J,DX MB**	0.000052	0.00000025	ug/L		01/04/22 13:59	01/14/22 06:03	1
Total HpCDF	**0.0000086**	**J,DX MB**	0.000052	0.00000027	ug/L		01/04/22 13:59	01/14/22 06:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*73*		*25 - 164*	*01/04/22 13:59*	*01/14/22 06:03*	*1*
13C-2,3,7,8-TCDF	*73*		*24 - 169*	*01/04/22 13:59*	*01/14/22 06:03*	*1*
13C-1,2,3,7,8-PeCDD	*73*		*25 - 181*	*01/04/22 13:59*	*01/14/22 06:03*	*1*
13C-1,2,3,7,8-PeCDF	*70*		*24 - 185*	*01/04/22 13:59*	*01/14/22 06:03*	*1*
13C-2,3,4,7,8-PeCDF	*79*		*21 - 178*	*01/04/22 13:59*	*01/14/22 06:03*	*1*
13C-1,2,3,4,7,8-HxCDD	*86*		*32 - 141*	*01/04/22 13:59*	*01/14/22 06:03*	*1*

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

Client Sample ID: Outfall002_20211226_Comp **Lab Sample ID: 570-80132-1**
Date Collected: 12/26/21 10:00 **Matrix: Water**
Date Received: 12/27/21 17:35

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDD	76		28 - 130	01/04/22 13:59	01/14/22 06:03	1
13C-1,2,3,4,7,8-HxCDF	82		26 - 152	01/04/22 13:59	01/14/22 06:03	1
13C-1,2,3,6,7,8-HxCDF	74		26 - 123	01/04/22 13:59	01/14/22 06:03	1
13C-1,2,3,7,8,9-HxCDF	73		29 - 147	01/04/22 13:59	01/14/22 06:03	1
13C-2,3,4,6,7,8-HxCDF	76		28 - 136	01/04/22 13:59	01/14/22 06:03	1
13C-1,2,3,4,6,7,8-HpCDD	78		23 - 140	01/04/22 13:59	01/14/22 06:03	1
13C-1,2,3,4,6,7,8-HpCDF	72		28 - 143	01/04/22 13:59	01/14/22 06:03	1
13C-1,2,3,4,7,8,9-HpCDF	86		26 - 138	01/04/22 13:59	01/14/22 06:03	1
13C-OCDD	87		17 - 157	01/04/22 13:59	01/14/22 06:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	88		35 - 197	01/04/22 13:59	01/14/22 06:03	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

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

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000028	ug/L		01/04/22 13:59	01/12/22 14:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*78*		*24 - 169*	*01/04/22 13:59*	*01/12/22 14:14*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*95*		*35 - 197*	*01/04/22 13:59*	*01/12/22 14:14*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

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

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	37TCDD (35-197)								
570-80132-1 - RA	Outfall002_20211226_Comp	95								
570-80132-1	Outfall002_20211226_Comp	88								
MB 320-555916/1-A	Method Blank	90								
MB 320-555916/1-A - RA	Method Blank	92								

Surrogate Legend

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

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

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	37TCDD (31-191)								
LCS 320-555916/2-A	Lab Control Sample	90								
LCSD 320-555916/3-A	Lab Control Sample Dup	87								

Surrogate Legend

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

Isotope Dilution Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80132-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

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

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-80132-1 - RA	Outfall002_20211226_Comp		78						
570-80132-1	Outfall002_20211226_Comp	73	73	73	70	79	86	76	82
MB 320-555916/1-A	Method Blank	52	54	51	50	57	53	59	56
MB 320-555916/1-A - RA	Method Blank		54						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-80132-1 - RA	Outfall002_20211226_Comp							
570-80132-1	Outfall002_20211226_Comp	74	73	76	78	72	86	87
MB 320-555916/1-A	Method Blank	56	50	55	48	48	53	48
MB 320-555916/1-A - RA	Method Blank							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

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

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-555916/2-A	Lab Control Sample	67	68	66	64	74	71	79	75
LCSD 320-555916/3-A	Lab Control Sample Dup	59	63	59	59	65	71	71	71

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-555916/2-A	Lab Control Sample	73	67	72	74	70	79	80
LCSD 320-555916/3-A	Lab Control Sample Dup	71	65	69	71	67	80	78

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

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

Lab Sample ID: MB 320-555916/1-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 555916

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000050	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000032	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000036	ug/L		01/04/22 13:59	01/11/22 14:39	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000033	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,4,7,8-HxCDD	0.00000183	J,DX q	0.000050	0.00000026	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.00000028	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.00000024	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.00000018	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.00000019	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,7,8,9-HxCDF	ND		0.000050	0.00000021	ug/L		01/04/22 13:59	01/11/22 14:39	1
2,3,4,6,7,8-HxCDF	ND		0.000050	0.00000017	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,4,6,7,8-HpCDD	0.00000158	J,DX q	0.000050	0.00000024	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,4,6,7,8-HpCDF	0.000000872	J,DX q	0.000050	0.00000024	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,4,7,8,9-HpCDF	0.000000423	J,DX q	0.000050	0.00000030	ug/L		01/04/22 13:59	01/11/22 14:39	1
OCDD	0.00000603	J,DX	0.00010	0.00000038	ug/L		01/04/22 13:59	01/11/22 14:39	1
OCDF	ND		0.00010	0.00000044	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total TCDD	0.00000504	J,DX q	0.000010	0.00000050	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total TCDF	0.000000609	J,DX	0.000010	0.00000018	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total PeCDD	ND		0.000050	0.00000039	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total PeCDF	ND		0.000050	0.00000036	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total HxCDD	0.00000183	J,DX q	0.000050	0.00000026	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total HxCDF	ND		0.000050	0.00000021	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total HpCDD	0.00000350	J,DX q	0.000050	0.00000024	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total HpCDF	0.00000129	J,DX q	0.000050	0.00000027	ug/L		01/04/22 13:59	01/11/22 14:39	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*52*		*25 - 164*	*01/04/22 13:59*	*01/11/22 14:39*	*1*
13C-2,3,7,8-TCDF	*54*		*24 - 169*	*01/04/22 13:59*	*01/11/22 14:39*	*1*
13C-1,2,3,7,8-PeCDD	*51*		*25 - 181*	*01/04/22 13:59*	*01/11/22 14:39*	*1*
13C-1,2,3,7,8-PeCDF	*50*		*24 - 185*	*01/04/22 13:59*	*01/11/22 14:39*	*1*

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

Lab Sample ID: MB 320-555916/1-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 555916

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	57		21 - 178	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,4,7,8-HxCDD	53		32 - 141	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,6,7,8-HxCDD	59		28 - 130	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,4,7,8-HxCDF	56		26 - 152	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,6,7,8-HxCDF	56		26 - 123	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,7,8,9-HxCDF	50		29 - 147	01/04/22 13:59	01/11/22 14:39	1
13C-2,3,4,6,7,8-HxCDF	55		28 - 136	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,4,6,7,8-HpCDD	48		23 - 140	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,4,6,7,8-HpCDF	48		28 - 143	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,4,7,8,9-HpCDF	53		26 - 138	01/04/22 13:59	01/11/22 14:39	1
13C-OCDD	48		17 - 157	01/04/22 13:59	01/11/22 14:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	90		35 - 197	01/04/22 13:59	01/11/22 14:39	1

Lab Sample ID: LCS 320-555916/2-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 555916

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000203		ug/L		102	67 - 158
2,3,7,8-TCDF	0.000200	0.000210	MB	ug/L		105	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.00102		ug/L		102	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.00104		ug/L		104	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000928		ug/L		93	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000874	MB	ug/L		87	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000917		ug/L		92	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000858		ug/L		86	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000873		ug/L		87	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000967		ug/L		97	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.000972		ug/L		97	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000999		ug/L		100	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000875	MB	ug/L		88	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000897	MB	ug/L		90	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000807	MB	ug/L		81	78 - 138
OCDD	0.00200	0.00167	MB	ug/L		84	78 - 144
OCDF	0.00200	0.00162		ug/L		81	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	67		20 - 175
13C-2,3,7,8-TCDF	68		22 - 152
13C-1,2,3,7,8-PeCDD	66		21 - 227
13C-1,2,3,7,8-PeCDF	64		21 - 192
13C-2,3,4,7,8-PeCDF	74		13 - 328
13C-1,2,3,4,7,8-HxCDD	71		21 - 193
13C-1,2,3,6,7,8-HxCDD	79		25 - 163
13C-1,2,3,4,7,8-HxCDF	75		19 - 202
13C-1,2,3,6,7,8-HxCDF	73		21 - 159

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

Lab Sample ID: LCS 320-555916/2-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 555916

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,7,8,9-HxCDF	67		17 - 205
13C-2,3,4,6,7,8-HxCDF	72		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	74		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	70		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	79		20 - 186
13C-OCDD	80		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	90		31 - 191

Lab Sample ID: LCSD 320-555916/3-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 555916

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000202		ug/L		101	67 - 158	0	50
2,3,7,8-TCDF			0.000200	0.000199	MB	ug/L		100	75 - 158	5	50
1,2,3,7,8-PeCDD			0.00100	0.00105		ug/L		105	70 - 142	2	50
1,2,3,7,8-PeCDF			0.00100	0.00105		ug/L		105	80 - 134	1	50
2,3,4,7,8-PeCDF			0.00100	0.000925		ug/L		92	68 - 160	0	50
1,2,3,4,7,8-HxCDD			0.00100	0.000879	MB	ug/L		88	70 - 164	1	50
1,2,3,6,7,8-HxCDD			0.00100	0.00106		ug/L		106	76 - 134	14	50
1,2,3,7,8,9-HxCDD			0.00100	0.000931		ug/L		93	64 - 162	8	50
1,2,3,4,7,8-HxCDF			0.00100	0.000959		ug/L		96	72 - 134	9	50
1,2,3,6,7,8-HxCDF			0.00100	0.00104		ug/L		104	84 - 130	8	50
1,2,3,7,8,9-HxCDF			0.00100	0.00105		ug/L		105	78 - 130	8	50
2,3,4,6,7,8-HxCDF			0.00100	0.00106		ug/L		106	70 - 156	6	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.00101	MB	ug/L		101	70 - 140	15	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.00102	MB	ug/L		102	82 - 122	13	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000904	MB	ug/L		90	78 - 138	11	50
OCDD			0.00200	0.00196	MB	ug/L		98	78 - 144	16	50
OCDF			0.00200	0.00191		ug/L		95	63 - 170	16	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	59		20 - 175
13C-2,3,7,8-TCDF	63		22 - 152
13C-1,2,3,7,8-PeCDD	59		21 - 227
13C-1,2,3,7,8-PeCDF	59		21 - 192
13C-2,3,4,7,8-PeCDF	65		13 - 328
13C-1,2,3,4,7,8-HxCDD	71		21 - 193
13C-1,2,3,6,7,8-HxCDD	71		25 - 163
13C-1,2,3,4,7,8-HxCDF	71		19 - 202
13C-1,2,3,6,7,8-HxCDF	71		21 - 159
13C-1,2,3,7,8,9-HxCDF	65		17 - 205
13C-2,3,4,6,7,8-HxCDF	69		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	71		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	67		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	80		20 - 186

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

Lab Sample ID: LCSD 320-555916/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 557344 **Prep Batch: 555916**

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-OCDD	78		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	87		31 - 191

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

Lab Sample ID: MB 320-555916/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 557644 **Prep Batch: 555916**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	ND		0.000010	0.0000018	ug/L		01/04/22 13:59	01/12/22 11:40	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF - RA	54		24 - 169	01/04/22 13:59	01/12/22 11:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD - RA	92		35 - 197	01/04/22 13:59	01/12/22 11:40	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Specialty Organics

Prep Batch: 555916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	1613B	
570-80132-1 - RA	Outfall002_20211226_Comp	Total/NA	Water	1613B	
MB 320-555916/1-A	Method Blank	Total/NA	Water	1613B	
MB 320-555916/1-A - RA	Method Blank	Total/NA	Water	1613B	
LCS 320-555916/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-555916/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 557344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-555916/1-A	Method Blank	Total/NA	Water	1613B	555916
LCS 320-555916/2-A	Lab Control Sample	Total/NA	Water	1613B	555916
LCSD 320-555916/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	555916

Analysis Batch: 557644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1 - RA	Outfall002_20211226_Comp	Total/NA	Water	1613B	555916
MB 320-555916/1-A - RA	Method Blank	Total/NA	Water	1613B	555916

Analysis Batch: 557869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	1613B	555916

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			970 mL	20.0 uL	555916	01/04/22 13:59	CGB	TAL SAC
Total/NA	Analysis	1613B		1			557869	01/14/22 06:03	GRB	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		970 mL	20.0 uL	555916	01/04/22 13:59	CGB	TAL SAC
Total/NA	Analysis	1613B	RA	1			557644	01/12/22 14:14	DB	TAL SAC
	Instrument ID: 11D2									

Laboratory References:

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

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80132-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Laboratory: Eurofins Sacramento

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-29-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Kansas	NELAP	E-10375	10-31-21 *
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-18-22
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-21 *
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

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

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
EPA	Bioassay	EPA	Aquatic
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

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

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80132-1	Outfall002_20211226_Comp	Water	12/26/21 10:00	12/27/21 17:35

aquatic bioassay & consulting laboratories, inc

January 26, 2022

Mr. Virendra Patel
Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841-1432

Dear Mr. Patel:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013.* Results were as follows:

CLIENT:	Eurofins Calscience
SAMPLE I.D.:	Outfall 002
DATE RECEIVED:	27 Dec - 2021
ABC LAB. NO.:	CSE1221.236

CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY

IWC = 100.00 %

TST RESULT

GROWTH = PASS % EFFECT = -15.19 %

Yours very truly,

Scott Johnson
Laboratory Director

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	12-3476-4882	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	28 Dec-21 17:51	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	01 Jan-22 16:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	94h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	5d
Sample ID:	20-2122-8383	**Code:**	CSE1221.236	**Project:**	Boeing-SSFL NPDES		
Sample Date:	26 Dec-21 10:00	**Material:**	Sample Water	**Source:**	Bioassay Report		
Receipt Date:	27 Dec-21 16:20	**CAS (PC):**		**Station:**	Outfall 002		
Sample Age:	56h (0.5 °C)	**Client:**	Eurofins Calscience				

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result	S
02-3527-4091	Cell Density	TST-Welch's t Test	<1.0E-05	100% passed cell density	1

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
02-3527-4091	Cell Density	Control CV	0.03237	<<	0.2	Yes	Passes Criteria
02-3527-4091	Cell Density	Control Resp	1.16E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	8	1.157E+6	1.126E+6	1.188E+6	1.107E+6	1.219E+6	1.324E+4	3.744E+4	3.24%	0.00%
100		8	1.333E+6	1.261E+6	1.405E+6	1.158E+6	1.407E+6	3.043E+4	8.606E+4	6.46%	-15.19%

Cell Density Detail — MD5: 854755B8F921A838397AF5CF0C6C945A

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.156E+6	1.203E+6	1.133E+6	1.107E+6	1.130E+6	1.150E+6	1.219E+6	1.157E+6
100		1.391E+6	1.301E+6	1.158E+6	1.390E+6	1.407E+6	1.379E+6	1.370E+6	1.265E+6

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	02-3527-4091	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:34	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:	23 Jan-22 16:32	**MD5 Hash:**	03B54B95E60CFAD8388A1480B457D675	**Editor ID:**	000-189-126-0
Batch ID:	12-3476-4882	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	28 Dec-21 17:51	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	01 Jan-22 16:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	94h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 5d
Sample ID:	20-2122-8383	**Code:**	CSE1221.236	**Project:**	Boeing-SSFL NPDES
Sample Date:	26 Dec-21 10:00	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	27 Dec-21 16:20	**CAS (PC):**		**Station:**	Outfall 002
Sample Age:	56h (0.5 °C)	**Client:**	Eurofins Calscience		

Data Transform	Alt Hyp	TST_b	Comparison Result
Untransformed	C*b < T	0.75	100% passed cell density endpoint

TST-Welch's t Test

Control	vs	Conc-%	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:25%)
Negative Control		100*	14.53	0.7064	8	CDF	<1.0E-05	Non-Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.03237	<<	0.2	Yes	Passes Criteria
Control Resp	1.16E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	1.236E+11	1.236E+11	1	28.05	0.0001	Significant Effect
Error	6.166E+10	4.404E+09	14			
Total	1.852E+11		15			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Levene Equality of Variance Test	5.243	8.862	0.0381	Equal Variances
	Mod Levene Equality of Variance Test	1.385	8.862	0.2589	Equal Variances
	Variance Ratio F Test	5.282	8.885	0.0432	Equal Variances
Distribution	Anderson-Darling A2 Test	0.6558	3.878	0.0873	Normal Distribution
	D'Agostino Skewness Test	2.242	2.576	0.0250	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1575	0.2471	0.3692	Normal Distribution
	Shapiro-Wilk W Normality Test	0.8836	0.8408	0.0442	Normal Distribution

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	8	1.157E+6	1.126E+6	1.188E+6	1.153E+6	1.107E+6	1.219E+6	1.324E+4	3.24%	0.00%
100		8	1.333E+6	1.261E+6	1.405E+6	1.374E+6	1.158E+6	1.407E+6	3.043E+4	6.46%	-15.19%

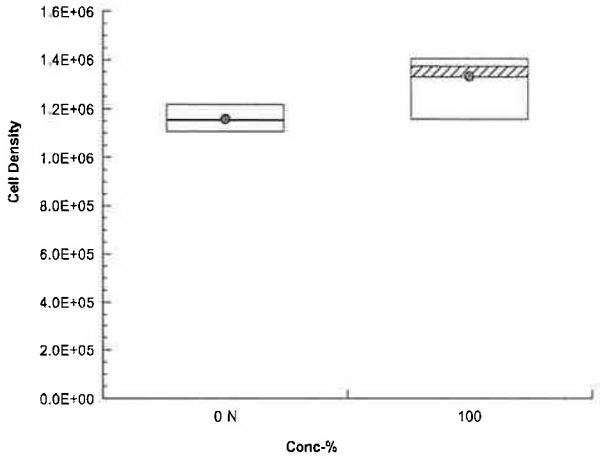
Cell Density Detail

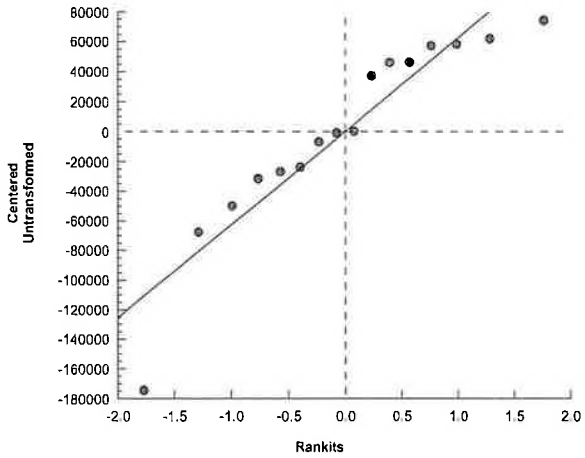
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.156E+6	1.203E+6	1.133E+6	1.107E+6	1.130E+6	1.150E+6	1.219E+6	1.157E+6
100		1.391E+6	1.301E+6	1.158E+6	1.390E+6	1.407E+6	1.379E+6	1.370E+6	1.265E+6

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	02-3527-4091	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:34	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:	23 Jan-22 16:32	**MD5 Hash:**	03B54B95E60CFAD8388A1480B457D675	**Editor ID:**	000-189-126-0

Graphics





Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	12-3476-4882	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	28 Dec-21 17:51	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	01 Jan-22 16:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	94h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	5d

Sample ID:	20-2122-8383	**Code:**	CSE1221.236	**Project:**	Boeing-SSFL NPDES
Sample Date:	26 Dec-21 10:00	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	27 Dec-21 16:20	**CAS (PC):**		**Station:**	Outfall 002
Sample Age:	56h (0.5 °C)	**Client:**	Eurofins Calscience		

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	62	---	---	62	62	---	0	---	0
100		1	60	---	---	60	60	---	0	---	0
Overall		2	61	48.29	73.71	60	62	1	1.414	2.32%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	450.4	440.4	460.4	437	458	1.616	8.081	1.79%	0
100		5	454.6	452.5	456.7	452	456	0.3347	1.673	0.37%	0
Overall		10	452.5	448.3	456.7	437	458	1.875	5.93	1.31%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	100	---	---	100	100	---	0	---	0
100		1	112	---	---	112	112	---	0	---	0
Overall		2	106	29.76	182.2	100	112	6	8.485	8.01%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	8.14	7.998	8.282	8	8.3	0.0228	0.114	1.40%	0
100		5	7.96	7.661	8.259	7.7	8.3	0.04817	0.2408	3.03%	0
Overall		10	8.05	7.906	8.194	7.7	8.3	0.06368	0.2014	2.50%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.08	24.94	25.22	25	25.2	0.02191	0.1095	0.44%	0
100		5	25.06	24.95	25.17	25	25.2	0.01789	0.08943	0.36%	0
Overall		10	25.07	25	25.14	25	25.2	0.03	0.09487	0.38%	0 (0%)

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		62					
100				60					

Conductivity-µmhos

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		437					
100				452					
0	N	2		450					
100				454					
0	N	3		458					
100				456					
0	N	4		455					
100				455					
0	N	5		452					
100				456					

Hardness (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		100					
100				112					

pH-Units

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		8.3					
100				8.3					
0	N	2		8.2					
100				8.1					
0	N	3		8.1					
100				7.7					
0	N	4		8.1					
100				7.8					
0	N	5		8					
100				7.9					

Temperature-°C

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		25					
100				25					
0	N	2		25					
100				25					
0	N	3		25					
100				25					
0	N	4		25.2					
100				25.1					
0	N	5		25.2					
100				25.2					

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

2/2/2022

Client Name/Address:	Project:	R/A	R	F	R	A	A	A	A	R	QRSW	ANALYSIS REQUIRED	
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 002 Comp	Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals: Mercury (E245.1)	Chlorpyrifos, Diazinon (E525.2) Week Labs in Hacienda Heights, CA	Comments
Eurofins Calscience Irvine Contact: Virendra Patel ECI# 44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	Project Manager: Katherine Miller 520.289.8606, 520.904.8844 (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: MARK DOMINICK													

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD												
Outfall 002	Outfall002_20211226_Comp_F	12/26/2021 1000	WM	1 L Poly	1	None	190	No	X											Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No										X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall002_20211226_Comp	12/26/2021 1000 *	WM	500 mL Poly	1	NaOH	220	No		X										
			WM	2.5 Gal Cube	1	None	225	No		\	X									Unfiltered and unpreserved analysis, Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No												
			WM	1 Gal Cube	6	None	235	No				X								Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X							
			WM	1 L Glass Amber	1	HCl	245	No						X						
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X					
			WM	500 mL Poly	1	None	260	No								X				
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~											X	Extract within 24-Hours of sampling at Week Labs at OF001,002,011, or 018
	Outfall002_20211226_Comp_Extra	12/26/2021 1000	WM	40 mL VOA	3	HCl	240	No					H							Hold
			WM	1 L Glass Amber	2	None	255	No							H					Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12-27-2021 1620	H. A	Victor Myers	12/27/21 1620
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Relinquished By	Date/Time:	Company:	Received By	Date/Time: 2316

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

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

* Hand-delivered by H:A directly to ABC Labs

Temp. deg. C = 0.5 °C

Chlorine (mg/L) = <0.1

NH3 (mg/L) = <0.1

aquatic bioassay & consulting laboratories, inc

CHRONIC SELENASTRUM GROWTH BIOASSAY

DATE: 1 December - 2021

STANDARD TOXICANT: Cadmium Chloride

NOEC = 40.00 ug/l

IC25 = 80.10 ug/l
IC50 = >180.00 ug/l

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 22 Dec-21 10:29 (p 1 of 1)
Test Code/ID: SEL120121 / 12-8398-6744

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX		
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant		
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX		
Sample Age:	---	**Client:**	Internal Lab				

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	S
12-9938-5833	Cell Density	Steel Many-One Rank Sum Test		40	80	56.57	20.9%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	µg/L	95% LCL	95% UCL	S
05-8956-0180	Cell Density	Linear Interpolation (ICPIN)		IC10	38.71	19.34	68.85	1
				IC15	52.07	16.61	76.06	
				IC20	66.06	13.49	90.22	
				IC25	80.1	10.35	112.7	
				IC40	151.3	133.7	175.1	
				IC50	>180	---	---	

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
05-8956-0180	Cell Density	Control CV	0.05263	<<	0.2	Yes	Passes Criteria
12-9938-5833	Cell Density	Control CV	0.05263	<<	0.2	Yes	Passes Criteria
05-8956-0180	Cell Density	Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria
12-9938-5833	Cell Density	Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.713E+6	1.570E+6	1.856E+6	1.597E+6	1.814E+6	4.508E+4	9.015E+4	5.26%	0.00%
20		4	1.859E+6	1.635E+6	2.082E+6	1.689E+6	2.023E+6	7.027E+4	1.405E+5	7.56%	-8.51%
40		4	1.595E+6	8.516E+5	2.338E+6	8.980E+5	1.869E+6	2.336E+5	4.672E+5	29.29%	6.89%
80		4	1.340E+6	1.213E+6	1.466E+6	1.235E+6	1.428E+6	3.976E+4	7.952E+4	5.94%	21.79%
140		4	1.132E+6	1.037E+6	1.226E+6	1.092E+6	1.219E+6	2.971E+4	5.941E+4	5.25%	33.95%
180		4	9.200E+5	7.681E+5	1.072E+6	7.860E+5	9.900E+5	4.774E+4	9.549E+4	10.38%	46.29%

Cell Density Detail — MD5: A31AFF07134985287B29E5F730798522

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.738E+6	1.597E+6	1.703E+6	1.814E+6
20		1.903E+6	1.689E+6	1.820E+6	2.023E+6
40		1.854E+6	1.759E+6	8.980E+5	1.869E+6
80		1.342E+6	1.428E+6	1.235E+6	1.354E+6
140		1.092E+6	1.118E+6	1.097E+6	1.219E+6
180		9.870E+5	9.900E+5	9.170E+5	7.860E+5

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	12-9938-5833	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0
Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	40	80	56.57	---	357800	20.89%

Steel Many-One Rank Sum Test

Control	vs	Conc-µg/L	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		20	23	10	0	6	CDF	0.9966	Non-Significant Effect
		40	21	10	0	6	CDF	0.9778	Non-Significant Effect
		80*	10	10	0	6	CDF	0.0417	Significant Effect
		140*	10	10	0	6	CDF	0.0417	Significant Effect
		180*	10	10	0	6	CDF	0.0417	Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control CV	0.05263	<<	0.2	Yes	Passes Criteria
Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2.594E+12	5.187E+11	5	11.74	3.7E-05	Significant Effect
Error	7.954E+11	4.419E+10	18			
Total	3.389E+12		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	18.46	15.09	0.0024	Unequal Variances
	Levene Equality of Variance Test	4.633	4.248	0.0068	Unequal Variances
	Mod Levene Equality of Variance Test	0.8699	4.248	0.5203	Equal Variances
Distribution	Anderson-Darling A2 Test	1.388	3.878	0.0008	Non-Normal Distribution
	D'Agostino Kurtosis Test	3.63	2.576	0.0003	Non-Normal Distribution
	D'Agostino Skewness Test	3.782	2.576	0.0002	Non-Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	27.48	9.21	<1.0E-05	Non-Normal Distribution
	Kolmogorov-Smirnov D Test	0.2076	0.2056	0.0089	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.7996	0.884	0.0003	Non-Normal Distribution

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.713E+6	1.570E+6	1.856E+6	1.720E+6	1.597E+6	1.814E+6	4.508E+4	5.26%	0.00%
20		4	1.859E+6	1.635E+6	2.082E+6	1.862E+6	1.689E+6	2.023E+6	7.027E+4	7.56%	-8.51%
40		4	1.595E+6	8.516E+5	2.338E+6	1.806E+6	8.980E+5	1.869E+6	2.336E+5	29.29%	6.89%
80		4	1.340E+6	1.213E+6	1.466E+6	1.348E+6	1.235E+6	1.428E+6	3.976E+4	5.94%	21.79%
140		4	1.132E+6	1.037E+6	1.226E+6	1.108E+6	1.092E+6	1.219E+6	2.971E+4	5.25%	33.95%
180		4	9.200E+5	7.681E+5	1.072E+6	9.520E+5	7.860E+5	9.900E+5	4.774E+4	10.38%	46.29%

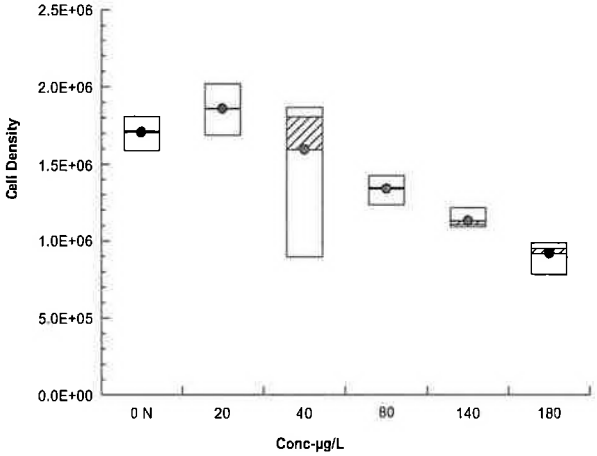
Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

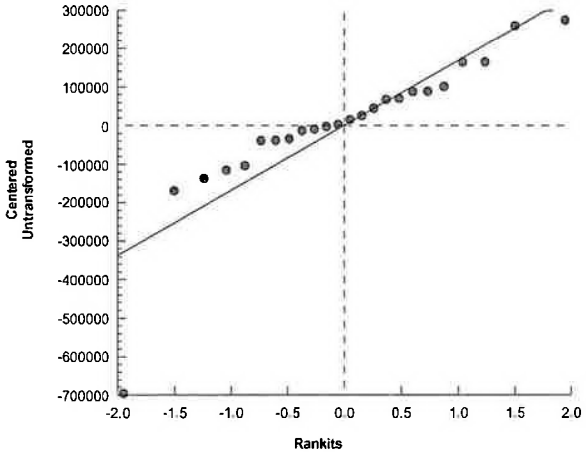
Analysis ID:	12-9938-5833	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0

Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.738E+6	1.597E+6	1.703E+6	1.814E+6
20		1.903E+6	1.689E+6	1.820E+6	2.023E+6
40		1.854E+6	1.759E+6	8.980E+5	1.869E+6
80		1.342E+6	1.428E+6	1.235E+6	1.354E+6
140		1.092E+6	1.118E+6	1.097E+6	1.219E+6
180		9.870E+5	9.900E+5	9.170E+5	7.860E+5

Graphics





Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID:	05-8956-0180	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0
Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.05263	<<	0.2	Yes	Passes Criteria
Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria

Point Estimates

Level	µg/L	95% LCL	95% UCL
IC10	38.71	19.34	68.85
IC15	52.07	16.61	76.06
IC20	66.06	13.49	90.22
IC25	80.1	10.35	112.7
IC40	151.3	133.7	175.1
IC50	>180	---	---

Cell Density Summary

			Calculated Variate						Isotonic Variate	
Conc-µg/L	**Code**	**Count**	**Mean**	**Median**	**Min**	**Max**	**CV%**	**%Effect**	**Mean**	**%Effect**
0	N	4	1.713E+6	1.720E+6	1.597E+6	1.814E+6	5.26%	0.00%	1.786E+6	0.00%
20		4	1.859E+6	1.862E+6	1.689E+6	2.023E+6	7.56%	-8.51%	1.786E+6	0.00%
40		4	1.595E+6	1.806E+6	8.980E+5	1.869E+6	29.29%	6.89%	1.595E+6	10.69%
80		4	1.340E+6	1.348E+6	1.235E+6	1.428E+6	5.94%	21.79%	1.340E+6	24.98%
140		4	1.132E+6	1.108E+6	1.092E+6	1.219E+6	5.25%	33.95%	1.132E+6	36.64%
180		4	9.200E+5	9.520E+5	7.860E+5	9.900E+5	10.38%	46.29%	9.200E+5	48.48%

Cell Density Detail

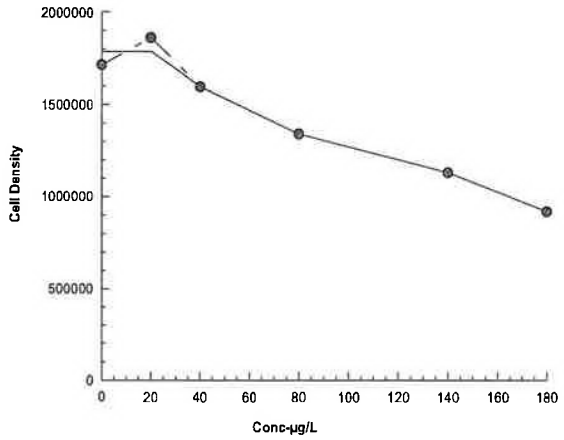
Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.738E+6	1.597E+6	1.703E+6	1.814E+6
20		1.903E+6	1.689E+6	1.820E+6	2.023E+6
40		1.854E+6	1.759E+6	8.980E+5	1.869E+6
80		1.342E+6	1.428E+6	1.235E+6	1.354E+6
140		1.092E+6	1.118E+6	1.097E+6	1.219E+6
180		9.870E+5	9.900E+5	9.170E+5	7.860E+5

Analyst: QA: 2/2/2022

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	05-8956-0180	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0

Graphics



Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**		
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water	
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable	
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:** 6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX	
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant	
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX	
Sample Age:	---	**Client:**	Internal Lab			

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	60	---	---	60	60	---	0	---	0
20		1	59	---	---	59	59	---	0	---	0
40		1	64	---	---	64	64	---	0	---	0
80		1	57	---	---	57	57	---	0	---	0
140		1	57	---	---	57	57	---	0	---	0
180		1	60	---	---	60	60	---	0	---	0
Overall		6	59.5	56.78	62.22	57	64	1.057	2.588	4.35%	0 (0%)

Conductivity-µmhos

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	475.2	468.4	482	466	480	1.09	5.45	1.15%	0
20		5	574.6	516	633.2	500	612	9.438	47.19	8.21%	0
40		5	463.6	442.9	484.3	447	482	3.33	16.65	3.59%	0
80		5	432	429	435	429	435	0.4899	2.449	0.57%	0
140		5	412	405.9	418.1	406	418	0.9798	4.899	1.19%	0
180		5	402	391.1	412.9	389	410	1.755	8.775	2.18%	0
Overall		30	459.9	436.9	482.9	389	612	11.23	61.51	13.37%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	115	---	---	115	115	---	0	---	0
20		1	110	---	---	110	110	---	0	---	0
40		1	110	---	---	110	110	---	0	---	0
80		1	115	---	---	115	115	---	0	---	0
140		1	110	---	---	110	110	---	0	---	0
180		1	110	---	---	110	110	---	0	---	0
Overall		6	111.7	109	114.4	110	115	1.054	2.582	2.31%	0 (0%)

pH-Units

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.84	7.516	8.164	7.4	8	0.05215	0.2608	3.33%	0
20		5	8.16	8.018	8.302	8	8.3	0.0228	0.114	1.40%	0
40		5	8.18	8.076	8.284	8.1	8.3	0.01673	0.08367	1.02%	0
80		5	8.18	8.076	8.284	8.1	8.3	0.01673	0.08367	1.02%	0
140		5	8.22	8.164	8.276	8.2	8.3	0.008944	0.04472	0.54%	0
180		5	8.22	8.164	8.276	8.2	8.3	0.008944	0.04472	0.54%	0
Overall		30	8.133	8.067	8.2	7.4	8.3	0.03264	0.1788	2.20%	0 (0%)

Temperature-°C

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
20		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
40		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
80		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
140		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
180		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
Overall		30	25.54	25.42	25.66	25	25.9	0.05825	0.3191	1.25%	0 (0%)

Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		60					
20				59					
40				64					
80				57					
140				57					
180				60					

Conductivity-µmhos

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		466					
20				500					
40				447					
80				429					
140				408					
180				389					
0	N	2		480					
20				556					
40				449					
80				430					
140				406					
180				397					
0	N	3		475					
20				607					
40				460					
80				435					
140				418					
180				410					
0	N	4		477					
20				612					
40				482					
80				433					
140				414					
180				407					
0	N	5		478					
20				598					
40				480					
80				433					
140				414					
180				407					

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		115					
20				110					
40				110					
80				115					
140				110					
180				110					

Selenastrum Growth Test
Aquatic Bioassay & Consulting Labs, Inc.

pH-Units

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.4					
20				8.2					
40				8.2					
80				8.2					
140				8.2					
180				8.2					
0	N	2		7.8					
20				8.2					
40				8.2					
80				8.2					
140				8.2					
180				8.2					
0	N	3		8					
20				8.3					
40				8.3					
80				8.3					
140				8.3					
180				8.3					
0	N	4		8					
20				8.1					
40				8.1					
80				8.1					
140				8.2					
180				8.2					
0	N	5		8					
20				8					
40				8.1					
80				8.1					
140				8.2					
180				8.2					

Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		25					
20				25					
40				25					
80				25					
140				25					
180				25					
0	N	2		25.8					
20				25.8					
40				25.8					
80				25.8					
140				25.8					
180				25.8					
0	N	3		25.9					
20				25.9					
40				25.9					
80				25.9					
140				25.9					
180				25.9					
0	N	4		25.5					
20				25.5					
40				25.5					
80				25.5					
140				25.5					
180				25.5					
0	N	5		25.5					
20				25.5					
40				25.5					
80				25.5					
140				25.5					
180				25.5					

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80132 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel EC# 44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	ANALYSIS REQUIRED: Total Recoverable Metals: (E200.7) As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl (R/A)	TCDD (and all congeners) (E1613B) (R)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc)) (R)	Surfactants (MBAS) (SM5540C/E425.1) (R)	Cl-, F-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N Perchlorate (E300) (R/A)	Turbidity TDS (SM2540C/E180.1) (R)	TSS (160.2 (SM2540D)) (R)	Ammonia-N (E350.2) (R)	Priority Pollutants-Pesticides+PCBs (E608) (A)	Priority Pollutants-SVOCs (E625) (A)	Total Recoverable Metals. Mercury (E245.1) (R)	Comments
Outfall 002	Outfall002_20211226_Comp	12/26/2021 1015	WM	500 mL Poly	1	HNO_3	80	No	X											X	
			WM	1 L Glass Amber	2	None	110	No		X											
			WM	1 L Poly	1	None	115	No			X										
			WM	500 mL Poly	2	None	120	No				X									
			WM	500 mL Poly	2	None	125	No					X								48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X							48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X					
			WM	1 L Glass Amber	2	None	250	No									X				
			WM	1 L Glass Amber	2	None	175	No										X			
			WM	1 L Poly	1	None	185	No							X						
	Outfall002_20211226_Comp_Extra	12/26/2021 1015	WM	1 L Glass Amber	2	None	110	No		H											Hold
			WM	500 mL Poly	2	None	120	No				H									Hold
			WM	500 mL Poly	2	None	125	No					H								Hold
			WM	1 L Glass Amber	2	None	250	No										H			Hold
			WM	1 L Glass Amber	2	None	175	No											H		Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12-27-2021/1445	H;A	[signature]	EC1 12/27/21 1445
[signature]	12/27/21	1735	[signature]	12/27/21 1735
Relinquished By	Date/Time:	Company:	Received By	Date/Time:

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

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

1 9 2 4, 2 3 3 2, 2 5 3 4 SCS

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address.	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI# 44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									R/A	R	R	R	A	A	A	A	R	QRSW	
									ANALYSIS REQUIRED										
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8) Ag Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0) Sr-90 (E905.0) Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DVI-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Comments
Outfall 002	Outfall002_20211226_Comp_F	12/26/2021 1000	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG Bag to be opened in Mercury Prep using clean procedures.
	Outfall002_20211226_Comp	12/26/2021 1000 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~										X	Extract within 24-Hours of sampling at Weck Labs at OF001,002,011, or 018
	Outfall002_20211226_Comp_Extra	12/26/2021 1000	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	2	None	255	No							H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12-27-2021/1445	H&A	[signature]	ECI 12/27/21 1445
[signature]	12/27/21 1735		[signature]	12/27/21 1735

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

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

Data Requirements (Check)
No Level IV: _____ All Level IV: __X__

* Hand-delivered by H. A directly to ABC Labs

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147895 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80132-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/25/2022			
City: Earth City	TAT Requested (days)			
State, Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #			
Email:	WO #			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note.
			Preservation Code:												
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

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

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

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	12/28/21 1252				
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

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

Ver: 06/08/2021

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147926 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80132-2
Address: 880 Riverside Parkway	Due Date Requested: 1/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10 00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L, Use Boeing glassware
Outfall002_20211226_Comp_Extra (570-80132-2)	12/26/21	10:00 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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said compliance to Eurofins Calscience

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

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	12/28/21 1500				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 06/08/2021

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-147943 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc		Accreditations Required (See note): State Program - California		Job #: 570-80132-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/11/2022			
City: City of Industry	TAT Requested (days)			
State, Zip: CA, 91745				
Phone	PO #			
Email:	WO #			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water			X		1	Level IV needed
Outfall002_20211226_Comp_Extra (570-80132-2)	12/26/21	10:00 Pacific		Water				X	1	Level IV needed

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

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

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time: 12/28/21 1615	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

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

Ver 06/08/2021

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80132-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Preservation Codes

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

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 200.7 Outfall 001/002/011 Totals List	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	245.1/245.1_Prep Mercury	180.1/ Turbidity	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	4500_CN_E_LL/Distill_CN	SM5310B/ Organic Carbon, Total (TOC)	200.7/FILTRATION 200 7 Outfall 001/002/011 Diss List	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	245.1/FILTRATION Diss Mercury	Total Number of containers	Special Instructions/Note
			Preservation Code:																		
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water			X	X	X	X	X	X	X	X	X	X				5	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall002_20211226_Comp_F (570-80132-3)	12/26/21	10 00 Pacific		Water													X	X	X	3	Filter w/in 24 hours, Filter within 24 hours use VOA vials from LL Hg Kit-Clean Hands

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements IR-89 1.4/14

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

Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
	12/28/21	CC			
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
			Olga Oinelas	12/28/21 1752	ECT
Relinquished by:	Date/Time	Company	Received by:	Date/Time.	Company

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

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147901.2
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80132-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/7/2022			Preservation Codes:
City: Tustin	TAT Requested (days):			A HCL M - Hexane B - NaOH N - None C Zn Acetate O AsNaO2 D - Nitric Acid P Na2O4S E NaHSO4 Q Na2SO3 F MeOH R - Na2S2O3 G Amchlor S H2SO4 H Ascorbic Acid T - TSP Dodecahydrate I Ice U Acetone J DI Water V MCAA K - EDTA W pH 4-5 L EDA Z other (specify) Other:
State, Zip: CA, 92780	PO #:			
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfalls	SSOW#:			
Site:				

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2340B/Filtration_AC Diss hardness	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water				5	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall002_20211226_Comp_F (570-80132-3)	12/26/21	10 00 Pacific		Water			X	3	Filter w/in 24 hours, Filter within 24 hours, use VOA vials from LL Hg Kit-Clean Hands

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements: ER-89 2.0/2.0

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	12/28/21	GC			
Relinquished by:	Date/Time:	Company	Received by: Olga Oneles	Date/Time: 12-28-21 1752	Company ECM
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

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

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 440-177693 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80132-1
Address: 7440 Lincoln Way, ,	Due Date Requested: 1/10/2022			
City: Garden Grove	TAT Requested (days):			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/ CL, SO4, F	300_ORGFMS/ Nitrate + Nitrite as N	NO2NO3_Calc_IC/ Nitrate-Nitrite as N	314.0/ Perchlorate	608.3_PCB_LL/608_Prep_PCB_LL PCBs	608.3_Pest_LL/608_Prep_LL Pesticides	625.1_SIM/625_Prep Priority pollutant list	8260B_SIM/5030C (MOD) 1,4-Dioxane only	218.6_CR3/ Trivalent Chromium	218.6_ORGFM/ Chromium, Hexavalent	SM5210B_BODCalc/ Biological Oxygen Demand - 5 Day	5540C/5540C_Prep Methylene Blue Active Substances (MBAS)	SM5310D/ Total Organic Carbon	Total Number of containers	Special Instructions/Note.
			Preservation Code:																		
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X	X	X	1	

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/17/22	ECT		1/17/22 1446	EC
2		1/17/22 1427	EC		1-7-2022 14:27	ECI
3		Date/Time	Company		Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks
		3.1/4.6 SC 6

Ver 06/08/2021

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-147926.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80132-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall002_20211226_Comp_Extra (570-80132-2)	12/26/21	10:00 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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

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

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

	Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company
1		12/28/21 1500		Alex Sotelo	12/29/21 10:30	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:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80132-2

Login Number: 80132
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: 570-80132-2

Login Number: 80132
List Number: 4
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 12/29/21 03:04 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.6c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80132-3
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

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

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/25/2022 4:53:02 PM

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

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 7
Client Sample Results 8
Tracer Carrier Summary 15
QC Sample Results 16
QC Association Summary 21
Lab Chronicle 22
Certification Summary 23
Method Summary 24
Sample Summary 25
Chain of Custody 26
Receipt Checklists 35

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80132-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

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

Job ID: 570-80132-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80132-3

Comments
No additional comments.

Receipt
The samples were received on 12/27/2021 5:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.8º C, 3.2º C and 3.4º C.

RAD
Method 900.0: Gross alpha beta batch 544905
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_20211226_Comp (570-80132-1), (LCS 160-544905/2-A), (LCSB 160-544905/3-A), (MB 160-544905/1-A), (570-80145-R-1-G), (570-80145-R-1-J DU), (570-80145-R-1-H MS) and (570-80145-R-1-I MSBT)

Method 901.1: Gamma Prep Batch 160-544496
Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

**The method blank (MB) Z-score is within limits and is located in the level IV raw data

Outfall002_20211226_Comp (570-80132-1), (570-80241-R-1-A) and (570-80241-R-1-B DU)

Method 903.0: Radium 226 batch 544163

Job ID: 570-80132-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall002_20211226_Comp (570-80132-1), (LCS 160-544163/1-A), (LCSD 160-544163/2-A) and (MB 160-544163/21-A)

Method 904.0: Radium 228 batch 544167
The detection goal was not met. Sample was prepped at a reduced aliquot due to the presence of matrix interferences: Outfall002_20211226_Comp (570-80132-1). Analytical results are reported with the detection limit achieved.

Method 904.0: Radium 228 batch 544167
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall002_20211226_Comp (570-80132-1), (LCS 160-544167/1-A), (LCSD 160-544167/2-A) and (MB 160-544167/21-A)

Method 905: Strontium 90 batch 544884
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall002_20211226_Comp (570-80132-1), (LCS 160-544884/1-A), (LCSD 160-544884/2-A) and (MB 160-544884/16-A)

Method 906.0: Tritium in liquid batch 160-543993
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_20211226_Comp (570-80132-1), (LCS 160-543993/2-A), (MB 160-543993/1-A), (570-80132-U-1-B MS), (570-80145-I-1-A) and (570-80145-I-1-B DU)

Methods A-01-R, U-02-RC: Isotopic Uranium batch 544715
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: 570-80132-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Outfall002_20211226_Comp (570-80132-1), (LCS 160-544715/2-A), (LCSD 160-544715/3-A) and (MB 160-544715/1-A)

Method ExtChrom: Uranium Prep Batch 160-544715

The following samples were prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall002_20211226_Comp (570-80132-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method LSC_Dist_Susp: Tritium Prep Batch 543993:

The following sample had an unclear matrix: Outfall002_20211226_Comp (570-80132-1). The sample was marigold in color and transparent.

Method PrecSep_0: Radium-228 Prep Batch 160-544167

The following samples were prepared at a reduced aliquot due to Matrix: Outfall002_20211226_Comp (570-80132-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-544163

The following samples were prepared at a reduced aliquot due to Matrix: Outfall002_20211226_Comp (570-80132-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-544884

The following samples were prepared at a reduced aliquot due to Matrix: Outfall002_20211226_Comp (570-80132-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

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

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	6.33		2.26	2.37	3.00	2.61	pCi/L	01/05/22 10:40	01/06/22 14:24	1
Gross Beta	6.29		1.01	1.19	4.00	0.952	pCi/L	01/05/22 10:40	01/06/22 14:24	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-2.41	U	11.0	11.0	20.0	13.2	pCi/L	01/03/22 08:33	01/21/22 20:17	1
Potassium-40	4.54	U	171	171		178	pCi/L	01/03/22 08:33	01/21/22 20:17	1

Method: 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall002_20211226_Comp
Date Collected: 12/26/21 10:00
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80132-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.208	U	0.212	0.213	1.00	0.335	pCi/L	12/30/21 09:56	01/24/22 09:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.6*		*40 - 110*	*12/30/21 09:56*	*01/24/22 09:58*	*1*

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall002_20211226_Comp **Lab Sample ID: 570-80132-1**
Date Collected: 12/26/21 10:00 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.380	U G	0.631	0.632	1.00	1.06	pCi/L	12/30/21 10:34	01/20/22 13:02	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.6*		*40 - 110*	*12/30/21 10:34*	*01/20/22 13:02*	*1*
Y Carrier	*79.3*		*40 - 110*	*12/30/21 10:34*	*01/20/22 13:02*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall002_20211226_Comp
Date Collected: 12/26/21 10:00
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80132-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.311	U	0.430	0.431	3.00	0.719	pCi/L	01/05/22 09:29	01/20/22 15:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*82.4*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:41*	*1*
Y Carrier	*83.4*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:41*	*1*

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall002_20211226_Comp **Lab Sample ID: 570-80132-1**
Date Collected: 12/26/21 10:00 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-130	U	163	163	500	315	pCi/L	12/29/21 14:28	01/04/22 22:43	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall002_20211226_Comp
Date Collected: 12/26/21 10:00
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80132-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.174	U	0.274	0.274	1.00	0.376	pCi/L	01/04/22 12:56	01/09/22 21:41	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*90.7*		*30 - 110*	*01/04/22 12:56*	*01/09/22 21:41*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
570-80132-1	Outfall002_20211226_Comp	82.6
LCS 160-544163/1-A	Lab Control Sample	98.2
LCSD 160-544163/2-A	Lab Control Sample Dup	104
MB 160-544163/21-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	(40-110)	(40-110)
570-80132-1	Outfall002_20211226_Comp	82.6	79.3
LCS 160-544167/1-A	Lab Control Sample	98.2	79.6
LCSD 160-544167/2-A	Lab Control Sample Dup	104	80.4
MB 160-544167/21-A	Method Blank	99.0	87.9

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Sr	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80132-1	Outfall002_20211226_Comp	82.4	83.4
LCS 160-544884/1-A	Lab Control Sample	77.6	85.2
LCSD 160-544884/2-A	Lab Control Sample Dup	79.2	84.9
MB 160-544884/16-A	Method Blank	84.7	78.9

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)
570-80132-1	Outfall002_20211226_Comp	90.7
LCS 160-544715/2-A	Lab Control Sample	88.8
LCSD 160-544715/3-A	Lab Control Sample Dup	103
MB 160-544715/1-A	Method Blank	93.4

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-544905/1-A
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544905

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.8965	U	0.678	0.686	3.00	1.01	pCi/L	01/05/22 10:40	01/06/22 14:23	1
Gross Beta	0.1978	U	0.523	0.524	4.00	0.880	pCi/L	01/05/22 10:40	01/06/22 14:23	1

Lab Sample ID: LCS 160-544905/2-A
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	59.45		8.64	3.00	2.32	pCi/L	117	75 - 125

Lab Sample ID: LCSB 160-544905/3-A
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.7	74.99		8.03	4.00	1.03	pCi/L	99	75 - 125

Lab Sample ID: 570-80145-R-1-H MS
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	2.10		50.6	53.08		7.32	3.00	1.34	pCi/L	101	60 - 140

Lab Sample ID: 570-80145-R-1-I MSBT
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	4.10		75.7	76.77		8.19	4.00	0.790	pCi/L	96	60 - 140

Lab Sample ID: 570-80145-R-1-J DU
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	2.10		1.928		1.04	3.00	1.33	pCi/L	0.08	1
Gross Beta	4.10		5.162		1.00	4.00	0.789	pCi/L	0.56	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-544496/1-A
Matrix: Water
Analysis Batch: 547455

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544496

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.0000	U	2.36	2.36	20.0	13.2	pCi/L	01/03/22 08:33	01/21/22 17:08	1
Potassium-40	-6.817	U	148	148		157	pCi/L	01/03/22 08:33	01/21/22 17:08	1

Lab Sample ID: LCS 160-544496/2-A
Matrix: Water
Analysis Batch: 547775

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544496

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium-241	135000	139600		16600		428	pCi/L	103	75 - 125
Cesium-137	42000	42670		5080	20.0	101	pCi/L	102	75 - 125

Lab Sample ID: 570-80241-R-1-B DU
Matrix: Water
Analysis Batch: 547775

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 544496

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Cesium-137	7.38		1.605	U	9.00	20.0	11.0	pCi/L	0.39	1
Potassium-40	116		-4.545	U	121		132	pCi/L	0.67	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-544163/21-A
Matrix: Water
Analysis Batch: 547796

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544163

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.001592	U	0.0935	0.0935	1.00	0.191	pCi/L	12/30/21 09:56	01/24/22 12:33	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.0*		*40 - 110*	*12/30/21 09:56*	*01/24/22 12:33*	*1*

Lab Sample ID: LCS 160-544163/1-A
Matrix: Water
Analysis Batch: 547796

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544163

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.1	13.71		1.50	1.00	0.263	pCi/L	91	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*98.2*		*40 - 110*

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-544163/2-A
Matrix: Water
Analysis Batch: 547796

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544163

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	12.36		1.37	1.00	0.260	pCi/L	82	75 - 125	0.47	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*104*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-544167/21-A
Matrix: Water
Analysis Batch: 547242

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544167

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.2693	U	0.301	0.302	1.00	0.577	pCi/L	12/30/21 10:34	01/20/22 13:05	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.0*		*40 - 110*	*12/30/21 10:34*	*01/20/22 13:05*	*1*
Y Carrier	*87.9*		*40 - 110*	*12/30/21 10:34*	*01/20/22 13:05*	*1*

Lab Sample ID: LCS 160-544167/1-A
Matrix: Water
Analysis Batch: 547257

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544167

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			11.9	13.64		1.58	1.00	0.522	pCi/L	114	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*98.2*		*40 - 110*
Y Carrier	*79.6*		*40 - 110*

Lab Sample ID: LCSD 160-544167/2-A
Matrix: Water
Analysis Batch: 547257

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544167

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			11.9	12.21		1.44	1.00	0.494	pCi/L	102	75 - 125	0.47	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*104*		*40 - 110*
Y Carrier	*80.4*		*40 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-544884/16-A
Matrix: Water
Analysis Batch: 547239

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544884

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	-0.1328	U	0.444	0.444	3.00	0.811	pCi/L	01/05/22 09:29	01/20/22 15:46	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*84.7*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:46*	*1*
Y Carrier	*78.9*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:46*	*1*

Lab Sample ID: LCS 160-544884/1-A
Matrix: Water
Analysis Batch: 547233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544884

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Strontium-90			15.1	15.49		1.76	3.00	0.788	pCi/L	102	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*77.6*		*40 - 110*
Y Carrier	*85.2*		*40 - 110*

Lab Sample ID: LCSD 160-544884/2-A
Matrix: Water
Analysis Batch: 547233

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544884

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Strontium-90			15.1	16.58		1.84	3.00	0.739	pCi/L	110	75 - 125	0.30	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*79.2*		*40 - 110*
Y Carrier	*84.9*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-543993/1-A
Matrix: Water
Analysis Batch: 544876

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 543993

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	38.74	U	179	179	500	313	pCi/L	12/29/21 14:28	01/04/22 21:35	1

Lab Sample ID: LCS 160-543993/2-A
Matrix: Water
Analysis Batch: 544876

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 543993

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			2250	2264		379	500	299	pCi/L	101	75 - 125		

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 570-80132-1 MS
Matrix: Water
Analysis Batch: 544876

Client Sample ID: Outfall002_20211226_Comp
Prep Type: Total/NA
Prep Batch: 543993

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Tritium	-130	U	2240	2160		375	500	309	pCi/L	97	60 - 140

Lab Sample ID: 570-80145-I-1-B DU
Matrix: Water
Analysis Batch: 544876

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 543993

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Tritium	-34.7	U	-67.57	U	169	500	314	pCi/L	0.1	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-544715/1-A
Matrix: Water
Analysis Batch: 545484

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544715

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.08163	U	0.1210	0.1212	1.00	0.203	pCi/L	01/04/22 12:56	01/09/22 21:41	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*93.4*		*30 - 110*	*01/04/22 12:56*	*01/09/22 21:41*	*1*

Lab Sample ID: LCS 160-544715/2-A
Matrix: Water
Analysis Batch: 545486

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544715

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Uranium-234			25.5	25.08		2.81	1.00	0.294	pCi/L	98	75 - 125
Uranium-238			26.0	24.44		2.75	1.00	0.193	pCi/L	94	75 - 125

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*88.8*		*30 - 110*

Lab Sample ID: LCSD 160-544715/3-A
Matrix: Water
Analysis Batch: 545487

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544715

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Uranium-234			25.5	24.55		2.70	1.00	0.231	pCi/L	96	75 - 125	0.1	1
Uranium-238			26.0	25.06		2.74	1.00	0.149	pCi/L	96	75 - 125	0.11	1

Tracer	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Uranium-232	*103*		*30 - 110*

Rad

Prep Batch: 543993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-543993/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-543993/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
570-80132-1 MS	Outfall002_20211226_Comp	Total/NA	Water	LSC_Dist_Susp	
570-80145-I-1-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 544163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	PrecSep-21	
MB 160-544163/21-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-544163/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-544163/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 544167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	PrecSep_0	
MB 160-544167/21-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-544167/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-544167/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 544496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-544496/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-544496/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-80241-R-1-B DU	Duplicate	Total/NA	Water	Fill_Geo-0	

Prep Batch: 544715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	ExtChrom	
MB 160-544715/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-544715/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
LCSD 160-544715/3-A	Lab Control Sample Dup	Total/NA	Water	ExtChrom	

Prep Batch: 544884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	PrecSep-7	
MB 160-544884/16-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-544884/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-544884/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Prep Batch: 544905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80132-1	Outfall002_20211226_Comp	Total/NA	Water	Evaporation	
MB 160-544905/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-544905/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-544905/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-80145-R-1-H MS	Matrix Spike	Total/NA	Water	Evaporation	
570-80145-R-1-I MSBT	Matrix Spike	Total/NA	Water	Evaporation	
570-80145-R-1-J DU	Duplicate	Total/NA	Water	Evaporation	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1
Date Collected: 12/26/21 10:00
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			200.06 mL	1.0 g	544905	01/05/22 10:40	KG	TAL SL
Total/NA	Analysis	900.0		1			545103	01/06/22 14:24	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	544496	01/03/22 08:33	LTC	TAL SL
Total/NA	Analysis	901.1		1			547455	01/21/22 20:17	CAH	TAL SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			500.64 mL	1.0 g	544163	12/30/21 09:56	LPS	TAL SL
Total/NA	Analysis	903.0		1			547796	01/24/22 09:58	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			500.64 mL	1.0 g	544167	12/30/21 10:34	LPS	TAL SL
Total/NA	Analysis	904.0		1			547257	01/20/22 13:02	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-7			500.70 mL	1.0 g	544884	01/05/22 09:29	LPS	TAL SL
Total/NA	Analysis	905		1			547233	01/20/22 15:41	ANW	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	LSC_Dist_Susp			100.36 mL	1.0 g	543993	12/29/21 14:28	BAL	TAL SL
Total/NA	Analysis	906.0		1			544876	01/04/22 22:43	JLP	TAL SL
	Instrument ID: LSCBROWN									
Total/NA	Prep	ExtChrom			150.21 mL	1.0 mL	544715	01/04/22 12:56	MLO	TAL SL
Total/NA	Analysis	A-01-R		1			545493	01/09/22 21:41	FLC	TAL SL
	Instrument ID: ALPHAVISION									

Laboratory References:
TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80132-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Laboratory: Eurofins St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	01-01-22 *
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

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

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	TAL SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	TAL SL

Protocol References:

DOE = U.S. Department of Energy

EPA = US Environmental Protection Agency

None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80132-1	Outfall002_20211226_Comp	Water	12/26/21 10:00	12/27/21 17:35

80132

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80132 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel EC# 44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									ANALYSIS REQUIRED																	
									R/A	R	R	R	R/A	R	R	R	A	A	R							
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7) As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- F- SO4, Nitrate-N, Nitrite-N NO3+NO2-N Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals. Mercury (E245.1)				Comments
Outfall 002	Outfall002_20211226_Comp	12/26/2021 1015	WM	500 mL Poly	1	HNO_3	80	No	X										X						
			WM	1 L Glass Amber	2	None	110	No		X															
			WM	1 L Poly	1	None	115	No			X														
			WM	500 mL Poly	2	None	120	No				X													
			WM	500 mL Poly	2	None	125	No					X												48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X										48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X								
			WM	1 L Glass Amber	2	None	250	No									X							
			WM	1 L Glass Amber	2	None	175	No										X						
			WM	1 L Poly	1	None	185	No							X									
	Outfall002_20211226_Comp_Extra	12/26/2021 1015	WM	1 L Glass Amber	2	None	110	No		H														Hold
			WM	500 mL Poly	2	None	120	No				H												Hold
			WM	500 mL Poly	2	None	125	No					H											Hold
			WM	1 L Glass Amber	2	None	250	No										H						Hold
			WM	1 L Glass Amber	2	None	175	No											H					Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	12-27-2021/1445	H;A		EC1 12/27/21 1445
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	12/27/21	1735		12/27/21 1735
Relinquished By	Date/Time:	Company:	Received By	Date/Time:

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

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

1,9,2,4, 2,3,3,2, 2,5,3,4 SCS

1/25/2022

2019-2020 Rainy Season
Version 5

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address.	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI# 44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									R/A	R	R	R	A	A	A	A	R	QRSW	
									ANALYSIS REQUIRED										
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8) Ag Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0) Sr-90 (E905.0) Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DVI-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Comments
Outfall 002	Outfall002_20211226_Comp_F	12/26/2021 1000	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG Bag to be opened in Mercury Prep using clean procedures.
	Outfall002_20211226_Comp	12/26/2021 1000 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~										X	Extract within 24-Hours of sampling at Weck Labs at OF001,002,011, or 018.
	Outfall002_20211226_Comp_Extra	12/26/2021 1000	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	2	None	255	No							H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12-27-2021/1445	T:A	[signature]	ECI 12/27/21 1445
[signature]	12/27/21 1735		[signature]	12/27/21 1735

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

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

Data Requirements (Check)
No Level IV: _____ All Level IV: __X__

* Hand-delivered by H.A directly to ABC Labs

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147895 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80132-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/25/2022			
City: Earth City	TAT Requested (days)			
State, Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #			
Email:	WO #			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note.
			Preservation Code:												
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

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

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

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	12/28/21 1252				
Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

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

Ver: 06/08/2021

1/25/2022

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147926 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80132-2
Address: 880 Riverside Parkway	Due Date Requested: 1/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10 00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L, Use Boeing glassware
Outfall002_20211226_Comp_Extra (570-80132-2)	12/26/21	10:00 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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said compliance to Eurofins Calscience

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

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	12/28/21 1500				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 06/08/2021

1/25/2022

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-147943 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc		Accreditations Required (See note): State Program - California		Job #: 570-80132-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/11/2022			
City: City of Industry	TAT Requested (days)			
State, Zip: CA, 91745				
Phone	PO #			
Email:	WO #			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water			X		1	Level IV needed
Outfall002_20211226_Comp_Extra (570-80132-2)	12/26/21	10:00 Pacific		Water				X	1	Level IV needed

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

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

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time: 12/28/21 1615	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

1/25/2022

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80132-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Preservation Codes

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

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 200.7 Outfall 001/002/011 Totals List	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	245.1/245.1_Prep Mercury	180.1/ Turbidity	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	4500_CN_E_LL/Distill_CN	SM5310B/ Organic Carbon, Total (TOC)	200.7/FILTRATION 200 7 Outfall 001/002/011 Diss List	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	245.1/FILTRATION Diss Mercury	Total Number of containers	Special Instructions/Note
			Preservation Code:																		
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water			X	X	X	X	X	X	X	X	X	X				5	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall002_20211226_Comp_F (570-80132-3)	12/26/21	10 00 Pacific		Water													X	X	X	3	Filter w/in 24 hours, Filter within 24 hours use VOA vials from LL Hg Kit-Clean Hands

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements IR-89 1.4/14

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

Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
	12/28/21	EC			
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
			Olga Oinelas	12/28/21 1752	ECT
Relinquished by:	Date/Time	Company	Received by:	Date/Time.	Company

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

1/25/2022

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147901.2
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80132-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2340B/Filtration_AC Diss hardness	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water				5	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall002_20211226_Comp_F (570-80132-3)	12/26/21	10 00 Pacific		Water			X	3	Filter w/in 24 hours, Filter within 24 hours, use VOA vials from LL Hg Kit-Clean Hands

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

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) — Primary Deliverable Rank. 2

Special Instructions/QC Requirements: IR-89 2.0/2.0

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	12/28/21	GC			
			Olga Ornelas	12-28/21 1752	ECTIF

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

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 440-177693 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80132-1
Address: 7440 Lincoln Way, ,	Due Date Requested: 1/10/2022			
City: Garden Grove	TAT Requested (days):			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/ Cl, SO4, F	300_ORGFMS/ Nitrate + Nitrite as N	NO2NO3_Calc_IC/ Nitrate-Nitrite as N	314.0/ Perchlorate	608.3_PCB_LL/608_Prep_PCB_LL PCBs	608.3_Pest_LL/608_Prep_LL Pesticides	625.1_SIM/625_Prep Priority pollutant list	8260B_SIM/5030C (MOD) 1,4-Dioxane only	218.6_CR3/ Trivalent Chromium	218.6_ORGFM/ Chromium, Hexavalent	SM5210B_BODCalc/ Biological Oxygen Demand - 5 Day	5540C/5540C_Prep Methylene Blue Active Substances (MBAS)	SM5310D/ Total Organic Carbon	Total Number of containers	Special Instructions/Note.
			Preservation Code:																		
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X	X	X	1	

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

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

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	1/17/22	ECT		1/17/22 1446	EC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	1/17/22 1427	EC		1-7-2022 14:27	ECI
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks
		3.1/4.6 SC 6

Ver 06/08/2021

1/25/2022

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-147895.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80132-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/25/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation

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

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

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

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
FED EX	12/28/21 1252		FED EX		
Relinquished by:	Date/Time:	Company	Received by: Siena Worthington	Date/Time: 12-29-21 0940	Company: ETAS R
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: 570-80132-3

Login Number: 80132
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: 570-80132-3

Login Number: 80132
List Number: 2
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 12/29/21 11:32 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	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 America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80132-4
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp
Revision: 1

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

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/8/2022 2:06:42 PM

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

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Method Summary 6
Sample Summary 7
Subcontract Data 8
Chain of Custody 12
Receipt Checklists 20

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80132-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Glossary

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

Job ID: 570-80132-4

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80132-4

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 2/2/2022. The report (revision 1) is being revised due to: The subcontract report was revised to report Monomethyl Hydrazine only..

Receipt
The samples were received on 12/27/2021 5:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.8º C, 3.2º C and 3.4º C.

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

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Client Sample ID: Outfall002_20211226_Comp
Lab Sample ID: 570-80132-1

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Method	Method Description	Protocol	Laboratory
Subcontract	Weck-Hydrazine	None	Weck Lab

Protocol References:

None = None

Laboratory References:

Weck Lab = Weck Laboratories, Inc., 14859 E. Clark Avenue, City of Industry, CA 91745

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80132-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80132-1	Outfall002_20211226_Comp	Water	12/26/21 10:00	12/27/21 17:35

WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Work Orders: 1L29087

Project: 570-80132-2

Attn: Virendra Patel

Client: Eurofins Calscience - Garden Grove
7440 Lincoln Way
Garden Grove, CA 92841-1432

Report Date: 2/07/2022
Received Date: 12/29/2021
Turnaround Time: Normal
Phones: (714) 895-5494
Fax: (714) 894-7501
P.O. #: 570-80132-2
Billing Code:

Dear Virendra Patel,

Enclosed are the results of analyses for samples received 12/29/21 with the Chain-of-Custody document. The samples were received in good condition, at 4.1 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Sample Results

Sample: Outfall002_20211226_Comp (570-80132-1) — Sampled: 12/26/21 10:00 by Client

1L29087-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 8315M			**Instr:** LCMS03				
Batch ID: W2A0572 **Preparation:** Microextraction			**Prepared:** 01/10/22 11:10				**Analyst:** PJS
Monomethylhydrazine (MMH)	ND	0.31	2.0	ug/l	1	01/10/22	

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

Quality Control Results

Hydrazine by LCMS

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Blank (W2A0572-BLK1)					**Prepared & Analyzed: 01/10/22**						
Monomethylhydrazine (MMH)	ND	0.31	2.0	ug/l							
LCS (W2A0572-BS1)					**Prepared & Analyzed: 01/10/22**						
Monomethylhydrazine (MMH)	25.4	0.31	2.0	ug/l	20.0		127	50-150			
Matrix Spike (W2A0572-MS1)		**Source: 1L29088-01**			**Prepared & Analyzed: 01/10/22**						
Monomethylhydrazine (MMH)	20.4	0.31	2.0	ug/l	20.0	*ND*	102	50-150			
Matrix Spike Dup (W2A0572-MSD1)		**Source: 1L29088-01**			**Prepared & Analyzed: 01/10/22**						
Monomethylhydrazine (MMH)	20.6	0.31	2.0	ug/l	20.0	*ND*	103	50-150	0.8	30	

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

Notes and Definitions

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

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

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

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

Analyses Accreditation Summary

Analyte	CAS #	Not By NELAP	ANAB ISO 17025
EPA 8315M in Water			
Monomethylhydrazine (MMH)	60-34-4	✓	

Reviewed by:

Rahul R. Nair
Project Manager

ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • LACSD #10143 • NJ-DEP #CA015 • NV-DEP #NAC 445A • SCAQMD #93LA1006

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

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

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

Chain of Custody Record

IL29087

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California	
Address: 14859 E. Clark Avenue, ,	Due Date Requested: 1/11/2022	Analysis Requested	
City: City of Industry	TAT Requested (days):		
State, Zip: CA, 91745			
Phone:	PO #:		
Email:	WO #:		
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446		
Site:	SSOW#:		

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Weck-Hydrazine	SUB (Weck-Hydrazine)/ Weck-Hydrazine (Hold)
			Preservation Code:					
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water			X	
Outfall002_20211226_Comp_Extra (570-80132-2)	12/26/21	10:00 Pacific		Water				X

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under
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 ac
Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

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

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 12/28/21 1615	Company	Received by: Date/Time: 12/29

80132

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80132 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel EC# 44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									ANALYSIS REQUIRED																	
									R/A	R	R	R	R/A	R	R	R	A	A	R							
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7) As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl-, F-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals. Mercury (E245.1)				Comments
Outfall 002	Outfall002_20211226_Comp	12/26/2021 1015	WM	500 mL Poly	1	HNO_3	80	No	X										X						
			WM	1 L Glass Amber	2	None	110	No		X															
			WM	1 L Poly	1	None	115	No			X														
			WM	500 mL Poly	2	None	120	No				X													
			WM	500 mL Poly	2	None	125	No					X												48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X											48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X									
			WM	1 L Glass Amber	2	None	250	No									X								
			WM	1 L Glass Amber	2	None	175	No										X							
			WM	1 L Poly	1	None	185	No							X										
	Outfall002_20211226_Comp_Extra	12/26/2021 1015	WM	1 L Glass Amber	2	None	110	No		H															Hold
			WM	500 mL Poly	2	None	120	No				H													Hold
			WM	500 mL Poly	2	None	125	No					H												Hold
			WM	1 L Glass Amber	2	None	250	No											H						Hold
			WM	1 L Glass Amber	2	None	175	No												H					Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12-27-2021/1445	H;A	[signature]	EC1 12/27/21 1445
[signature]	12/27/21	1735	[signature]	12/27/21 1735

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 4, 2-3 3 2, 2 5 3 4 SCS

2/8/2022 (Rev. 1)

2019-2020 Rainy Season
Version 5

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address.	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI# 44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									R/A	R	R	R	A	A	A	A	R	QRSW	
									ANALYSIS REQUIRED										
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as $CaCO_3$ (E200.8) Ag Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0) Sr-90 (E905.0) Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DVI-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Comments
Outfall 002	Outfall002_20211226_Comp_F	12/26/2021 1000	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG Bag to be opened in Mercury Prep using clean procedures.
	Outfall002_20211226_Comp	12/26/2021 1000 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~										X	~~Extract within 24-Hours of sampling at Weck Labs at OF001,002,011, or 018.~~
	Outfall002_20211226_Comp_Extra	12/26/2021 1000	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	2	None	255	No							H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12-27-2021/1445	T:A	[signature]	ECI 12/27/21 1445
[signature]	12/27/21 1735		[signature]	12/27/21 1735

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

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

Data Requirements (Check)
No Level IV: _____ All Level IV: __X__

* Hand-delivered by H.A directly to ABC Labs

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147895 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80132-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/25/2022			
City: Earth City	TAT Requested (days)			
State, Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #			
Email:	WO #			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note.
			Preservation Code:												
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

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

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

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	12/28/21 1252				
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

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

Ver: 06/08/2021

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147926 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80132-2
Address: 880 Riverside Parkway	Due Date Requested: 1/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10 00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L, Use Boeing glassware
Outfall002_20211226_Comp_Extra (570-80132-2)	12/26/21	10:00 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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said compliance to Eurofins Calscience

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

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

Relinquished by:	Date/Time: 12/28/21 1500	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 06/08/2021

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-147943 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc		Accreditations Required (See note): State Program - California		Job #: 570-80132-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/11/2022			
City: City of Industry	TAT Requested (days)			
State, Zip: CA, 91745				
Phone	PO #			
Email:	WO #			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water			X		1	Level IV needed
Outfall002_20211226_Comp_Extra (570-80132-2)	12/26/21	10:00 Pacific		Water				X	1	Level IV needed

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

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

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
	Relinquished by: [signature]	12/28/21 1615				
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

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

Ver 06/08/2021

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80132-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 200.7 Outfall 001/002/011 Totals List	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	245.1/245.1_Prep Mercury	180.1/ Turbidity	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	4500_CN_E_LL/Distill_CN	SM5310B/ Organic Carbon, Total (TOC)	200.7/FILTRATION 200 7 Outfall 001/002/011 Diss List	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	245.1/FILTRATION Diss Mercury	Total Number of containers	Special Instructions/Note
			Preservation Code:																		
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water			X	X	X	X	X	X	X	X	X	X				5	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall002_20211226_Comp_F (570-80132-3)	12/26/21	10 00 Pacific		Water													X	X	X	3	Filter w/in 24 hours, Filter within 24 hours use VOA vials from LL Hg Kit-Clean Hands

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements IR-89 1.4/14

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

Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
	12/28/21	CC			
Relinquished by:	Date/Time	Company	Received by: Olga Oinelas	Date/Time 12/28/21 1752	Company ECT
Relinquished by:	Date/Time	Company	Received by:	Date/Time.	Company

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

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-147901.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80132-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/7/2022	**Analysis Requested**		**Preservation Codes:**
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2340B/Filtration_AC Diss hardness	Total Number of containers	Special Instructions/Note.
				Preservation Code:					
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water				5	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall002_20211226_Comp_F (570-80132-3)	12/26/21	10 00 Pacific		Water			X	3	Filter w/in 24 hours, Filter within 24 hours, use VOA vials from LL Hg Kit-Clean Hands

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

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank. 2

Special Instructions/QC Requirements: IR-89 2.0/2.0

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 12/28/21	Company: GC	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by: Olga Omeles	Date/Time: 12-28/21 1752	Company: ECTF
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: | Custody Seal No

Cooler Temperature(s) °C and Other Remarks.

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 440-177693 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80132-1
Address: 7440 Lincoln Way, ,	Due Date Requested: 1/10/2022			
City: Garden Grove	TAT Requested (days):			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 002 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/ CL, SO4, F	300_ORGFMS/ Nitrate + Nitrite as N	NO2NO3_Calc_IC/ Nitrate-Nitrite as N	314.0/ Perchlorate	608.3_PCB_LL/608_Prep_PCB_LL PCBs	608.3_Pest_LL/608_Prep_LL Pesticides	625.1_SIM/625_Prep Priority pollutant list	8260B_SIM/5030C (MOD) 1,4-Dioxane only	218.6_CR3/ Trivalent Chromium	218.6_ORGFM/ Chromium, Hexavalent	SM5210B_BODCalc/ Biological Oxygen Demand - 5 Day	5540C/5540C_Prep Methylene Blue Active Substances (MBAS)	SM5310D/ Total Organic Carbon	Total Number of containers	Special Instructions/Note.
			Preservation Code:																		
Outfall002_20211226_Comp (570-80132-1)	12/26/21	10:00 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X	X	X	1	

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

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

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	1/17/22	ECT		1/17/22 1446	EC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	1/17/22 1427	EC		1-7-2022 14:27	ECI
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks
		3.1/4.6 SC 6

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80132-4

Login Number: 80132
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

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

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80230-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

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

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/19/2022 2:15:25 PM

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

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Client Sample Results 6
Surrogate Summary 8
QC Sample Results 9
QC Association Summary 12
Lab Chronicle 13
Certification Summary 14
Method Summary 15
Sample Summary 16
Chain of Custody 17
Receipt Checklists 19

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-80230-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time

Glossary

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

Job ID: 570-80230-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80230-1

Comments
No additional comments.

Receipt
The samples were received on 12/28/2021 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.1º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 2540F: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: Outfall002_20211227_Grab (570-80230-1).

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

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

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

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80230-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Client Sample ID: Outfall002_20211227_Grab
Lab Sample ID: 570-80230-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.32	J,DX	0.50	0.17	ug/L	1		624.1	Total/NA
Specific Conductance	400		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: TB-20211227
Lab Sample ID: 570-80230-3

No Detections.

This Detection Summary does not include radiochemical test results.

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

Client Sample ID: Outfall002_20211227_Grab **Lab Sample ID: 570-80230-1**
Date Collected: 12/27/21 13:20 **Matrix: Water**
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/07/22 00:06	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/07/22 00:06	1
Trichloroethene	**0.32**	**J,DX**	0.50	0.17	ug/L			01/07/22 00:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*60 - 140*		*01/07/22 00:06*	*1*
Dibromofluoromethane (Surr)	*110*		*60 - 140*		*01/07/22 00:06*	*1*
Toluene-d8 (Surr)	*107*		*60 - 140*		*01/07/22 00:06*	*1*

Client Sample ID: TB-20211227 **Lab Sample ID: 570-80230-3**
Date Collected: 12/27/21 13:20 **Matrix: Water**
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/07/22 00:35	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/07/22 00:35	1
Trichloroethene	ND		0.50	0.17	ug/L			01/07/22 00:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*60 - 140*		*01/07/22 00:35*	*1*
Dibromofluoromethane (Surr)	*107*		*60 - 140*		*01/07/22 00:35*	*1*
Toluene-d8 (Surr)	*109*		*60 - 140*		*01/07/22 00:35*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80230-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

General Chemistry

Client Sample ID: Outfall002_20211227_Grab
Lab Sample ID: 570-80230-1
Date Collected: 12/27/21 13:20
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.1	0.57	mg/L		01/05/22 09:11	01/05/22 09:11	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	**400**		1.0	1.0	umhos/cm			01/04/22 11:54	1
Settleable Solids	ND	BU	0.10	0.10	mL/L/Hr			01/18/22 13:03	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80230-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

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

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(60-140)	(60-140)	(60-140)
570-80230-1	Outfall002_20211227_Grab	103	110	107
570-80230-3	TB-20211227	100	107	109
570-80528-G-1 MS	Matrix Spike	112	103	103
570-80528-I-1 MSD	Matrix Spike Duplicate	108	103	104
LCS 440-663938/1004	Lab Control Sample	109	98	99
MB 440-663938/6	Method Blank	100	107	111

Surrogate Legend

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

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

Lab Sample ID: MB 440-663938/6
Matrix: Water
Analysis Batch: 663938

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/06/22 19:47	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/06/22 19:47	1
Trichloroethene	ND		0.50	0.17	ug/L			01/06/22 19:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*60 - 140*		*01/06/22 19:47*	*1*
Dibromofluoromethane (Surr)	*107*		*60 - 140*		*01/06/22 19:47*	*1*
Toluene-d8 (Surr)	*111*		*60 - 140*		*01/06/22 19:47*	*1*

Lab Sample ID: LCS 440-663938/1004
Matrix: Water
Analysis Batch: 663938

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,1-Dichloroethene			25.0	27.4		ug/L		109	19 - 212		
1,2-Dichloroethane			25.0	27.1		ug/L		108	72 - 137		
Trichloroethene			25.0	22.7		ug/L		91	75 - 138		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*60 - 140*
Dibromofluoromethane (Surr)	*98*		*60 - 140*
Toluene-d8 (Surr)	*99*		*60 - 140*

Lab Sample ID: 570-80528-G-1 MS
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,1-Dichloroethene	ND		25.0	29.6		ug/L		119	10 - 234		
1,2-Dichloroethane	ND		25.0	27.2		ug/L		109	49 - 155		
Trichloroethene	ND		25.0	23.5		ug/L		94	70 - 157		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*60 - 140*
Dibromofluoromethane (Surr)	*103*		*60 - 140*
Toluene-d8 (Surr)	*103*		*60 - 140*

Lab Sample ID: 570-80528-I-1 MSD
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	ND		25.0	30.4		ug/L		121	10 - 234	2	32
1,2-Dichloroethane	ND		25.0	26.8		ug/L		107	49 - 155	1	49
Trichloroethene	ND		25.0	23.4		ug/L		94	70 - 157	0	48

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

Lab Sample ID: 570-80528-I-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 663938

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		60 - 140
Dibromofluoromethane (Surr)	103		60 - 140
Toluene-d8 (Surr)	104		60 - 140

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-205573/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205710 — **Prep Batch: 205573**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		01/05/22 09:11	01/05/22 09:11	1

Lab Sample ID: LCS 570-205573/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205710 — **Prep Batch: 205573**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM (Oil & Grease)	40.0	34.5		mg/L		86	78 - 114

Lab Sample ID: LCSD 570-205573/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205710 — **Prep Batch: 205573**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM (Oil & Grease)	40.0	40.2		mg/L		101	78 - 114	15	18

Lab Sample ID: 440-293778-A-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205710 — **Prep Batch: 205573**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM (Oil & Grease)	1.9		38.7	41.2		mg/L		102	78 - 114

Lab Sample ID: 440-293778-C-1-A MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205710 — **Prep Batch: 205573**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM (Oil & Grease)	1.9		37.2	39.7		mg/L		102	78 - 114	4	18

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 440-663757/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 663757

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			01/04/22 11:54	1

Method: SM 2510B - Conductivity, Specific Conductance (Continued)

Lab Sample ID: LCS 440-663757/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 663757

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Specific Conductance			687	671		umhos/cm		98	90 - 110		

Lab Sample ID: 570-80129-N-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 663757

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Specific Conductance	210			213		umhos/cm				0	5

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80230-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

GC/MS VOA

Analysis Batch: 663938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80230-1	Outfall002_20211227_Grab	Total/NA	Water	624.1	
570-80230-3	TB-20211227	Total/NA	Water	624.1	
MB 440-663938/6	Method Blank	Total/NA	Water	624.1	
LCS 440-663938/1004	Lab Control Sample	Total/NA	Water	624.1	
570-80528-G-1 MS	Matrix Spike	Total/NA	Water	624.1	
570-80528-I-1 MSD	Matrix Spike Duplicate	Total/NA	Water	624.1	

General Chemistry

Prep Batch: 205573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80230-1	Outfall002_20211227_Grab	Total/NA	Water	1664A	
MB 570-205573/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-205573/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-205573/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	
440-293778-A-1-A MS	Matrix Spike	Total/NA	Water	1664A	
440-293778-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1664A	

Analysis Batch: 205710

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80230-1	Outfall002_20211227_Grab	Total/NA	Water	1664A	205573
MB 570-205573/1-A	Method Blank	Total/NA	Water	1664A	205573
LCS 570-205573/2-A	Lab Control Sample	Total/NA	Water	1664A	205573
LCSD 570-205573/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	205573
440-293778-A-1-A MS	Matrix Spike	Total/NA	Water	1664A	205573
440-293778-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1664A	205573

Analysis Batch: 663757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80230-1	Outfall002_20211227_Grab	Total/NA	Water	SM 2510B	
MB 440-663757/3	Method Blank	Total/NA	Water	SM 2510B	
LCS 440-663757/4	Lab Control Sample	Total/NA	Water	SM 2510B	
570-80129-N-1 DU	Duplicate	Total/NA	Water	SM 2510B	

Analysis Batch: 664723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80230-1	Outfall002_20211227_Grab	Total/NA	Water	SM 2540F	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80230-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Client Sample ID: Outfall002_20211227_Grab
Lab Sample ID: 570-80230-1
Date Collected: 12/27/21 13:20
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	663938	01/07/22 00:06	N1A	IRV 2
	Instrument ID: GCMS13									
Total/NA	Prep	1664A			900 mL	1000 mL	205573	01/05/22 09:11	UWEZ	ECL 1
Total/NA	Analysis	1664A		1			205710	01/05/22 09:11	USUL	ECL 1
	Instrument ID: ICPMS05									
Total/NA	Analysis	SM 2510B		1			663757	01/04/22 11:54	VY3D	IRV 2
	Instrument ID: COND13									
Total/NA	Analysis	SM 2540F		1	1000 mL	1000 mL	664723	01/18/22 13:03	W1BQ	IRV 2
	Instrument ID: NOEQUIP									

Client Sample ID: TB-20211227
Lab Sample ID: 570-80230-3
Date Collected: 12/27/21 13:20
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	663938	01/07/22 00:35	N1A	IRV 2
	Instrument ID: GCMS13									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80230-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

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

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80230-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	IRV 2
1664A	HEM and SGT-HEM	1664A	ECL 1
SM 2510B	Conductivity, Specific Conductance	SM	IRV 2
SM 2540F	Solids, Settleable	SM	IRV 2
1664A	HEM and SGT-HEM (Aqueous)	1664A	ECL 1

Protocol References:

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80230-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 Grab

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80230-1	Outfall002_20211227_Grab	Water	12/27/21 13:20	12/28/21 18:00
570-80230-3	TB-20211227	Water	12/27/21 13:20	12/28/21 18:00

80230

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80230 Chain of Custody

WIR7RS9L

Client Name/Address.	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Routine Outfall [001, 002, 011, 018] Outfall 002 Grab
Eurofins Calscience Irvine Contact. Virendra Patel **ECI# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Mark Dominick	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Field Readings | Meter serial #

Field Readings: (Include units)
Time of Readings: 1320
DO 9.09 mg/L
pH 6.83 pH unit
Temp 48.8 °C/°F

Field readings QC
Checked by: [signature]
Date/Time: 12-27-2021 / 1320

ANALYSIS REQUIRED (R = Routine for each listed analysis)

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
									R	R	R	R	
Outfall 002	Outfall002_20211227_Grab / 1320	12/27/2021	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_20211227_Grab_Extra / 1320	12/27/2021	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-20211227 / 1320	12/27/2021	WQ	40 mL VOA	3	HCl	30	No		X			

Legend: R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12-28-2021 / 1445	H&A	[signature]	ECI 12/28/21 1445
[signature]	12/28/21	1800	[signature]	12/28/21 1800

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

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

2.2/3.1 SCS

2019-2020 Rainy Season
Version 4

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148135 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80230-1
Address: 2841 Dow Avenue,	Due Date Requested: 1/10/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2540F/ Solids, Settleable	624.1_LL/624_Prep 624.1_LL-12DCA, 11DCE, TCE	2510B	SM2540F/ Solids, Settleable (Hold)	624.1_LL/624_Prep 624.1_LL-12DCA, 11DCE, TCE (Hold)	2510B (Hold)	Total Number of containers	Special Instructions/Note.
Preservation Code:														
Outfall_20211227_Grab (570-80230-1)	12/27/21	13 20 Pacific		Water			X	X	X				5	
Outfall_20211227_Grab_Extra (570-80230-2)	12/27/21	13 20 Pacific		Water						X	X	X	4	
TB-20211227 (570-80230-3)	12/27/21	13 20 Pacific		Water				X					3	

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements. 1.8/1.8 TR-89

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/29/21 15:52	ECL			
2		Date/Time	Company	Received by: Olga Pinelas	Date/Time: 12/29/21 1552	Company: EET
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

1/19/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80230-1

Login Number: 80230
List Number: 1
Creator: Patel, Jayesh

List Source: Eurofins Calscience

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

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80230-1

Login Number: 80230
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 12/29/21 04:27 PM

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

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80241-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP
Revision: 1

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

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/7/2022 12:43:36 PM

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

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 5
Detection Summary 7
Client Sample Results 8
Surrogate Summary 21
QC Sample Results 22
QC Association Summary 35
Lab Chronicle 41
Certification Summary 43
Method Summary 44
Sample Summary 45
Chain of Custody 46
Receipt Checklists 51

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

GC Semi VOA

Qualifier	Qualifier Description
BA	Relative percent difference out of control
PI	Primary and confirm results varied by > than 40% RPD

HPLC/IC

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
EY	Result exceeds normal dynamic range; reported as a min. est.

Metals

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank

General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

Glossary

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

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80241-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80241-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 1/24/2022. The report (revision 1) is being revised due to: The project name has been revised to match the COC, deliverables updated and re-issued..

Receipt
The samples were received on 12/28/2021 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.9º C and 3.2º C.

Receipt Exceptions

The following sample(s) was listed on the Chain-of-Custody (COC); however, due to a shipping delay, the sample was not received. Only 1 of 2 coolers were received. Missing 7756 2990 7127

The AWB and Copy ICOCs were taped on top of coolers. Cooler 2/2 - 7756 2990 7127 AWB was rolled up an attached to the back of Cooler 1/2. So the 2/2 Cooler has no Identification on the outside. So hoping it is not lost.

1. Received the 1 Liter Amber 1-N
Missing The 1-L bottle

The following samples were received at the laboratory outside the required temperature criteria at 11.9C Outfall002_20211228_Comp (570-80241-1), Outfall002_20211228_Comp_Extra (570-80241-2) and Outfall002_20211228_Comp_F (570-80241-3). The second cooler was received on 1/5/22. There were no tags on the cooler because they were attached to the first cooler.

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
Method 608.3: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 570-204501 and analytical batch 570-204998 recovered outside control limits for the following analytes: alpha-BHC
Laboratory control sample / laboratory control sample duplicate (LCS/LCSD) percent recovery is in control for affected analytes.

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

Metals
Method 245.1: The calibration plot for analytical batch 440-664158 can not be provided due to instrument software limitations. The calibration plot must be printed out immediately after the calibration has been analyzed; it cannot be regenerated once a second calibration is analyzed. However, the concentration and instrument responses for the ICAL points are listed in the raw data provided and results reported are based on these data.

(MB 440-663653/1-B)

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall002_20211228_Comp_F (570-80241-3). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with

Job ID: 570-80241-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

insufficient time to filter within the HT.

12/30/21 @ 15:08 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall002_20211228_Comp_F (570-80241-3). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with insufficient time to filter within the HT.

12/30/21 @ 14:53 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

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

General Chemistry
Method 180.1: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: Outfall002_20211228_Comp (570-80241-1).

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

Organic Prep
Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-204353. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 625.1 Sim

Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-204501. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 608.3 LL 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.
Job ID: 570-80241-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Client Sample ID: Outfall002_20211228_Comp
Lab Sample ID: 570-80241-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pentachlorophenol	0.51	J,DX	1.0	0.11	ug/L	1		625.1 SIM	Total/NA
Chloride	7.1		1.0	0.36	mg/L	1		300.0	Total/NA
Nitrate as N	2.9		0.10	0.024	mg/L	1		300.0	Total/NA
Sulfate - DL	140		2.0	0.47	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	2.9		0.20	0.071	mg/L	1		NO2NO3 Calc	Total/NA
Copper	1.6	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Turbidity	1.7	BU	0.10	0.05	NTU	1		180.1	Total/NA
Total Dissolved Solids	270		10	3.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	1.7		1.0	0.50	mg/L	1		SM 2540D	Total/NA
Biochemical Oxygen Demand	11		5.0	2.9	mg/L	1		SM5210B	Total/NA

Client Sample ID: Outfall002_20211228_Comp_F
Lab Sample ID: 570-80241-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	1.7	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.14	J,DX MB	0.20	0.10	ug/L	1		245.1	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

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

Client Sample ID: Outfall002_20211228_Comp
Lab Sample ID: 570-80241-1
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.070	ug/L		12/29/21 09:01	12/30/21 17:14	1
2,4-Dinitrotoluene	ND		0.21	0.11	ug/L		12/29/21 09:01	12/30/21 17:14	1
Bis(2-ethylhexyl) phthalate	ND		5.2	1.9	ug/L		12/29/21 09:01	12/30/21 17:14	1
N-Nitrosodimethylamine	ND		0.21	0.15	ug/L		12/29/21 09:01	12/30/21 17:14	1
Pentachlorophenol	**0.51**	**J,DX**	1.0	0.11	ug/L		12/29/21 09:01	12/30/21 17:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*55*		*31 - 120*	*12/29/21 09:01*	*12/30/21 17:14*	*1*
Phenol-d6 (Surr)	*30*		*10 - 120*	*12/29/21 09:01*	*12/30/21 17:14*	*1*
p-Terphenyl-d14 (Surr)	*55*		*45 - 120*	*12/29/21 09:01*	*12/30/21 17:14*	*1*
2,4,6-Tribromophenol	*79*		*28 - 127*	*12/29/21 09:01*	*12/30/21 17:14*	*1*
2-Fluorophenol	*46*		*17 - 120*	*12/29/21 09:01*	*12/30/21 17:14*	*1*
Nitrobenzene-d5	*62*		*27 - 120*	*12/29/21 09:01*	*12/30/21 17:14*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method: 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall002_20211228_Comp
Lab Sample ID: 570-80241-1
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND	BA	0.0013	0.00080	ug/L		12/29/21 14:37	01/03/22 18:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*29*		*20 - 139*	*12/29/21 14:37*	*01/03/22 18:00*	*1*
DCB Decachlorobiphenyl (Surr)	*74*	*PI*	*20 - 154*	*12/29/21 14:37*	*01/03/22 18:00*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall002_20211228_Comp
Lab Sample ID: 570-80241-1
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.1**		1.0	0.36	mg/L			12/29/21 15:39	1
Nitrite as N	ND		0.10	0.018	mg/L			12/29/21 15:39	1
Nitrate as N	**2.9**		0.10	0.024	mg/L			12/29/21 15:39	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method: 300.0 - Anions, Ion Chromatography - DL

Client Sample ID: Outfall002_20211228_Comp
Lab Sample ID: 570-80241-1
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	140		2.0	0.47	mg/L			01/05/22 15:08	2

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method: 314.0 - Perchlorate (IC)

Client Sample ID: Outfall002_20211228_Comp
Lab Sample ID: 570-80241-1
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/03/22 15:46	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method: NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall002_20211228_Comp
Lab Sample ID: 570-80241-1
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	2.9		0.20	0.071	mg/L			01/03/22 16:37	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: Outfall002_20211228_Comp
Lab Sample ID: 570-80241-1
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/15/22 08:34	01/17/22 14:35	1
Iron	ND		100	50	ug/L		01/15/22 08:34	01/17/22 14:35	1
Manganese	ND		20	6.8	ug/L		01/15/22 08:34	01/17/22 14:35	1
Zinc	ND		20	12	ug/L		01/15/22 08:34	01/17/22 14:35	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: Outfall002_20211228_Comp_F
Lab Sample ID: 570-80241-3
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/05/22 07:23	01/05/22 14:14	1
Iron	ND		100	50	ug/L		01/05/22 07:23	01/05/22 14:14	1
Manganese	ND		20	6.8	ug/L		01/05/22 07:23	01/05/22 14:14	1
Zinc	ND		20	12	ug/L		01/05/22 07:23	01/05/22 14:14	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

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

Client Sample ID: Outfall002_20211228_Comp
Lab Sample ID: 570-80241-1
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/15/22 06:32	01/17/22 12:59	1
Copper	**1.6**	**J,DX**	2.0	0.50	ug/L		01/15/22 06:32	01/17/22 12:59	1
Lead	ND		1.0	0.50	ug/L		01/15/22 06:32	01/17/22 12:59	1
Selenium	ND		2.0	0.50	ug/L		01/15/22 06:32	01/17/22 12:59	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

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

Client Sample ID: Outfall002_20211228_Comp_F
Lab Sample ID: 570-80241-3
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/05/22 07:24	01/05/22 13:22	1
Copper	**1.7**	**J,DX**	2.0	0.50	ug/L		01/05/22 07:24	01/05/22 13:22	1
Lead	ND		1.0	0.50	ug/L		01/05/22 07:24	01/05/22 13:22	1
Selenium	ND		2.0	0.50	ug/L		01/05/22 07:24	01/05/22 13:22	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method: 245.1 - Mercury (CVAA)

Client Sample ID: Outfall002_20211228_Comp
Lab Sample ID: 570-80241-1
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/19/22 15:04	01/20/22 18:58	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall002_20211228_Comp_F
Lab Sample ID: 570-80241-3
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.14	J,DX MB	0.20	0.10	ug/L		01/10/22 10:15	01/10/22 16:00	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

General Chemistry

Client Sample ID: Outfall002_20211228_Comp
Lab Sample ID: 570-80241-1
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	**1.7**	**BU**	0.10	0.05	NTU			01/19/22 18:30	1
Total Dissolved Solids	**270**		10	3.0	mg/L			12/30/21 09:00	1
Total Suspended Solids	**1.7**		1.0	0.50	mg/L			12/29/21 17:58	1
Cyanide, Total	ND		0.0030	0.0014	mg/L		12/29/21 13:00	12/30/21 15:28	1
Ammonia (as N)	ND		0.200	0.100	mg/L			01/07/22 13:07	1
MBAS	ND		0.30	0.15	mg/L		12/29/21 10:00	12/29/21 12:11	1
Biochemical Oxygen Demand	**11**		5.0	2.9	mg/L			12/30/21 10:51	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

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

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	PHL6	TPHd14	TBP	2FP	NBZ
Lab Sample ID	Client Sample ID	(31-120)	(10-120)	(45-120)	(28-127)	(17-120)	(27-120)
570-80241-1	Outfall002_20211228_Comp	55	30	55	79	46	62
LCS 570-204353/2-A	Lab Control Sample	62	34	77	88	53	64
LCSD 570-204353/3-A	Lab Control Sample Dup	57	30	68	80	45	58
MB 570-204353/1-A	Method Blank	61	31	70	81	47	67

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)
570-80241-1	Outfall002_20211228_Comp	29	74 PI
LCS 570-204501/2-A	Lab Control Sample	42	50
LCSD 570-204501/3-A	Lab Control Sample Dup	57	74
MB 570-204501/1-A	Method Blank	67	70

Surrogate Legend

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

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

Lab Sample ID: MB 570-204353/1-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204353

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.067	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,4-Dinitrotoluene	ND		0.20	0.11	ug/L		12/29/21 05:48	12/30/21 12:18	1
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		12/29/21 05:48	12/30/21 12:18	1
N-Nitrosodimethylamine	ND		0.20	0.14	ug/L		12/29/21 05:48	12/30/21 12:18	1
Pentachlorophenol	ND		1.0	0.11	ug/L		12/29/21 05:48	12/30/21 12:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*61*		*31 - 120*	*12/29/21 05:48*	*12/30/21 12:18*	*1*
Phenol-d6 (Surr)	*31*		*10 - 120*	*12/29/21 05:48*	*12/30/21 12:18*	*1*
p-Terphenyl-d14 (Surr)	*70*		*45 - 120*	*12/29/21 05:48*	*12/30/21 12:18*	*1*
2,4,6-Tribromophenol	*81*		*28 - 127*	*12/29/21 05:48*	*12/30/21 12:18*	*1*
2-Fluorophenol	*47*		*17 - 120*	*12/29/21 05:48*	*12/30/21 12:18*	*1*
Nitrobenzene-d5	*67*		*27 - 120*	*12/29/21 05:48*	*12/30/21 12:18*	*1*

Lab Sample ID: LCS 570-204353/2-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204353

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,4,6-Trichlorophenol			20.0	17.0		ug/L		85	52 - 129		
2,4-Dinitrotoluene			20.0	16.1		ug/L		80	48 - 127		
Bis(2-ethylhexyl) phthalate			20.0	19.5		ug/L		98	29 - 137		
N-Nitrosodimethylamine			20.0	11.0		ug/L		55	30 - 100		
Pentachlorophenol			20.0	15.3		ug/L		77	38 - 152		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*62*		*31 - 120*
Phenol-d6 (Surr)	*34*		*10 - 120*
p-Terphenyl-d14 (Surr)	*77*		*45 - 120*
2,4,6-Tribromophenol	*88*		*28 - 127*
2-Fluorophenol	*53*		*17 - 120*
Nitrobenzene-d5	*64*		*27 - 120*

Lab Sample ID: LCSD 570-204353/3-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204353

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4,6-Trichlorophenol			20.0	15.1		ug/L		75	52 - 129	12	35
2,4-Dinitrotoluene			20.0	14.9		ug/L		75	48 - 127	8	25
Bis(2-ethylhexyl) phthalate			20.0	18.2		ug/L		91	29 - 137	7	50
N-Nitrosodimethylamine			20.0	10.5		ug/L		52	30 - 100	5	20
Pentachlorophenol			20.0	14.0		ug/L		70	38 - 152	9	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*57*		*31 - 120*
Phenol-d6 (Surr)	*30*		*10 - 120*

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

Lab Sample ID: LCSD 570-204353/3-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204353

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
p-Terphenyl-d14 (Surr)	*68*		*45 - 120*
2,4,6-Tribromophenol	*80*		*28 - 127*
2-Fluorophenol	*45*		*17 - 120*
Nitrobenzene-d5	*58*		*27 - 120*

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-204501/1-A
Matrix: Water
Analysis Batch: 204998

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204501

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.00080	ug/L		12/29/21 12:33	01/03/22 17:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*67*		*20 - 139*	*12/29/21 12:33*	*01/03/22 17:03*	*1*
DCB Decachlorobiphenyl (Surr)	*70*		*20 - 154*	*12/29/21 12:33*	*01/03/22 17:03*	*1*

Lab Sample ID: LCS 570-204501/2-A
Matrix: Water
Analysis Batch: 204998

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204501

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
alpha-BHC			0.0333	0.0150		ug/L		45	37 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*42*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*50*		*20 - 154*

Lab Sample ID: LCSD 570-204501/3-A
Matrix: Water
Analysis Batch: 204998

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204501

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
alpha-BHC			0.0333	0.0218	BA	ug/L		65	37 - 140	37	36

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*57*		*20 - 139*
DCB Decachlorobiphenyl (Surr)	*74*		*20 - 154*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-204377/5
Matrix: Water
Analysis Batch: 204377

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			12/29/21 10:15	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 570-204377/6
Matrix: Water
Analysis Batch: 204377

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			50.0	47.4		mg/L		95	90 - 110		
Fluoride			2.50	2.64		mg/L		106	90 - 110		

Lab Sample ID: LCSD 570-204377/7
Matrix: Water
Analysis Batch: 204377

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			50.0	47.8		mg/L		96	90 - 110	1	15
Fluoride			2.50	2.63		mg/L		105	90 - 110	0	15

Lab Sample ID: 570-80249-F-7 MS
Matrix: Water
Analysis Batch: 204377

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	270	EY	50.0	317	EY BB	mg/L		99	80 - 120		
Fluoride	1.2		2.50	3.85		mg/L		106	80 - 120		

Lab Sample ID: 570-80249-F-7 MSD
Matrix: Water
Analysis Batch: 204377

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	270	EY	50.0	317	EY BB	mg/L		99	80 - 120	0	20
Fluoride	1.2		2.50	3.92		mg/L		109	80 - 120	2	20

Lab Sample ID: MB 570-204378/5
Matrix: Water
Analysis Batch: 204378

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			12/29/21 10:15	1
Nitrate as N	ND		0.10	0.024	mg/L			12/29/21 10:15	1

Lab Sample ID: LCS 570-204378/6
Matrix: Water
Analysis Batch: 204378

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N			2.50	2.41		mg/L		96	90 - 110		
Nitrate as N			5.00	4.91		mg/L		98	90 - 110		

Lab Sample ID: LCSD 570-204378/7
Matrix: Water
Analysis Batch: 204378

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	2.43		mg/L		97	90 - 110	1	15
Nitrate as N			5.00	4.93		mg/L		99	90 - 110	0	15

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 570-80249-F-7 MS
Matrix: Water
Analysis Batch: 204378

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N	ND		2.50	2.60		mg/L		104	80 - 120		
Nitrate as N	7.9		5.00	13.5	EY	mg/L		113	80 - 120		

Lab Sample ID: 570-80249-F-7 MSD
Matrix: Water
Analysis Batch: 204378

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	ND		2.50	2.65		mg/L		106	80 - 120	2	20
Nitrate as N	7.9		5.00	13.6	EY	mg/L		114	80 - 120	0	20

Lab Sample ID: MB 570-205575/5
Matrix: Water
Analysis Batch: 205575

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.24	mg/L			01/05/22 10:36	1

Lab Sample ID: LCS 570-205575/6
Matrix: Water
Analysis Batch: 205575

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	51.2		mg/L		102	90 - 110

Lab Sample ID: LCSD 570-205575/7
Matrix: Water
Analysis Batch: 205575

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	50.3		mg/L		101	90 - 110	2	15

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 570-80249-F-7 MS
Matrix: Water
Analysis Batch: 205575

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate - DL	530		50.0	585	BB	mg/L		104	80 - 120		

Lab Sample ID: 570-80249-F-7 MSD
Matrix: Water
Analysis Batch: 205575

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate - DL	530		50.0	583	BB	mg/L		100	80 - 120	0	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-205091/6
Matrix: Water
Analysis Batch: 205091

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/03/22 13:07	1

Lab Sample ID: LCS 570-205091/7
Matrix: Water
Analysis Batch: 205091

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	24.3		ug/L		97	85 - 115

Lab Sample ID: LCSD 570-205091/8
Matrix: Water
Analysis Batch: 205091

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	23.6		ug/L		94	85 - 115	3	15

Lab Sample ID: 570-80231-E-1 MS
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	ND		50.0	52.0		ug/L		104	80 - 120

Lab Sample ID: 570-80231-E-1 MSD
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		50.0	51.9		ug/L		104	80 - 120	0	15

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-664534/1-A
Matrix: Water
Analysis Batch: 664616

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664534

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/15/22 08:34	01/17/22 14:08	1
Iron	ND		100	50	ug/L		01/15/22 08:34	01/17/22 14:08	1
Manganese	ND		20	6.8	ug/L		01/15/22 08:34	01/17/22 14:08	1
Zinc	ND		20	12	ug/L		01/15/22 08:34	01/17/22 14:08	1

Lab Sample ID: LCS 440-664534/2-A
Matrix: Water
Analysis Batch: 664616

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664534

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	526		ug/L		105	85 - 115
Iron	500	533		ug/L		107	85 - 115
Manganese	500	516		ug/L		103	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-664534/2-A
Matrix: Water
Analysis Batch: 664616

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664534

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Zinc	500	539		ug/L		108	85 - 115

Lab Sample ID: 570-80231-F-1-C MS
Matrix: Water
Analysis Batch: 664616

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664534

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		500	524		ug/L		105	70 - 130
Iron	ND		500	500		ug/L		100	70 - 130
Manganese	15	J,DX	500	522		ug/L		101	70 - 130
Zinc	ND		500	547		ug/L		109	70 - 130

Lab Sample ID: 570-80231-F-1-D MSD
Matrix: Water
Analysis Batch: 664616

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664534

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	541		ug/L		108	70 - 130	3	20
Iron	ND		500	523		ug/L		105	70 - 130	4	20
Manganese	15	J,DX	500	533		ug/L		104	70 - 130	2	20
Zinc	ND		500	552		ug/L		110	70 - 130	1	20

Lab Sample ID: MB 440-663655/1-B
Matrix: Water
Analysis Batch: 663840

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663671

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/05/22 07:23	01/05/22 14:09	1
Iron	ND		100	50	ug/L		01/05/22 07:23	01/05/22 14:09	1
Manganese	ND		20	6.8	ug/L		01/05/22 07:23	01/05/22 14:09	1
Zinc	ND		20	12	ug/L		01/05/22 07:23	01/05/22 14:09	1

Lab Sample ID: LCS 440-663655/2-B
Matrix: Water
Analysis Batch: 663840

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663671

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	490		ug/L		98	85 - 115
Iron	500	502		ug/L		100	85 - 115
Manganese	500	484		ug/L		97	85 - 115
Zinc	500	480		ug/L		96	85 - 115

Lab Sample ID: 570-80241-3 MS
Matrix: Water
Analysis Batch: 663840

Client Sample ID: Outfall002_20211228_Comp_F
Prep Type: Dissolved
Prep Batch: 663671

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		500	497		ug/L		99	70 - 130
Iron	ND		500	507		ug/L		101	70 - 130
Manganese	ND		500	479		ug/L		96	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 570-80241-3 MS — **Client Sample ID: Outfall002_20211228_Comp_F**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 663840 — **Prep Batch: 663671**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Zinc	ND		500	490		ug/L		98	70 - 130

Lab Sample ID: 570-80241-3 MSD — **Client Sample ID: Outfall002_20211228_Comp_F**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 663840 — **Prep Batch: 663671**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	512		ug/L		102	70 - 130	3	20
Iron	ND		500	504		ug/L		101	70 - 130	1	20
Manganese	ND		500	483		ug/L		97	70 - 130	1	20
Zinc	ND		500	492		ug/L		98	70 - 130	0	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-664528/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 664594 — **Prep Batch: 664528**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/15/22 06:32	01/17/22 11:37	1
Copper	ND		2.0	0.50	ug/L		01/15/22 06:32	01/17/22 11:37	1
Lead	ND		1.0	0.50	ug/L		01/15/22 06:32	01/17/22 11:37	1
Selenium	ND		2.0	0.50	ug/L		01/15/22 06:32	01/17/22 11:37	1

Lab Sample ID: LCS 440-664528/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 664594 — **Prep Batch: 664528**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	81.4		ug/L		102	85 - 115
Copper	80.0	81.9		ug/L		102	85 - 115
Lead	80.0	84.5		ug/L		106	85 - 115
Selenium	80.0	84.2		ug/L		105	85 - 115

Lab Sample ID: 570-80421-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 664610 — **Prep Batch: 664528**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	81.3		ug/L		102	70 - 130
Copper	3.0		80.0	84.7		ug/L		102	70 - 130
Lead	2.2		80.0	83.9		ug/L		102	70 - 130
Selenium	ND		80.0	79.9		ug/L		100	70 - 130

Lab Sample ID: 570-80421-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 664610 — **Prep Batch: 664528**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	87.9		ug/L		110	70 - 130	8	20

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

Lab Sample ID: 570-80421-A-1-E MSD
Matrix: Water
Analysis Batch: 664610

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664528

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Copper	3.0		80.0	92.0		ug/L		111	70 - 130	8	20
Lead	2.2		80.0	90.9		ug/L		111	70 - 130	8	20
Selenium	ND		80.0	83.4		ug/L		104	70 - 130	4	20

Lab Sample ID: MB 440-663655/1-C
Matrix: Water
Analysis Batch: 663841

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663672

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/05/22 07:24	01/05/22 13:12	1
Copper	ND		2.0	0.50	ug/L		01/05/22 07:24	01/05/22 13:12	1
Lead	ND		1.0	0.50	ug/L		01/05/22 07:24	01/05/22 13:12	1
Selenium	ND		2.0	0.50	ug/L		01/05/22 07:24	01/05/22 13:12	1

Lab Sample ID: LCS 440-663655/2-C
Matrix: Water
Analysis Batch: 663841

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663672

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	79.5		ug/L		99	85 - 115
Copper	80.0	78.8		ug/L		98	85 - 115
Lead	80.0	79.3		ug/L		99	85 - 115
Selenium	80.0	77.3		ug/L		97	85 - 115

Lab Sample ID: 570-80231-C-3-D MS
Matrix: Water
Analysis Batch: 663841

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663672

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	78.3		ug/L		98	70 - 130
Copper	1.6	J,DX	80.0	81.6		ug/L		100	70 - 130
Lead	ND		80.0	78.6		ug/L		98	70 - 130
Selenium	ND		80.0	76.9		ug/L		96	70 - 130

Lab Sample ID: 570-80231-C-3-E MSD
Matrix: Water
Analysis Batch: 663841

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663672

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	81.6		ug/L		102	70 - 130	4	20
Copper	1.6	J,DX	80.0	83.6		ug/L		103	70 - 130	2	20
Lead	ND		80.0	81.6		ug/L		102	70 - 130	4	20
Selenium	ND		80.0	79.5		ug/L		99	70 - 130	3	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-208325/1-A
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208325

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/19/22 15:04	01/20/22 18:41	1

Lab Sample ID: LCS 570-208325/2-A
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208325

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	9.44		ug/L		94	85 - 115

Lab Sample ID: LCSD 570-208325/3-A
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208325

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	10.0	9.47		ug/L		95	85 - 115	0	10

Lab Sample ID: 570-80051-D-2-F MS
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 208325

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		10.0	9.27		ug/L		93	70 - 130

Lab Sample ID: 570-80051-D-2-G MSD
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 208325

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	9.37		ug/L		94	70 - 130	1	10

Lab Sample ID: MB 440-663653/1-B
Matrix: Water
Analysis Batch: 664158

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 664071

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.127	J,DX	0.20	0.10	ug/L		01/10/22 10:15	01/10/22 15:50	1

Lab Sample ID: LCS 440-663653/2-B
Matrix: Water
Analysis Batch: 664158

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 664071

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.00	5.49		ug/L		91	85 - 115

Lab Sample ID: LCSD 440-663653/3-B
Matrix: Water
Analysis Batch: 664158

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 664071

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	6.00	5.57		ug/L		93	85 - 115	2	20

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 440-664889/6
Matrix: Water
Analysis Batch: 664889

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	ND		0.10	0.05	NTU			01/19/22 18:28	1

Lab Sample ID: MRL 440-664889/5
Matrix: Water
Analysis Batch: 664889

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Turbidity			0.100	0.10		NTU		90	50 - 150		

Lab Sample ID: 570-80231-I-1 DU
Matrix: Water
Analysis Batch: 664889

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Turbidity	0.40			0.35		NTU				10	20

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

Lab Sample ID: MB 440-663556/1
Matrix: Water
Analysis Batch: 663556

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	3.0	mg/L			12/30/21 09:00	1

Lab Sample ID: LCS 440-663556/2
Matrix: Water
Analysis Batch: 663556

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	998		mg/L		100	90 - 110		

Lab Sample ID: 570-80241-1 DU
Matrix: Water
Analysis Batch: 663556

Client Sample ID: Outfall002_20211228_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	270			272		mg/L				0.4	5

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

Lab Sample ID: MB 440-663595/1
Matrix: Water
Analysis Batch: 663595

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			12/29/21 17:06	1

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

Lab Sample ID: LCS 440-663595/2
Matrix: Water
Analysis Batch: 663595

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			1000	1140		mg/L		114	85 - 115		

Lab Sample ID: 440-293633-B-2 DU
Matrix: Water
Analysis Batch: 663595

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	31			33.0		mg/L				5	5

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 570-204823/1-A
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204823

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0030	0.0014	mg/L		12/29/21 13:00	12/30/21 15:07	1

Lab Sample ID: LCS 570-204823/2-A
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204823

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			0.0100	0.0104		mg/L		104	80 - 120		

Lab Sample ID: LCSD 570-204823/3-A
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204823

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total			0.0100	0.0111		mg/L		111	80 - 120	7	20

Lab Sample ID: 570-79831-I-1-A MS
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 204823

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total	ND		0.0100	0.0119	LM	mg/L		119	74 - 115		

Lab Sample ID: 570-79831-I-1-B MSD
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 204823

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		0.0100	0.0110		mg/L		110	74 - 115	8	20

Method: SM 4500 NH3 G - Ammonia

Lab Sample ID: MB 440-664022/10
Matrix: Water
Analysis Batch: 664022

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.200	0.100	mg/L			01/07/22 11:11	1

Lab Sample ID: LCS 440-664022/11
Matrix: Water
Analysis Batch: 664022

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia (as N)			5.00	5.370		mg/L		107	90 - 110		

Lab Sample ID: MRL 440-664022/9
Matrix: Water
Analysis Batch: 664022

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia (as N)			0.200	0.1950	J,DX	mg/L		98	50 - 150		

Lab Sample ID: 570-80545-H-1 MS
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia (as N)	0.845		5.00	5.760		mg/L		98	90 - 110		

Lab Sample ID: 570-80545-H-1 MSD
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.845		5.00	5.710		mg/L		97	90 - 110	1	15

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

Lab Sample ID: MB 570-133163/5-A
Matrix: Water
Analysis Batch: 204897

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 133163

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.30	0.15	mg/L		12/29/21 10:00	12/29/21 12:06	1

Lab Sample ID: LCS 570-133163/6-A
Matrix: Water
Analysis Batch: 204897

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 133163

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
MBAS			1.00	1.05		mg/L		105	85 - 111		

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

Lab Sample ID: LCSD 570-133163/7-A
Matrix: Water
Analysis Batch: 204897

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 133163

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MBAS			1.00	1.03		mg/L		103	85 - 111	2	7

Lab Sample ID: 570-80241-1 MS
Matrix: Water
Analysis Batch: 204897

Client Sample ID: Outfall002_20211228_Comp
Prep Type: Total/NA
Prep Batch: 133163

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
MBAS	ND		1.00	1.17		mg/L		117	75 - 125		

Lab Sample ID: 570-80241-1 MSD
Matrix: Water
Analysis Batch: 204897

Client Sample ID: Outfall002_20211228_Comp
Prep Type: Total/NA
Prep Batch: 133163

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MBAS	ND		1.00	1.17		mg/L		117	75 - 125	0	12

Method: SM5210B - BOD, 5 Day

Lab Sample ID: SCB 570-204680/2
Matrix: Water
Analysis Batch: 204680

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

Analyte	SCB Result	SCB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	1.59		0.83	0.49	mg/L			12/30/21 10:51	1

Lab Sample ID: USB 570-204680/1
Matrix: Water
Analysis Batch: 204680

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		0.83	0.49	mg/L			12/30/21 10:51	1

Lab Sample ID: LCS 570-204680/3
Matrix: Water
Analysis Batch: 204680

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Biochemical Oxygen Demand			198	197		mg/L		100	84.6 - 115.4		

Lab Sample ID: 570-80276-A-1 DU
Matrix: Water
Analysis Batch: 204680

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Biochemical Oxygen Demand	3100			3230		mg/L				3	25

GC/MS Semi VOA

Prep Batch: 204353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	625	
MB 570-204353/1-A	Method Blank	Total/NA	Water	625	
LCS 570-204353/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-204353/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 204757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	625.1 SIM	204353
MB 570-204353/1-A	Method Blank	Total/NA	Water	625.1 SIM	204353
LCS 570-204353/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	204353
LCSD 570-204353/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	204353

GC Semi VOA

Prep Batch: 204501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	608	
MB 570-204501/1-A	Method Blank	Total/NA	Water	608	
LCS 570-204501/2-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-204501/3-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 204998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	608.3	204501
MB 570-204501/1-A	Method Blank	Total/NA	Water	608.3	204501
LCS 570-204501/2-A	Lab Control Sample	Total/NA	Water	608.3	204501
LCSD 570-204501/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	204501

HPLC/IC

Analysis Batch: 204377

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	300.0	
MB 570-204377/5	Method Blank	Total/NA	Water	300.0	
LCS 570-204377/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-204377/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80249-F-7 MS	Matrix Spike	Total/NA	Water	300.0	
570-80249-F-7 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 204378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	300.0	
MB 570-204378/5	Method Blank	Total/NA	Water	300.0	
LCS 570-204378/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-204378/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80249-F-7 MS	Matrix Spike	Total/NA	Water	300.0	
570-80249-F-7 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 205091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	314.0	
MB 570-205091/6	Method Blank	Total/NA	Water	314.0	

HPLC/IC (Continued)

Analysis Batch: 205091 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-205091/7	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-205091/8	Lab Control Sample Dup	Total/NA	Water	314.0	
570-80231-E-1 MS	Matrix Spike	Total/NA	Water	314.0	
570-80231-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	

Analysis Batch: 205168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	NO2NO3 Calc	

Analysis Batch: 205575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1 - DL	Outfall002_20211228_Comp	Total/NA	Water	300.0	
MB 570-205575/5	Method Blank	Total/NA	Water	300.0	
LCS 570-205575/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-205575/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80249-F-7 MS - DL	Matrix Spike	Total/NA	Water	300.0	
570-80249-F-7 MSD - DL	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 208325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	245.1	
MB 570-208325/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-208325/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-208325/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-80051-D-2-F MS	Matrix Spike	Total/NA	Water	245.1	
570-80051-D-2-G MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 208671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	245.1	208325
MB 570-208325/1-A	Method Blank	Total/NA	Water	245.1	208325
LCS 570-208325/2-A	Lab Control Sample	Total/NA	Water	245.1	208325
LCSD 570-208325/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	208325
570-80051-D-2-F MS	Matrix Spike	Total/NA	Water	245.1	208325
570-80051-D-2-G MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	208325

Filtration Batch: 663653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-3	Outfall002_20211228_Comp_F	Dissolved	Water	FILTRATION	
MB 440-663653/1-B	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663653/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCSD 440-663653/3-B	Lab Control Sample Dup	Dissolved	Water	FILTRATION	

Filtration Batch: 663655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-3	Outfall002_20211228_Comp_F	Dissolved	Water	FILTRATION	
MB 440-663655/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-663655/1-C	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663655/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	

Metals (Continued)

Filtration Batch: 663655 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-663655/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
570-80231-C-3-D MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80231-C-3-E MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
570-80241-3 MS	Outfall002_20211228_Comp_F	Dissolved	Water	FILTRATION	
570-80241-3 MSD	Outfall002_20211228_Comp_F	Dissolved	Water	FILTRATION	

Prep Batch: 663671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-3	Outfall002_20211228_Comp_F	Dissolved	Water	200.2	663655
MB 440-663655/1-B	Method Blank	Dissolved	Water	200.2	663655
LCS 440-663655/2-B	Lab Control Sample	Dissolved	Water	200.2	663655
570-80241-3 MS	Outfall002_20211228_Comp_F	Dissolved	Water	200.2	663655
570-80241-3 MSD	Outfall002_20211228_Comp_F	Dissolved	Water	200.2	663655

Prep Batch: 663672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-3	Outfall002_20211228_Comp_F	Dissolved	Water	200.2	663655
MB 440-663655/1-C	Method Blank	Dissolved	Water	200.2	663655
LCS 440-663655/2-C	Lab Control Sample	Dissolved	Water	200.2	663655
570-80231-C-3-D MS	Matrix Spike	Dissolved	Water	200.2	663655
570-80231-C-3-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663655

Analysis Batch: 663840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-3	Outfall002_20211228_Comp_F	Dissolved	Water	200.7 Rev 4.4	663671
MB 440-663655/1-B	Method Blank	Dissolved	Water	200.7 Rev 4.4	663671
LCS 440-663655/2-B	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	663671
570-80241-3 MS	Outfall002_20211228_Comp_F	Dissolved	Water	200.7 Rev 4.4	663671
570-80241-3 MSD	Outfall002_20211228_Comp_F	Dissolved	Water	200.7 Rev 4.4	663671

Analysis Batch: 663841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-3	Outfall002_20211228_Comp_F	Dissolved	Water	200.8	663672
MB 440-663655/1-C	Method Blank	Dissolved	Water	200.8	663672
LCS 440-663655/2-C	Lab Control Sample	Dissolved	Water	200.8	663672
570-80231-C-3-D MS	Matrix Spike	Dissolved	Water	200.8	663672
570-80231-C-3-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	663672

Prep Batch: 664071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-3	Outfall002_20211228_Comp_F	Dissolved	Water	245.1	663653
MB 440-663653/1-B	Method Blank	Dissolved	Water	245.1	663653
LCS 440-663653/2-B	Lab Control Sample	Dissolved	Water	245.1	663653
LCSD 440-663653/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	663653

Analysis Batch: 664158

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-3	Outfall002_20211228_Comp_F	Dissolved	Water	245.1	664071
MB 440-663653/1-B	Method Blank	Dissolved	Water	245.1	664071
LCS 440-663653/2-B	Lab Control Sample	Dissolved	Water	245.1	664071
LCSD 440-663653/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	664071

Metals

Prep Batch: 664528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total Recoverable	Water	200.2	
MB 440-664528/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664528/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80421-A-1-D MS	Matrix Spike	Total Recoverable	Water	200.2	
570-80421-A-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Prep Batch: 664534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total Recoverable	Water	200.2	
MB 440-664534/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664534/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80231-F-1-C MS	Matrix Spike	Total Recoverable	Water	200.2	
570-80231-F-1-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 664594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-664528/1-A	Method Blank	Total Recoverable	Water	200.8	664528
LCS 440-664528/2-A	Lab Control Sample	Total Recoverable	Water	200.8	664528

Analysis Batch: 664610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total Recoverable	Water	200.8	664528
570-80421-A-1-D MS	Matrix Spike	Total Recoverable	Water	200.8	664528
570-80421-A-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	664528

Analysis Batch: 664616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total Recoverable	Water	200.7 Rev 4.4	664534
MB 440-664534/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	664534
LCS 440-664534/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	664534
570-80231-F-1-C MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	664534
570-80231-F-1-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	664534

General Chemistry

Prep Batch: 133163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	SM 5540C	
MB 570-133163/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-133163/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-133163/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	
570-80241-1 MS	Outfall002_20211228_Comp	Total/NA	Water	SM 5540C	
570-80241-1 MSD	Outfall002_20211228_Comp	Total/NA	Water	SM 5540C	

Analysis Batch: 204680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	SM5210B	
SCB 570-204680/2	Method Blank	Total/NA	Water	SM5210B	
USB 570-204680/1	Method Blank	Total/NA	Water	SM5210B	
LCS 570-204680/3	Lab Control Sample	Total/NA	Water	SM5210B	
570-80276-A-1 DU	Duplicate	Total/NA	Water	SM5210B	

General Chemistry

Analysis Batch: 204811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	SM 4500 CN E	204823
MB 570-204823/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	204823
LCS 570-204823/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	204823
LCSD 570-204823/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	204823
570-79831-I-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	204823
570-79831-I-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	204823

Prep Batch: 204823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	SM 4500 CN C	
MB 570-204823/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-204823/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-204823/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-79831-I-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN C	
570-79831-I-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN C	

Analysis Batch: 204897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	SM 5540C	133163
MB 570-133163/5-A	Method Blank	Total/NA	Water	SM 5540C	133163
LCS 570-133163/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	133163
LCSD 570-133163/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	133163
570-80241-1 MS	Outfall002_20211228_Comp	Total/NA	Water	SM 5540C	133163
570-80241-1 MSD	Outfall002_20211228_Comp	Total/NA	Water	SM 5540C	133163

Analysis Batch: 663556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	SM 2540C	
MB 440-663556/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-663556/2	Lab Control Sample	Total/NA	Water	SM 2540C	
570-80241-1 DU	Outfall002_20211228_Comp	Total/NA	Water	SM 2540C	

Analysis Batch: 663595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	SM 2540D	
MB 440-663595/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-663595/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-293633-B-2 DU	Duplicate	Total/NA	Water	SM 2540D	

Analysis Batch: 664022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	SM 4500 NH3 G	
MB 440-664022/10	Method Blank	Total/NA	Water	SM 4500 NH3 G	
LCS 440-664022/11	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
MRL 440-664022/9	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
570-80545-H-1 MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 G	
570-80545-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 G	

Analysis Batch: 664889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	180.1	

General Chemistry (Continued)

Analysis Batch: 664889 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-664889/6	Method Blank	Total/NA	Water	180.1	
MRL 440-664889/5	Lab Control Sample	Total/NA	Water	180.1	
570-80231-I-1 DU	Duplicate	Total/NA	Water	180.1	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Client Sample ID: Outfall002_20211228_Comp
Lab Sample ID: 570-80241-1
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			962.8 mL	2 mL	204353	12/29/21 09:01	H1SH	ECL 1
Total/NA	Analysis	625.1 SIM		1			204757	12/30/21 17:14	ULLI	ECL 1
	Instrument ID: GCMSJJJ									
Total/NA	Prep	608			1500 mL	1 mL	204501	12/29/21 14:37	H1SH	ECL 1
Total/NA	Analysis	608.3		1			204998	01/03/22 18:00	UHHN	ECL 1
	Instrument ID: GC44									
Total/NA	Analysis	300.0	DL	2			205575	01/05/22 15:08	URMH	ECL 1
	Instrument ID: IC10									
Total/NA	Analysis	300.0		1			204377	12/29/21 15:39	URMH	ECL 1
	Instrument ID: IC15									
Total/NA	Analysis	300.0		1			204378	12/29/21 15:39	URMH	ECL 1
	Instrument ID: IC15									
Total/NA	Analysis	314.0		1			205091	01/03/22 15:46	URMH	ECL 1
	Instrument ID: IC8									
Total/NA	Analysis	NO2NO3 Calc		1			205168	01/03/22 16:37	URMH	ECL 1
	Instrument ID: IC15									
Total Recoverable	Prep	200.2			25 mL	25 mL	664534	01/15/22 08:34		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664616	01/17/22 14:35	VZ0K	IRV 2
	Instrument ID: ICP10									
Total Recoverable	Prep	200.2			25 mL	25 mL	664528	01/15/22 06:32		IRV 2
Total Recoverable	Analysis	200.8		1			664610	01/17/22 12:59	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total/NA	Prep	245.1			50 mL	100 mL	208325	01/19/22 15:04	VWJ7	ECL 4
Total/NA	Analysis	245.1		1			208671	01/20/22 18:58	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Analysis	180.1		1			664889	01/19/22 18:30	W1BQ	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	663556	12/30/21 09:00	VY3D	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	663595	12/29/21 17:58	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	204823	12/29/21 13:00	UAPD	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	5 mL	5 mL	204811	12/30/21 15:28	UAPD	ECL 1
	Instrument ID: UV9									
Total/NA	Analysis	SM 4500 NH3 G		1	0.8 mL	8.0 mL	664022	01/07/22 13:07	GG0B	IRV 2
	Instrument ID: LACHAT01									
Total/NA	Prep	SM 5540C			100 mL	100 mL	133163	12/29/21 10:00	SUR5	ECL 1
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	204897	12/29/21 12:11	UAPD	ECL 1
	Instrument ID: UV9									
Total/NA	Analysis	SM5210B		1	50 mL	300 mL	204680		ZHU8	ECL 1
	Instrument ID: BOD2						(Start)	12/30/21 10:51		
							(End)	01/04/22 10:53		

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Client Sample ID: Outfall002_20211228_Comp_F
Lab Sample ID: 570-80241-3
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			200 mL	200 mL	663655	12/30/21 13:36	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663671	01/05/22 07:23	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			663840	01/05/22 14:14	P1R	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			200 mL	200 mL	663655	12/30/21 13:36	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663672	01/05/22 07:24	LZY7	IRV 2
Dissolved	Analysis	200.8		1			663841	01/05/22 13:22	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	FILTRATION			40 mL	40 mL	663653	12/30/21 13:27	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664071	01/10/22 10:15	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664158	01/10/22 16:00	C0YH	IRV 2
	Instrument ID: CV-HG5									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

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

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

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

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method	Method Description	Protocol	Laboratory
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	40CFR136A	ECL 1
608.3	Organochlorine Pesticides in Water	40CFR136A	ECL 1
300.0	Anions, Ion Chromatography	MCAWW	ECL 1
314.0	Perchlorate (IC)	EPA	ECL 1
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	ECL 1
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	ECL 1
245.1	Mercury (CVAA)	EPA	IRV 2
180.1	Turbidity, Nephelometric	MCAWW	IRV 2
SM 2540C	Solids, Total Dissolved (TDS)	SM	IRV 2
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 2
SM 4500 CN E	Cyanide, Total (Low Level)	SM	ECL 1
SM 4500 NH3 G	Ammonia	SM	IRV 2
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	ECL 1
SM5210B	BOD, 5 Day	SM	ECL 1
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	ECL 4
245.1	Preparation, Mercury	EPA	IRV 2
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	ECL 1
625	Liquid-Liquid Extraction	40CFR136A	ECL 1
FILTRATION	Sample Filtration	None	IRV 2
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1
SM 5540C	Preparation, Methylene Blue Active Substances (MBAS)	SM	ECL 1

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80241-1	Outfall002_20211228_Comp	Water	12/28/21 13:30	12/28/21 18:00
570-80241-3	Outfall002_20211228_Comp_F	Water	12/28/21 13:30	12/28/21 18:00

80241

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80241 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI# 44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R Total Recoverable Metals. (E200.7): Zn (E200.8): Cu, Pb, Cd, Se	R TCDD (and all congeners) (E1613B)	R BOD5 (20 degrees C) (E405.1(SM5210B_BODCalc))	R Surfactants (MBAS) (SM5540C/E425.1)	R Cl- SO_4, Nitrate-N Nitrite-N NO3+NO2-N Perchlorate (E300)	R Turbidity TDS (SM2540C/E180.1)	R TSS (160.2 (SM2540D))	R Ammonia-N (350.2)	R alpha-BHC (E608)	R 2,4,6 TCP 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	R Total Recoverable Metals. Mercury (E245.1)	C Total Recoverable Metals (E200.7) As, Mn Fe		Comments
Outfall 002	Outfall002_20211228_Comp	12/28/2021 1330	WM	500 mL Poly	1	HNO_3	90	No	X										X	X		Outfall 002 analyze for Fe ~~Outfall 002 analyze for Fe~~ ~~Outfall 011 analyze for As, Mn and Fe~~
			WM	1 L Glass Amber	2	None	110	No		X												
			WM	1L Poly	1	None	115	No			X											
			WM	500 mL Poly	2	None	120	No				X										
			WM	500 mL Poly	2	None	130	No					X									48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X								48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X						
			WM	1 L Glass Amber	2	None	170	No									X					
			WM	1 L Glass Amber	2	None	180	No										X				
			WM	1L Poly	1	None	185	No							X							
	Outfall002_20211228_Comp_Extra	12/28/2021 1330	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:
	12-28-2021/1445	H:A	ECI	12/28/21 1445
	12/28/21 1800			12/28/21 1800

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

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

2.3|3.2, 2.0|2.9 SCS

2/7/2022 (Rev. 1)

2019-2020 Rainy Season
Version 4

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 2021 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI# 44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									ANALYSIS REQUIRED												
									R	R	R	R	R	C							
Sample Description	Sample I D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals. (E200.7) Zn (E200.8). Cu, Pb, Cd, Se	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 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)	Total Dissolved Metals (E200.7) As, Mn Fe						Comments
Outfall 002	Outfall002_20211228_Comp_F	12/28/2021 1330	WM	1L Poly	1	None	200	No	X					X							Filter and preserve with 24hrs of receipt at lab ~~Outfall 001 analyze for Fe~~ Outfall 002 analyze for Fe ~~Outfall 011 analyze for As, Mn and Fe~~
			WM	borosilicate vials	1	None	320	No					X								Sample receiving DO NOT OPEN BAG Bag to be opened in Mercury Prep using clean procedures.
	Outfall002_20211228_Comp	12/28/2021 1330*	WM	500 mL Poly	1	NaOH	220	No		X											
			WM	2.5 Gal Cube	1	None	225	No			X										Unfiltered and unpreserved analysis. Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
				1 L Glass Amber	1	None	230	No													
			WM	1 Gal Cube	6	None	235	No				X									Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA.

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12/28/2021 1445	H&A	[signature]	ECI 12/28/21 1445
[signature]	12/28/21 1800		[signature]	12/28/21 1800

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

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

Data Requirements (Check)
No Level IV: _____ All Level IV: __X__

* Hand-delivered to ABC Labs by H&A

2019-2020 Rainy Season
Version 4

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148125 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80241-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/26/2022			
City: Earth City	TAT Requested (days)			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	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/PreoSep_21 Radium-226	904.0/PreoSep_0 Radium-228	905_Sr90/PreoSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note.
			Preservation Code:												
Outfall002_20211228_Comp (570-80241-1)	12/28/21	13 30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

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

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

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/29/21 1422				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

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

Ver: 06/08/2021

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148141 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80241-2
Address: 880 Riverside Parkway	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall002_20211228_Comp (570-80241-1)	12/28/21	13 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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

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

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
	Relinquished by:	12/29/21 1609				
	Relinquished by	Date/Time:	Company	Received by	Date/Time	Company
	Relinquished by	Date/Time.	Company	Received by	Date/Time	Company

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

Ver: 06/08/2021

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

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148135 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80241-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/10/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A HCL	M - Hexane
B NaOH	N None
C Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E NaHSO4	Q - Na2SO3
F MeOH	R - Na2S2O3
G Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I Ice	U Acetone
J DI Water	V - MCAA
K EDTA	W pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.8/200.2 Cd,Pb,Cu,Se	245.1/245.1_Prep Mercury	200.7/200.2 Outfall 011 - 200.7 Total List	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	180 1/ Turbidity	SM4500NH3_G/ Ammonia	200.8/FILTRATION (MOD) Diss Cd,Pb,Cu,Se	245.1/FILTRATION Diss Mercury	200.7/FILTRATION Outfall 011 - 200.7 Diss List				Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall002_20211228_Comp (570-80241-1)	12/28/21	13 30 Pacific		Water			X	X	X	X	X	X	X							5	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall002_20211228_F (570-80241-3)	12/28/21	13 30 Pacific		Water										X	X	X				3	Filter within 24 hours use VOA vials from LL Hg Kit-Clean Hands procedure Filter

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	12/29/21 15:52	ECI			
2	Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 12/29/21 1552	Company ECI
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: 570-80241-1

Login Number: 80241
List Number: 1
Creator: Patel, Jayesh

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80241-1

Login Number: 80241
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 12/29/21 04:27 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80241-2
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/2/2022 6:18:10 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Client Sample Results 6
Surrogate Summary 8
Isotope Dilution Summary 9
QC Sample Results 11
QC Association Summary 15
Lab Chronicle 16
Certification Summary 17
Method Summary 18
Sample Summary 19
Subcontract Data 20
Chain of Custody 37
Receipt Checklists 44

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80241-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80241-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80241-2

Comments
No additional comments.

Receipt
The samples were received on 12/28/2021 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.9º C and 3.2º C.

Receipt Exceptions

The following sample(s) was listed on the Chain-of-Custody (COC); however, due to a shipping delay, the sample was not received. Only 1 of 2 coolers were received. Missing 7756 2990 7127

The AWB and Copy ICOCs were taped on top of coolers. Cooler 2/2 - 7756 2990 7127 AWB was rolled up an attached to the back of Cooler 1/2. So the 2/2 Cooler has no Identification on the outside. So hoping it is not lost.

1. Received the 1 Liter Amber 1-N
Missing The 1-L bottle

The following samples were received at the laboratory outside the required temperature criteria at 11.9C Outfall002_20211228_Comp (570-80241-1), Outfall002_20211228_Comp_Extra (570-80241-2) and Outfall002_20211228_Comp_F (570-80241-3). The second cooler was received on 1/5/22. There were no tags on the cooler because they were attached to the first cooler.

Dioxin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Dioxin Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method Chronic-Selenestrum: This method was subcontracted to Aquatic Bioassay & Consulting. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Client Sample ID: Outfall002_20211228_Comp
Lab Sample ID: 570-80241-1

Sample Analysis Not Complete.

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall002_20211228_Comp
Lab Sample ID: 570-80241-1
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000010	ug/L		01/06/22 08:31	01/14/22 04:13	1
2,3,7,8-TCDF	ND		0.000010	0.00000052	ug/L		01/06/22 08:31	01/14/22 04:13	1
1,2,3,7,8-PeCDD	ND		0.000052	0.00000087	ug/L		01/06/22 08:31	01/14/22 04:13	1
1,2,3,7,8-PeCDF	ND		0.000052	0.00000071	ug/L		01/06/22 08:31	01/14/22 04:13	1
2,3,4,7,8-PeCDF	ND		0.000052	0.00000071	ug/L		01/06/22 08:31	01/14/22 04:13	1
1,2,3,4,7,8-HxCDD	**0.0000036**	**J,DX MB q**	0.000052	0.00000057	ug/L		01/06/22 08:31	01/14/22 04:13	1
1,2,3,6,7,8-HxCDD	**0.0000030**	**J,DX MB**	0.000052	0.00000056	ug/L		01/06/22 08:31	01/14/22 04:13	1
1,2,3,7,8,9-HxCDD	**0.0000028**	**J,DX MB q**	0.000052	0.00000055	ug/L		01/06/22 08:31	01/14/22 04:13	1
1,2,3,4,7,8-HxCDF	ND		0.000052	0.00000048	ug/L		01/06/22 08:31	01/14/22 04:13	1
1,2,3,6,7,8-HxCDF	ND		0.000052	0.00000048	ug/L		01/06/22 08:31	01/14/22 04:13	1
1,2,3,7,8,9-HxCDF	**0.0000025**	**J,DX MB**	0.000052	0.00000045	ug/L		01/06/22 08:31	01/14/22 04:13	1
2,3,4,6,7,8-HxCDF	**0.0000017**	**J,DX MB q**	0.000052	0.00000038	ug/L		01/06/22 08:31	01/14/22 04:13	1
1,2,3,4,6,7,8-HpCDD	**0.000016**	**J,DX MB**	0.000052	0.00000046	ug/L		01/06/22 08:31	01/14/22 04:13	1
1,2,3,4,6,7,8-HpCDF	**0.0000064**	**J,DX MB**	0.000052	0.00000047	ug/L		01/06/22 08:31	01/14/22 04:13	1
1,2,3,4,7,8,9-HpCDF	**0.0000017**	**J,DX MB q**	0.000052	0.00000050	ug/L		01/06/22 08:31	01/14/22 04:13	1
OCDD	**0.000068**	**J,DX MB**	0.00010	0.00000093	ug/L		01/06/22 08:31	01/14/22 04:13	1
OCDF	**0.000013**	**J,DX MB**	0.00010	0.00000080	ug/L		01/06/22 08:31	01/14/22 04:13	1
Total TCDD	ND		0.000010	0.0000010	ug/L		01/06/22 08:31	01/14/22 04:13	1
Total TCDF	ND		0.000010	0.00000052	ug/L		01/06/22 08:31	01/14/22 04:13	1
Total PeCDD	**0.0000049**	**J,DX**	0.000052	0.00000087	ug/L		01/06/22 08:31	01/14/22 04:13	1
Total PeCDF	**0.0000011**	**J,DX q**	0.000052	0.00000071	ug/L		01/06/22 08:31	01/14/22 04:13	1
Total HxCDD	**0.000012**	**J,DX MB q**	0.000052	0.00000055	ug/L		01/06/22 08:31	01/14/22 04:13	1
Total HxCDF	**0.0000041**	**J,DX MB q**	0.000052	0.00000038	ug/L		01/06/22 08:31	01/14/22 04:13	1
Total HpCDD	**0.000027**	**J,DX MB**	0.000052	0.00000046	ug/L		01/06/22 08:31	01/14/22 04:13	1
Total HpCDF	**0.000012**	**J,DX MB q**	0.000052	0.00000047	ug/L		01/06/22 08:31	01/14/22 04:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*87*		*25 - 164*	*01/06/22 08:31*	*01/14/22 04:13*	*1*
13C-2,3,7,8-TCDF	*87*		*24 - 169*	*01/06/22 08:31*	*01/14/22 04:13*	*1*
13C-1,2,3,7,8-PeCDD	*91*		*25 - 181*	*01/06/22 08:31*	*01/14/22 04:13*	*1*
13C-1,2,3,7,8-PeCDF	*88*		*24 - 185*	*01/06/22 08:31*	*01/14/22 04:13*	*1*
13C-2,3,4,7,8-PeCDF	*97*		*21 - 178*	*01/06/22 08:31*	*01/14/22 04:13*	*1*
13C-1,2,3,4,7,8-HxCDD	*98*		*32 - 141*	*01/06/22 08:31*	*01/14/22 04:13*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall002_20211228_Comp
Lab Sample ID: 570-80241-1
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDD	95		28 - 130	01/06/22 08:31	01/14/22 04:13	1
13C-1,2,3,4,7,8-HxCDF	94		26 - 152	01/06/22 08:31	01/14/22 04:13	1
13C-1,2,3,6,7,8-HxCDF	89		26 - 123	01/06/22 08:31	01/14/22 04:13	1
13C-1,2,3,7,8,9-HxCDF	83		29 - 147	01/06/22 08:31	01/14/22 04:13	1
13C-2,3,4,6,7,8-HxCDF	94		28 - 136	01/06/22 08:31	01/14/22 04:13	1
13C-1,2,3,4,6,7,8-HpCDD	95		23 - 140	01/06/22 08:31	01/14/22 04:13	1
13C-1,2,3,4,6,7,8-HpCDF	100		28 - 143	01/06/22 08:31	01/14/22 04:13	1
13C-1,2,3,4,7,8,9-HpCDF	103		26 - 138	01/06/22 08:31	01/14/22 04:13	1
13C-OCDD	100		17 - 157	01/06/22 08:31	01/14/22 04:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	94		35 - 197	01/06/22 08:31	01/14/22 04:13	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	37TCDD (35-197)							
570-80241-1	Outfall002_20211228_Comp	94							
MB 320-556383/1-A	Method Blank	91							

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 320-556383/2-A	Lab Control Sample	91							
LCSD 320-556383/3-A	Lab Control Sample Dup	93							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80241-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-80241-1	Outfall002_20211228_Comp	87	87	91	88	97	98	95	94
MB 320-556383/1-A	Method Blank	88	88	91	86	98	94	91	91

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-80241-1	Outfall002_20211228_Comp	89	83	94	95	100	103	100
MB 320-556383/1-A	Method Blank	84	85	88	88	91	97	93

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-556383/2-A	Lab Control Sample	87	86	87	86	94	93	87	91
LCSD 320-556383/3-A	Lab Control Sample Dup	84	83	88	84	91	90	84	87

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-556383/2-A	Lab Control Sample	81	81	83	86	91	94	92
LCSD 320-556383/3-A	Lab Control Sample Dup	77	82	87	91	92	100	101

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

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-556383/1-A
Matrix: Water
Analysis Batch: 558744

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556383

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000065	ug/L		01/06/22 08:31	01/14/22 01:02	1
2,3,7,8-TCDF	ND		0.000010	0.00000052	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000074	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000060	ug/L		01/06/22 08:31	01/14/22 01:02	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000060	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,4,7,8-HxCDD	0.00000516	J,DX	0.000050	0.00000043	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,6,7,8-HxCDD	0.00000297	J,DX	0.000050	0.00000046	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,7,8,9-HxCDD	0.00000627	J,DX	0.000050	0.00000043	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,4,7,8-HxCDF	0.00000375	J,DX	0.000050	0.00000050	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,6,7,8-HxCDF	0.00000404	J,DX	0.000050	0.00000052	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,7,8,9-HxCDF	0.00000321	J,DX q	0.000050	0.00000046	ug/L		01/06/22 08:31	01/14/22 01:02	1
2,3,4,6,7,8-HxCDF	0.00000361	J,DX	0.000050	0.00000042	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,4,6,7,8-HpCDD	0.00000746	J,DX	0.000050	0.00000023	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,4,6,7,8-HpCDF	0.00000528	J,DX	0.000050	0.00000044	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,4,7,8,9-HpCDF	0.00000428	J,DX	0.000050	0.00000045	ug/L		01/06/22 08:31	01/14/22 01:02	1
OCDD	0.0000121	J,DX q	0.00010	0.00000041	ug/L		01/06/22 08:31	01/14/22 01:02	1
OCDF	0.00000701	J,DX	0.00010	0.00000071	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total TCDD	ND		0.000010	0.00000065	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total TCDF	ND		0.000010	0.00000052	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total PeCDD	ND		0.000050	0.00000074	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total PeCDF	ND		0.000050	0.00000060	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total HxCDD	0.0000144	J,DX	0.000050	0.00000043	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total HxCDF	0.0000146	J,DX q	0.000050	0.00000042	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total HpCDD	0.0000105	J,DX	0.000050	0.00000023	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total HpCDF	0.00000957	J,DX	0.000050	0.00000044	ug/L		01/06/22 08:31	01/14/22 01:02	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*88*		*25 - 164*	*01/06/22 08:31*	*01/14/22 01:02*	*1*
13C-2,3,7,8-TCDF	*88*		*24 - 169*	*01/06/22 08:31*	*01/14/22 01:02*	*1*
13C-1,2,3,7,8-PeCDD	*91*		*25 - 181*	*01/06/22 08:31*	*01/14/22 01:02*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-556383/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 558744 **Prep Batch: 556383**

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	86		24 - 185	01/06/22 08:31	01/14/22 01:02	1
13C-2,3,4,7,8-PeCDF	98		21 - 178	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,4,7,8-HxCDD	94		32 - 141	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,6,7,8-HxCDD	91		28 - 130	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,4,7,8-HxCDF	91		26 - 152	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,6,7,8-HxCDF	84		26 - 123	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,7,8,9-HxCDF	85		29 - 147	01/06/22 08:31	01/14/22 01:02	1
13C-2,3,4,6,7,8-HxCDF	88		28 - 136	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,4,6,7,8-HpCDD	88		23 - 140	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,4,6,7,8-HpCDF	91		28 - 143	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,4,7,8,9-HpCDF	97		26 - 138	01/06/22 08:31	01/14/22 01:02	1
13C-OCDD	93		17 - 157	01/06/22 08:31	01/14/22 01:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	91		35 - 197	01/06/22 08:31	01/14/22 01:02	1

Lab Sample ID: LCS 320-556383/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 558744 **Prep Batch: 556383**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD			0.000200	0.000173		ug/L		87	67 - 158		
2,3,7,8-TCDF			0.000200	0.000183		ug/L		92	75 - 158		
1,2,3,7,8-PeCDD			0.00100	0.000943		ug/L		94	70 - 142		
1,2,3,7,8-PeCDF			0.00100	0.000933		ug/L		93	80 - 134		
2,3,4,7,8-PeCDF			0.00100	0.000863		ug/L		86	68 - 160		
1,2,3,4,7,8-HxCDD			0.00100	0.000831	MB	ug/L		83	70 - 164		
1,2,3,6,7,8-HxCDD			0.00100	0.000886	MB	ug/L		89	76 - 134		
1,2,3,7,8,9-HxCDD			0.00100	0.000867	MB	ug/L		87	64 - 162		
1,2,3,4,7,8-HxCDF			0.00100	0.000815	MB	ug/L		81	72 - 134		
1,2,3,6,7,8-HxCDF			0.00100	0.000915	MB	ug/L		92	84 - 130		
1,2,3,7,8,9-HxCDF			0.00100	0.000904	MB	ug/L		90	78 - 130		
2,3,4,6,7,8-HxCDF			0.00100	0.000959	MB	ug/L		96	70 - 156		
1,2,3,4,6,7,8-HpCDD			0.00100	0.000898	MB	ug/L		90	70 - 140		
1,2,3,4,6,7,8-HpCDF			0.00100	0.000829	MB	ug/L		83	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000803	MB	ug/L		80	78 - 138		
OCDD			0.00200	0.00169	MB	ug/L		84	78 - 144		
OCDF			0.00200	0.00167	MB	ug/L		84	63 - 170		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	87		20 - 175
13C-2,3,7,8-TCDF	86		22 - 152
13C-1,2,3,7,8-PeCDD	87		21 - 227
13C-1,2,3,7,8-PeCDF	86		21 - 192
13C-2,3,4,7,8-PeCDF	94		13 - 328
13C-1,2,3,4,7,8-HxCDD	93		21 - 193
13C-1,2,3,6,7,8-HxCDD	87		25 - 163
13C-1,2,3,4,7,8-HxCDF	91		19 - 202

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-556383/2-A
Matrix: Water
Analysis Batch: 558744

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 556383

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,6,7,8-HxCDF	81		21 - 159
13C-1,2,3,7,8,9-HxCDF	81		17 - 205
13C-2,3,4,6,7,8-HxCDF	83		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	86		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	91		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	94		20 - 186
13C-OCDD	92		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	91		31 - 191

Lab Sample ID: LCSD 320-556383/3-A
Matrix: Water
Analysis Batch: 558744

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 556383

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000177		ug/L		88	67 - 158	2	50
2,3,7,8-TCDF			0.000200	0.000190		ug/L		95	75 - 158	4	50
1,2,3,7,8-PeCDD			0.00100	0.000959		ug/L		96	70 - 142	2	50
1,2,3,7,8-PeCDF			0.00100	0.000952		ug/L		95	80 - 134	2	50
2,3,4,7,8-PeCDF			0.00100	0.000876		ug/L		88	68 - 160	2	50
1,2,3,4,7,8-HxCDD			0.00100	0.000835	MB	ug/L		84	70 - 164	0	50
1,2,3,6,7,8-HxCDD			0.00100	0.000923	MB	ug/L		92	76 - 134	4	50
1,2,3,7,8,9-HxCDD			0.00100	0.000939	MB	ug/L		94	64 - 162	8	50
1,2,3,4,7,8-HxCDF			0.00100	0.000846	MB	ug/L		85	72 - 134	4	50
1,2,3,6,7,8-HxCDF			0.00100	0.000972	MB	ug/L		97	84 - 130	6	50
1,2,3,7,8,9-HxCDF			0.00100	0.000916	MB	ug/L		92	78 - 130	1	50
2,3,4,6,7,8-HxCDF			0.00100	0.000941	MB	ug/L		94	70 - 156	2	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.000910	MB	ug/L		91	70 - 140	1	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.000877	MB	ug/L		88	82 - 122	6	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000824	MB	ug/L		82	78 - 138	3	50
OCDD			0.00200	0.00170	MB	ug/L		85	78 - 144	1	50
OCDF			0.00200	0.00172	MB	ug/L		86	63 - 170	3	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	84		20 - 175
13C-2,3,7,8-TCDF	83		22 - 152
13C-1,2,3,7,8-PeCDD	88		21 - 227
13C-1,2,3,7,8-PeCDF	84		21 - 192
13C-2,3,4,7,8-PeCDF	91		13 - 328
13C-1,2,3,4,7,8-HxCDD	90		21 - 193
13C-1,2,3,6,7,8-HxCDD	84		25 - 163
13C-1,2,3,4,7,8-HxCDF	87		19 - 202
13C-1,2,3,6,7,8-HxCDF	77		21 - 159
13C-1,2,3,7,8,9-HxCDF	82		17 - 205
13C-2,3,4,6,7,8-HxCDF	87		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	91		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	92		21 - 158

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-556383/3-A
Matrix: Water
Analysis Batch: 558744

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 556383

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-1,2,3,4,7,8,9-HpCDF	100		20 - 186
13C-OCDD	101		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	93		31 - 191

Specialty Organics

Prep Batch: 556383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	1613B	
MB 320-556383/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-556383/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-556383/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 558744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	1613B	556383
MB 320-556383/1-A	Method Blank	Total/NA	Water	1613B	556383
LCS 320-556383/2-A	Lab Control Sample	Total/NA	Water	1613B	556383
LCSD 320-556383/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	556383

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Client Sample ID: Outfall002_20211228_Comp
Lab Sample ID: 570-80241-1
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			952.4 mL	20.0 uL	556383	01/06/22 08:31	CB	TAL SAC
Total/NA	Analysis	1613B		1			558744	01/14/22 04:13	GRB	TAL SAC
	Instrument ID: DFS 1									

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80241-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-29-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Kansas	NELAP	E-10375	10-31-21 *
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-18-22
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-21 *
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80241-1	Outfall002_20211228_Comp	Water	12/28/21 13:30	12/28/21 18:00

aquatic bioassay & consulting laboratories, inc

January 26, 2022

Mr. Virendra Patel
Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841-1432

Dear Mr. Patel:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013.* Results were as follows:

CLIENT:	Eurofins Calscience
SAMPLE I.D.:	Outfall 002
DATE RECEIVED:	28 Dec - 2021
ABC LAB. NO.:	CSE1221.255

CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY

IWC = 100.00 %

TST RESULT

GROWTH = PASS % EFFECT = -5.64 %

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 25 Jan-22 15:00 (p 1 of 1)
Test Code/ID: CSE1221.255 / 15-5767-3493

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	11-2937-7121	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	28 Dec-21 18:10	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	01 Jan-22 16:15	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	94h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	5d
Sample ID:	07-9778-8043	**Code:**	CSE1221.255	**Project:**	Boeing-SSFL NPDES		
Sample Date:	28 Dec-21 13:30	**Material:**	Sample Water	**Source:**	Bioassay Report		
Receipt Date:	28 Dec-21 16:20	**CAS (PC):**		**Station:**	Outfall 002		
Sample Age:	5h (0.5 °C)	**Client:**	Eurofins Calscience				

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result	S
05-5052-4109	Cell Density	TST-Welch's t Test	2.2E-05	100% passed cell density	1

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
05-5052-4109	Cell Density	Control CV	0.03237	<<	0.2	Yes	Passes Criteria
05-5052-4109	Cell Density	Control Resp	1.16E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	8	1.157E+6	1.126E+6	1.188E+6	1.107E+6	1.219E+6	1.324E+4	3.744E+4	3.24%	0.00%
100		8	1.222E+6	1.131E+6	1.313E+6	1.090E+6	1.387E+6	3.834E+4	1.084E+5	8.87%	-5.64%

Cell Density Detail — MD5: 1341C18C94953E3697DF07269B44DCCB

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.156E+6	1.203E+6	1.133E+6	1.107E+6	1.130E+6	1.150E+6	1.219E+6	1.157E+6
100		1.152E+6	1.351E+6	1.090E+6	1.387E+6	1.265E+6	1.122E+6	1.162E+6	1.248E+6

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	05-5052-4109	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:38	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:	23 Jan-22 16:37	**MD5 Hash:**	D2C3CFAFAB5ECCAC0C6D66C00DCB1F	**Editor ID:**	000-189-126-0
Batch ID:	11-2937-7121	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	28 Dec-21 18:10	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	01 Jan-22 16:15	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	94h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 5d
Sample ID:	07-9778-8043	**Code:**	CSE1221.255	**Project:**	Boeing-SSFL NPDES
Sample Date:	28 Dec-21 13:30	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	28 Dec-21 16:20	**CAS (PC):**		**Station:**	Outfall 002
Sample Age:	5h (0.5 °C)	**Client:**	Eurofins Calscience		

Data Transform	Alt Hyp	TST_b	Comparison Result
Untransformed	C*b < T	0.75	100% passed cell density endpoint

TST-Welch's t Test

Control	vs	Conc-%	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:25%)
Negative Control		100*	8.95	0.7111	7	CDF	2.2E-05	Non-Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.03237	<<	0.2	Yes	Passes Criteria
Control Resp	1.16E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	1.703E+10	1.703E+10	1	2.588	0.1300	Non-Significant Effect
Error	9.213E+10	6.581E+09	14			
Total	1.092E+11		15			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Levene Equality of Variance Test	11	8.862	0.0051	Unequal Variances
	Mod Levene Equality of Variance Test	9.846	8.862	0.0073	Unequal Variances
	Variance Ratio F Test	8.387	8.885	0.0119	Equal Variances
Distribution	Anderson-Darling A2 Test	0.2258	3.878	0.8506	Normal Distribution
	D'Agostino Skewness Test	0.8863	2.576	0.3755	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1244	0.2471	0.8222	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9752	0.8408	0.9145	Normal Distribution

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	8	1.157E+6	1.126E+6	1.188E+6	1.153E+6	1.107E+6	1.219E+6	1.324E+4	3.24%	0.00%
100		8	1.222E+6	1.131E+6	1.313E+6	1.205E+6	1.090E+6	1.387E+6	3.834E+4	8.87%	-5.64%

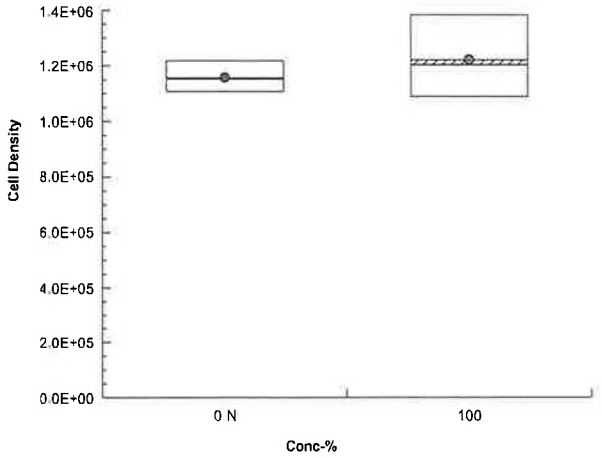
Cell Density Detail

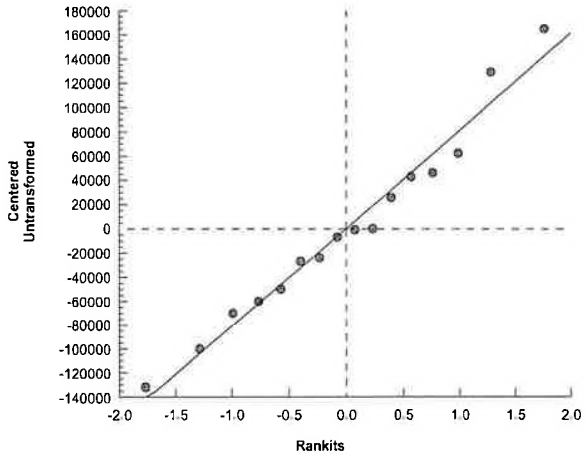
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.156E+6	1.203E+6	1.133E+6	1.107E+6	1.130E+6	1.150E+6	1.219E+6	1.157E+6
100		1.152E+6	1.351E+6	1.090E+6	1.387E+6	1.265E+6	1.122E+6	1.162E+6	1.248E+6

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	05-5052-4109	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:38	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:	23 Jan-22 16:37	**MD5 Hash:**	D2C3CFAFAB5ECCAC0C6D66C00DCB1F	**Editor ID:**	000-189-126-0

Graphics





Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	11-2937-7121	**Test Type:**	Cell Growth	**Analyst:**		
Start Date:	28 Dec-21 18:10	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water	
Ending Date:	01 Jan-22 16:15	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable	
Test Length:	94h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:** 5d

Sample ID:	07-9778-8043	**Code:**	CSE1221.255	**Project:**	Boeing-SSFL NPDES
Sample Date:	28 Dec-21 13:30	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	28 Dec-21 16:20	**CAS (PC):**		**Station:**	Outfall 002
Sample Age:	5h (0.5 °C)	**Client:**	Eurofins Calscience		

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	62	---	---	62	62	---	0	---	0
100		1	47	---	---	47	47	---	0	---	0
Overall		2	54.5	-40.8	149.8	47	62	7.5	10.61	19.46%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	450.4	440.4	460.4	437	458	1.616	8.081	1.79%	0
100		5	526.2	521.1	531.3	523	533	0.8295	4.147	0.79%	0
Overall		10	488.3	459.4	517.2	437	533	12.78	40.41	8.28%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	100	---	---	100	100	---	0	---	0
100		1	83	---	---	83	83	---	0	---	0
Overall		2	91.5	-16.5	199.5	83	100	8.5	12.02	13.14%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	8.14	7.998	8.282	8	8.3	0.0228	0.114	1.40%	0
100		5	7.92	7.716	8.124	7.8	8.2	0.03286	0.1643	2.07%	0
Overall		10	8.03	7.904	8.156	7.8	8.3	0.05588	0.1767	2.20%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.08	24.94	25.22	25	25.2	0.02191	0.1095	0.44%	0
100		5	25.06	24.95	25.17	25	25.2	0.01789	0.08943	0.36%	0
Overall		10	25.07	25	25.14	25	25.2	0.03	0.09487	0.38%	0 (0%)

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		62					
100				47					

Conductivity-µmhos

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		437					
100				523					
0	N	2		450					
100				527					
0	N	3		458					
100				533					
0	N	4		455					
100				525					
0	N	5		452					
100				523					

Hardness (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		100					
100				83					

pH-Units

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		8.3					
100				8.2					
0	N	2		8.2					
100				7.9					
0	N	3		8.1					
100				7.8					
0	N	4		8.1					
100				7.9					
0	N	5		8					
100				7.8					

Temperature-°C

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		25					
100				25					
0	N	2		25					
100				25					
0	N	3		25					
100				25					
0	N	4		25.2					
100				25.1					
0	N	5		25.2					
100				25.2					

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

2/2/2022

Client Name/Address:	Project:	ANALYSIS REQUIRED
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp	R R R R R C
Eurofins Calscience Irvine Contact: Virendra Patel **ECI# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218		
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)	
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.7): 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)	Total Dissolved Metals: (E200.7): As, Mn, Fe						Comments
Outfall 002	Outfall002_20211228_Comp_F	12/28/2021 1330	WM	1L Poly	1	None	200	No	X					X						Filter and preserve w/in 24hrs of receipt at lab ~~Outfall 001 analyze for Fe~~ Outfall 002 analyze for Fe ~~Outfall 011 analyze for As, Mn and Fe~~
			WM	borosilicate vials	1	None	320	No					X							Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall002_20211228_Comp	12/28/2021 1338*	WM	500 mL Poly	1	NaOH	220	No		X										
			WM	2.5 Gal Cube	1	None	225	No			X									Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
				1 L Glass Amber	1	None	230	No												
			WM	1 Gal Cube	6	None	235	No				X								Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Mark Dominick	12-28-2021 / 1620	H;A	Victor Myg	12/28/21 1620
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Relinquished By	Date/Time:	Company:	Received By	Date/Time:

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

Temp. deg C = 0.1 -0 C

* Hand-delivered to ABC Labs by H.A

Chlorine (mg/L) = <0.1

NH3 (mg/L) = <0.1 -055

aquatic bioassay & consulting laboratories, inc

CHRONIC SELENASTRUM GROWTH BIOASSAY

DATE: 1 December - 2021

STANDARD TOXICANT: Cadmium Chloride

NOEC = 40.00 ug/l

IC25 = 80.10 ug/l
IC50 = >180.00 ug/l

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX		
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant		
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX		
Sample Age:	---	**Client:**	Internal Lab				

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	S
12-9938-5833	Cell Density	Steel Many-One Rank Sum Test		40	80	56.57	20.9%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	µg/L	95% LCL	95% UCL	S
05-8956-0180	Cell Density	Linear Interpolation (ICPIN)		IC10	38.71	19.34	68.85	1
				IC15	52.07	16.61	76.06	
				IC20	66.06	13.49	90.22	
				IC25	80.1	10.35	112.7	
				IC40	151.3	133.7	175.1	
				IC50	>180	---	---	

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
05-8956-0180	Cell Density	Control CV	0.05263	<<	0.2	Yes	Passes Criteria
12-9938-5833	Cell Density	Control CV	0.05263	<<	0.2	Yes	Passes Criteria
05-8956-0180	Cell Density	Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria
12-9938-5833	Cell Density	Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.713E+6	1.570E+6	1.856E+6	1.597E+6	1.814E+6	4.508E+4	9.015E+4	5.26%	0.00%
20		4	1.859E+6	1.635E+6	2.082E+6	1.689E+6	2.023E+6	7.027E+4	1.405E+5	7.56%	-8.51%
40		4	1.595E+6	8.516E+5	2.338E+6	8.980E+5	1.869E+6	2.336E+5	4.672E+5	29.29%	6.89%
80		4	1.340E+6	1.213E+6	1.466E+6	1.235E+6	1.428E+6	3.976E+4	7.952E+4	5.94%	21.79%
140		4	1.132E+6	1.037E+6	1.226E+6	1.092E+6	1.219E+6	2.971E+4	5.941E+4	5.25%	33.95%
180		4	9.200E+5	7.681E+5	1.072E+6	7.860E+5	9.900E+5	4.774E+4	9.549E+4	10.38%	46.29%

Cell Density Detail — MD5: A31AFF07134985287B29E5F730798522

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.738E+6	1.597E+6	1.703E+6	1.814E+6
20		1.903E+6	1.689E+6	1.820E+6	2.023E+6
40		1.854E+6	1.759E+6	8.980E+5	1.869E+6
80		1.342E+6	1.428E+6	1.235E+6	1.354E+6
140		1.092E+6	1.118E+6	1.097E+6	1.219E+6
180		9.870E+5	9.900E+5	9.170E+5	7.860E+5

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	12-9938-5833	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0
Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	40	80	56.57	---	357800	20.89%

Steel Many-One Rank Sum Test

Control	vs	Conc-µg/L	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		20	23	10	0	6	CDF	0.9966	Non-Significant Effect
		40	21	10	0	6	CDF	0.9778	Non-Significant Effect
		80*	10	10	0	6	CDF	0.0417	Significant Effect
		140*	10	10	0	6	CDF	0.0417	Significant Effect
		180*	10	10	0	6	CDF	0.0417	Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.05263	<<	0.2	Yes	Passes Criteria
Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2.594E+12	5.187E+11	5	11.74	3.7E-05	Significant Effect
Error	7.954E+11	4.419E+10	18			
Total	3.389E+12		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	18.46	15.09	0.0024	Unequal Variances
	Levene Equality of Variance Test	4.633	4.248	0.0068	Unequal Variances
	Mod Levene Equality of Variance Test	0.8699	4.248	0.5203	Equal Variances
Distribution	Anderson-Darling A2 Test	1.388	3.878	0.0008	Non-Normal Distribution
	D'Agostino Kurtosis Test	3.63	2.576	0.0003	Non-Normal Distribution
	D'Agostino Skewness Test	3.782	2.576	0.0002	Non-Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	27.48	9.21	<1.0E-05	Non-Normal Distribution
	Kolmogorov-Smirnov D Test	0.2076	0.2056	0.0089	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.7996	0.884	0.0003	Non-Normal Distribution

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.713E+6	1.570E+6	1.856E+6	1.720E+6	1.597E+6	1.814E+6	4.508E+4	5.26%	0.00%
20		4	1.859E+6	1.635E+6	2.082E+6	1.862E+6	1.689E+6	2.023E+6	7.027E+4	7.56%	-8.51%
40		4	1.595E+6	8.516E+5	2.338E+6	1.806E+6	8.980E+5	1.869E+6	2.336E+5	29.29%	6.89%
80		4	1.340E+6	1.213E+6	1.466E+6	1.348E+6	1.235E+6	1.428E+6	3.976E+4	5.94%	21.79%
140		4	1.132E+6	1.037E+6	1.226E+6	1.108E+6	1.092E+6	1.219E+6	2.971E+4	5.25%	33.95%
180		4	9.200E+5	7.681E+5	1.072E+6	9.520E+5	7.860E+5	9.900E+5	4.774E+4	10.38%	46.29%

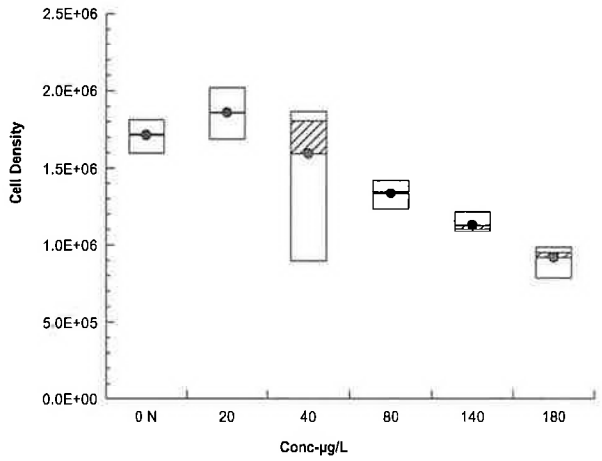
Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

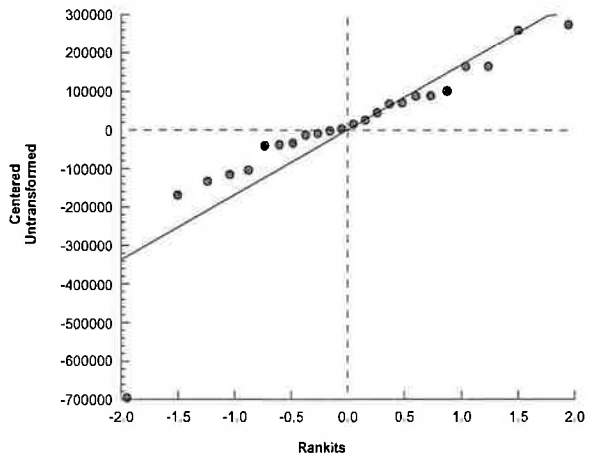
Analysis ID:	12-9938-5833	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0

Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.738E+6	1.597E+6	1.703E+6	1.814E+6
20		1.903E+6	1.689E+6	1.820E+6	2.023E+6
40		1.854E+6	1.759E+6	8.980E+5	1.869E+6
80		1.342E+6	1.428E+6	1.235E+6	1.354E+6
140		1.092E+6	1.118E+6	1.097E+6	1.219E+6
180		9.870E+5	9.900E+5	9.170E+5	7.860E+5

Graphics





Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID:	05-8956-0180	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0
Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
Control CV	0.05263	<<	0.2	Yes	Passes Criteria
Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria

Point Estimates

Level	µg/L	95% LCL	95% UCL
IC10	38.71	19.34	68.85
IC15	52.07	16.61	76.06
IC20	66.06	13.49	90.22
IC25	80.1	10.35	112.7
IC40	151.3	133.7	175.1
IC50	>180	---	---

Cell Density Summary

			Calculated Variate						Isotonic Variate	
Conc-µg/L	Code	Count	Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	N	4	1.713E+6	1.720E+6	1.597E+6	1.814E+6	5.26%	0.00%	1.786E+6	0.00%
20		4	1.859E+6	1.862E+6	1.689E+6	2.023E+6	7.56%	-8.51%	1.786E+6	0.00%
40		4	1.595E+6	1.806E+6	8.980E+5	1.869E+6	29.29%	6.89%	1.595E+6	10.69%
80		4	1.340E+6	1.348E+6	1.235E+6	1.428E+6	5.94%	21.79%	1.340E+6	24.98%
140		4	1.132E+6	1.108E+6	1.092E+6	1.219E+6	5.25%	33.95%	1.132E+6	36.64%
180		4	9.200E+5	9.520E+5	7.860E+5	9.900E+5	10.38%	46.29%	9.200E+5	48.48%

Cell Density Detail

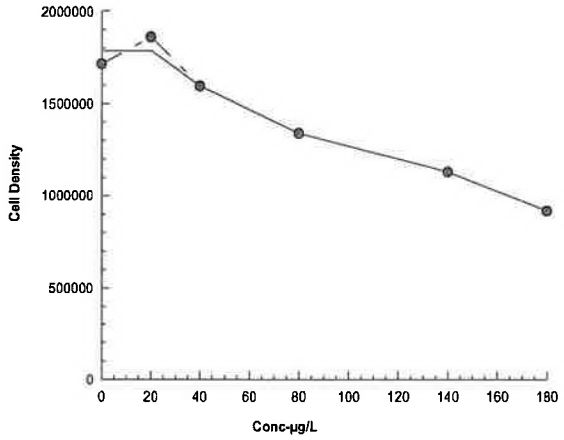
Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.738E+6	1.597E+6	1.703E+6	1.814E+6
20		1.903E+6	1.689E+6	1.820E+6	2.023E+6
40		1.854E+6	1.759E+6	8.980E+5	1.869E+6
80		1.342E+6	1.428E+6	1.235E+6	1.354E+6
140		1.092E+6	1.118E+6	1.097E+6	1.219E+6
180		9.870E+5	9.900E+5	9.170E+5	7.860E+5

Analyst: _____ QA: _____ 2/2/2022

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	05-8956-0180	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0

Graphics



Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**		
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water	
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable	
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:** 6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX	
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant	
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX	
Sample Age:	---	**Client:**	Internal Lab			

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	60	---	---	60	60	---	0	---	0
20		1	59	---	---	59	59	---	0	---	0
40		1	64	---	---	64	64	---	0	---	0
80		1	57	---	---	57	57	---	0	---	0
140		1	57	---	---	57	57	---	0	---	0
180		1	60	---	---	60	60	---	0	---	0
Overall		6	59.5	56.78	62.22	57	64	1.057	2.588	4.35%	0 (0%)

Conductivity-µmhos

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	475.2	468.4	482	466	480	1.09	5.45	1.15%	0
20		5	574.6	516	633.2	500	612	9.438	47.19	8.21%	0
40		5	463.6	442.9	484.3	447	482	3.33	16.65	3.59%	0
80		5	432	429	435	429	435	0.4899	2.449	0.57%	0
140		5	412	405.9	418.1	406	418	0.9798	4.899	1.19%	0
180		5	402	391.1	412.9	389	410	1.755	8.775	2.18%	0
Overall		30	459.9	436.9	482.9	389	612	11.23	61.51	13.37%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	115	---	---	115	115	---	0	---	0
20		1	110	---	---	110	110	---	0	---	0
40		1	110	---	---	110	110	---	0	---	0
80		1	115	---	---	115	115	---	0	---	0
140		1	110	---	---	110	110	---	0	---	0
180		1	110	---	---	110	110	---	0	---	0
Overall		6	111.7	109	114.4	110	115	1.054	2.582	2.31%	0 (0%)

pH-Units

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.84	7.516	8.164	7.4	8	0.05215	0.2608	3.33%	0
20		5	8.16	8.018	8.302	8	8.3	0.0228	0.114	1.40%	0
40		5	8.18	8.076	8.284	8.1	8.3	0.01673	0.08367	1.02%	0
80		5	8.18	8.076	8.284	8.1	8.3	0.01673	0.08367	1.02%	0
140		5	8.22	8.164	8.276	8.2	8.3	0.008944	0.04472	0.54%	0
180		5	8.22	8.164	8.276	8.2	8.3	0.008944	0.04472	0.54%	0
Overall		30	8.133	8.067	8.2	7.4	8.3	0.03264	0.1788	2.20%	0 (0%)

Temperature-°C

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
20		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
40		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
80		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
140		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
180		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
Overall		30	25.54	25.42	25.66	25	25.9	0.05825	0.3191	1.25%	0 (0%)

Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		60					
20				59					
40				64					
80				57					
140				57					
180				60					

Conductivity-µmhos

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		466					
20				500					
40				447					
80				429					
140				408					
180				389					
0	N	2		480					
20				556					
40				449					
80				430					
140				406					
180				397					
0	N	3		475					
20				607					
40				460					
80				435					
140				418					
180				410					
0	N	4		477					
20				612					
40				482					
80				433					
140				414					
180				407					
0	N	5		478					
20				598					
40				480					
80				433					
140				414					
180				407					

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		115					
20				110					
40				110					
80				115					
140				110					
180				110					

Selenastrum Growth Test
Aquatic Bioassay & Consulting Labs, Inc.

pH-Units

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.4					
20				8.2					
40				8.2					
80				8.2					
140				8.2					
180				8.2					
0	N	2		7.8					
20				8.2					
40				8.2					
80				8.2					
140				8.2					
180				8.2					
0	N	3		8					
20				8.3					
40				8.3					
80				8.3					
140				8.3					
180				8.3					
0	N	4		8					
20				8.1					
40				8.1					
80				8.1					
140				8.2					
180				8.2					
0	N	5		8					
20				8					
40				8.1					
80				8.1					
140				8.2					
180				8.2					

Analyst: QA: 2/2/2022

Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		25					
20				25					
40				25					
80				25					
140				25					
180				25					
0	N	2		25.8					
20				25.8					
40				25.8					
80				25.8					
140				25.8					
180				25.8					
0	N	3		25.9					
20				25.9					
40				25.9					
80				25.9					
140				25.9					
180				25.9					
0	N	4		25.5					
20				25.5					
40				25.5					
80				25.5					
140				25.5					
180				25.5					
0	N	5		25.5					
20				25.5					
40				25.5					
80				25.5					
140				25.5					
180				25.5					

80241

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80241 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI# 44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R Total Recoverable Metals. (E200.7): Zn (E200.8): Cu, Pb, Cd, Se	R TCDD (and all congeners) (E1613B)	R BOD5 (20 degrees C) (E405.1(SM5210B_BODCalc))	R Surfactants (MBAS) (SM5540C/E425.1)	R Cl- SO_4, Nitrate-N Nitrite-N NO3+NO2-N Perchlorate (E300)	R Turbidity TDS (SM2540C/E180.1)	R TSS (160.2 (SM2540D))	R Ammonia-N (350.2)	R alpha-BHC (E608)	R 2,4,6 TCP 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	R Total Recoverable Metals. Mercury (E245.1)	C Total Recoverable Metals (E200.7) As, Mn Fe		Comments
									ANALYSIS REQUIRED													
Outfall 002	Outfall002_20211228_Comp	12/28/2021 1330	WM	500 mL Poly	1	HNO_3	90	No	X										X	X		Outfall 002 analyze for Fe ~~Outfall 002 analyze for Fe~~ ~~Outfall 011 analyze for As, Mn and Fe~~
			WM	1 L Glass Amber	2	None	110	No		X												
			WM	1L Poly	1	None	115	No			X											
			WM	500 mL Poly	2	None	120	No				X										
			WM	500 mL Poly	2	None	130	No					X									48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X								48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X						
			WM	1 L Glass Amber	2	None	170	No									X					
			WM	1 L Glass Amber	2	None	180	No										X				
			WM	1L Poly	1	None	185	No							X							
	Outfall002_20211228_Comp_Extra	12/28/2021 1330	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:
	12-28-2021/1445	H:A		ECI 12/28/21 1445
	12/28/21 1800			12/28/21 1800

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: ___X___

2.3|3.2, 20|29 SCS

80241

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 2021 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI# 44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	ANALYSIS REQUIRED R: Total Dissolved Metals. (E200.7) Zn (E200.8). Cu, Pb, Cd, Se	R: Cyanide (SM4500-CN-E / E335.2)	R: Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	R: Chronic Toxicity Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	R: Total Dissolved Metals. Mercury (E245.1)	C: Total Dissolved Metals (E200.7) As, Mn Fe	Comments
Outfall 002	Outfall002_20211228_Comp_F	12/28/2021 1330	WM	1L Poly	1	None	200	No	X					X	Filter and preserve with 24hrs of receipt at lab ~~Outfall 001 analyze for Fe~~ Outfall 002 analyze for Fe ~~Outfall 011 analyze for As, Mn and Fe~~
			WM	borosilicate vials	1	None	320	No					X		Sample receiving DO NOT OPEN BAG Bag to be opened in Mercury Prep using clean procedures.
	Outfall002_20211228_Comp	12/28/2021 1330*	WM	500 mL Poly	1	NaOH	220	No		X					
			WM	2.5 Gal Cube	1	None	225	No			X				Unfiltered and unpreserved analysis. Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
				1 L Glass Amber	1	None	230	No							
			WM	1 Gal Cube	6	None	235	No				X			Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA.

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Mark Dominick	12/28/2021 1445	H.A		ECI 12/28/21 1445
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	12/28/21 1800			12/28/21 1800
Relinquished By	Date/Time:	Company:	Received By	Date/Time:

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements (Check)
No Level IV: _____ All Level IV: __X__

* Hand-delivered to ABC Labs by H.A

2/2/2022

2019-2020 Rainy Season
Version 4

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148125 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80241-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/26/2022			
City: Earth City	TAT Requested (days)			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	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/PreoSep_21 Radium-226	904.0/PreoSep_0 Radium-228	905_Sr90/PreoSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note.
			Preservation Code:												
Outfall002_20211228_Comp (570-80241-1)	12/28/21	13 30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/29/21 1422				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148141 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80241-2
Address: 880 Riverside Parkway	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall002_20211228_Comp (570-80241-1)	12/28/21	13 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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
	Relinquished by:	12/29/21 1609				
	Relinquished by	Date/Time:	Company	Received by	Date/Time	Company
	Relinquished by	Date/Time.	Company	Received by	Date/Time	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148135 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80241-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/10/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A HCL	M - Hexane
B NaOH	N None
C Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E NaHSO4	Q - Na2SO3
F MeOH	R - Na2S2O3
G Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I Ice	U Acetone
J DI Water	V - MCAA
K EDTA	W pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.8/200.2 Cd,Pb,Cu,Se	245.1/245.1_Prep Mercury	200.7/200.2 Outfall 011 - 200.7 Total List	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	180 1/ Turbidity	SM4500NH3_G/ Ammonia	200.8/FILTRATION (MOD) Diss Cd,Pb,Cu,Se	245.1/FILTRATION Diss Mercury	200.7/FILTRATION Outfall 011 - 200.7 Diss List				Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall002_20211228_Comp (570-80241-1)	12/28/21	13 30 Pacific		Water			X	X	X	X	X	X	X							5	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall002_20211228_F (570-80241-3)	12/28/21	13 30 Pacific		Water										X	X	X				3	Filter within 24 hours use VOA vials from LL Hg Kit-Clean Hands procedure Filter

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/29/21 15:52	ECI			
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 12/29/21 1552	Company ECI
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06.08.2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148141 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80241-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall002_20211228_Comp (570-80241-1)	12/28/21	13:30 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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 12/29/21 1609	Company	Received by:	Date/Time: 12/30/21 940	Company: EETCA	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 0.9°c, 11.9°c			

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148141.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80241-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall002_20211228_Comp (570-80241-1)	12/28/21	13:30 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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		12/29/21 1609				
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
Δ Yes Δ No		0.9°

Ver: 06/08/2021

2/2/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80241-2

Login Number: 80241
List Number: 1
Creator: Patel, Jayesh

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80241-2

Login Number: 80241
List Number: 4
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 12/31/21 12:31 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.9c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80241-2

Login Number: 80241
List Number: 5
Creator: Nelson, Kym D

List Source: Eurofins Sacramento
List Creation: 01/06/22 10:29 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
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.	False	Water present in cooler; indicates evidence of melted ice.
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	11.9C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80241-3
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP
Revision: 1

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/7/2022 12:47:19 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 7
Client Sample Results 8
Tracer Carrier Summary 15
QC Sample Results 16
QC Association Summary 22
Lab Chronicle 23
Certification Summary 24
Method Summary 25
Sample Summary 26
Chain of Custody 27
Receipt Checklists 34

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80241-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80241-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80241-3

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 2/3/2022. The report (revision 1) is being revised due to: The project name has been revised to match the COC, deliverables updated and re-issued..

Receipt
The samples were received on 12/28/2021 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.9º C and 3.2º C.

Receipt Exceptions

The following sample(s) was listed on the Chain-of-Custody (COC); however, due to a shipping delay, the sample was not received. Only 1 of 2 coolers were received. Missing 7756 2990 7127

The AWB and Copy ICOCs were taped on top of coolers. Cooler 2/2 - 7756 2990 7127 AWB was rolled up an attached to the back of Cooler 1/2. So the 2/2 Cooler has no Identification on the outside. So hoping it is not lost.

1. Received the 1 Liter Amber 1-N
Missing The 1-L bottle

The following samples were received at the laboratory outside the required temperature criteria at 11.9C Outfall002_20211228_Comp (570-80241-1), Outfall002_20211228_Comp_Extra (570-80241-2) and Outfall002_20211228_Comp_F (570-80241-3). The second cooler was received on 1/5/22. There were no tags on the cooler because they were attached to the first cooler.

RAD
Method 900.0: Gross alpha beta batch 544905
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_20211228_Comp (570-80241-1), (LCS 160-544905/2-A), (LCSB 160-544905/3-A), (MB 160-544905/1-A), (570-80145-R-1-G), (570-80145-R-1-J DU), (570-80145-R-1-H MS) and (570-80145-R-1-I MSBT)

Method 901.1: Gamma Prep Batch 160-544496
Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231

Job ID: 570-80241-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

**The method blank (MB) Z-score is within limits and is located in the level IV raw data

Outfall002_20211228_Comp (570-80241-1) and (570-80241-R-1-B DU)

Method 903.0: Radium 226 batch 544699
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts

Outfall002_20211228_Comp (570-80241-1), (LCS 160-544699/1-A), (MB 160-544699/20-A), (660-116390-C-8-C), (660-116390-C-8-D MS) and (660-116390-B-8-B MSD)

Method 903.0: Radium 226 batch 544527
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

(LCS 160-544527/1-A), (LCSD 160-544527/2-A) and (MB 160-544527/20-A)

Method 904.0: Radium 228 batch 544530
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts

Outfall002_20211228_Comp (570-80241-1), (LCS 160-544530/1-A), (LCSD 160-544530/2-A) and (MB 160-544530/20-A)

Job ID: 570-80241-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Method 905: Strontium 90 batch 544884
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall002_20211228_Comp (570-80241-1), (LCS 160-544884/1-A), (LCSD 160-544884/2-A) and (MB 160-544884/16-A)

Method 906.0: Tritium in liquid batch 160-544497
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_20211228_Comp (570-80241-1), (LCS 160-544497/2-A), (MB 160-544497/1-A), (160-44348-A-1-A), (160-44348-A-1-B MS), (570-80231-U-1-A) and (570-80231-U-1-B DU)

Methods A-01-R, U-02-RC: Isotopic Uranium Batch 160-544910:

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_20211228_Comp (570-80241-1), (LCS 160-544910/2-A), (MB 160-544910/1-A) and (570-80241-R-1-J DU)

Method LSC_Dist_Susp: Tritium Prep Batch 544497:

The following sample had an unclear matrix: Outfall002_20211228_Comp (570-80241-1). The sample was very light tan in color.

Method PrecSep_0: Radium-228 Prep Batch 160-544530

The following samples were prepared at a reduced aliquot due to Matrix: Outfall002_20211228_Comp (570-80241-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep_0:

Method PrecSep-21:

Method PrecSep-7: Strontium-90 Prep Batch 160-544884

The following samples were prepared at a reduced aliquot due to Matrix: Outfall002_20211228_Comp (570-80241-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Client Sample ID: Outfall002_20211228_Comp
Lab Sample ID: 570-80241-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall002_20211228_Comp
Lab Sample ID: 570-80241-1
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	1.62	U	1.60	1.61	3.00	2.53	pCi/L	01/05/22 10:40	01/07/22 08:03	1
Gross Beta	**4.33**		1.05	1.14	4.00	1.23	pCi/L	01/05/22 10:40	01/07/22 08:03	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall002_20211228_Comp
Lab Sample ID: 570-80241-1
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	7.38		5.80	5.87	20.0	6.15	pCi/L	01/03/22 08:33	01/20/22 21:09	1
Potassium-40	116		56.2	57.9		50.2	pCi/L	01/03/22 08:33	01/20/22 21:09	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method: 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall002_20211228_Comp
Date Collected: 12/28/21 13:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80241-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0476	U	0.178	0.178	1.00	0.405	pCi/L	01/04/22 09:35	01/26/22 17:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.2*		*40 - 110*	*01/04/22 09:35*	*01/26/22 17:09*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall002_20211228_Comp
Date Collected: 12/28/21 13:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80241-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0365	U	0.340	0.340	1.00	0.598	pCi/L	01/03/22 12:48	01/25/22 12:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.2*		*40 - 110*	*01/03/22 12:48*	*01/25/22 12:43*	*1*
Y Carrier	*87.9*		*40 - 110*	*01/03/22 12:48*	*01/25/22 12:43*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method: 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall002_20211228_Comp
Date Collected: 12/28/21 13:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80241-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.463	U	0.446	0.447	3.00	0.720	pCi/L	01/05/22 09:29	01/20/22 15:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*81.1*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:45*	*1*
Y Carrier	*79.6*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:45*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall002_20211228_Comp
Lab Sample ID: 570-80241-1
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-144	U	199	199	500	374	pCi/L	01/03/22 08:49	01/04/22 20:04	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall002_20211228_Comp
Date Collected: 12/28/21 13:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80241-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.0490	U	0.05759	0.05767	1.00	0.0985	pCi/L	01/05/22 12:22	01/11/22 19:28	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*84.6*		*30 - 110*	*01/05/22 12:22*	*01/11/22 19:28*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
570-80241-1	Outfall002_20211228_Comp	95.2
660-116390-B-8-B MSD	Matrix Spike Duplicate	88.4
660-116390-C-8-D MS	Matrix Spike	90.7
LCS 160-544699/1-A	Lab Control Sample	97.2
MB 160-544699/20-A	Method Blank	95.5

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80241-1	Outfall002_20211228_Comp	90.2	87.9
LCS 160-544530/1-A	Lab Control Sample	89.4	84.5
LCSD 160-544530/2-A	Lab Control Sample Dup	97.2	83.0
MB 160-544530/20-A	Method Blank	89.6	84.1

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Sr	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80241-1	Outfall002_20211228_Comp	81.1	79.6
LCS 160-544884/1-A	Lab Control Sample	77.6	85.2
LCSD 160-544884/2-A	Lab Control Sample Dup	79.2	84.9
MB 160-544884/16-A	Method Blank	84.7	78.9

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)
570-80241-1	Outfall002_20211228_Comp	84.6
570-80241-1 DU	Outfall002_20211228_Comp	90.1
LCS 160-544910/2-A	Lab Control Sample	84.2
MB 160-544910/1-A	Method Blank	84.8

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-544905/1-A
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544905

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.8965	U	0.678	0.686	3.00	1.01	pCi/L	01/05/22 10:40	01/06/22 14:23	1
Gross Beta	0.1978	U	0.523	0.524	4.00	0.880	pCi/L	01/05/22 10:40	01/06/22 14:23	1

Lab Sample ID: LCS 160-544905/2-A
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	59.45		8.64	3.00	2.32	pCi/L	117	75 - 125

Lab Sample ID: LCSB 160-544905/3-A
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.7	74.99		8.03	4.00	1.03	pCi/L	99	75 - 125

Lab Sample ID: 570-80145-R-1-H MS
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	2.10		50.6	53.08		7.32	3.00	1.34	pCi/L	101	60 - 140

Lab Sample ID: 570-80145-R-1-I MSBT
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	4.10		75.7	76.77		8.19	4.00	0.790	pCi/L	96	60 - 140

Lab Sample ID: 570-80145-R-1-J DU
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	2.10		1.928		1.04	3.00	1.33	pCi/L	0.08	1
Gross Beta	4.10		5.162		1.00	4.00	0.789	pCi/L	0.56	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-544496/1-A
Matrix: Water
Analysis Batch: 547455

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544496

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.0000	U	2.36	2.36	20.0	13.2	pCi/L	01/03/22 08:33	01/21/22 17:08	1
Potassium-40	-6.817	U	148	148		157	pCi/L	01/03/22 08:33	01/21/22 17:08	1

Lab Sample ID: LCS 160-544496/2-A
Matrix: Water
Analysis Batch: 547775

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544496

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium-241	135000	139600		16600		428	pCi/L	103	75 - 125
Cesium-137	42000	42670		5080	20.0	101	pCi/L	102	75 - 125

Lab Sample ID: 570-80241-1 DU
Matrix: Water
Analysis Batch: 547775

Client Sample ID: Outfall002_20211228_Comp
Prep Type: Total/NA
Prep Batch: 544496

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Cesium-137	7.38		1.605	U	9.00	20.0	11.0	pCi/L	0.39	1
Potassium-40	116		-4.545	U	121		132	pCi/L	0.67	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-544699/20-A
Matrix: Water
Analysis Batch: 548203

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544699

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.6496		0.420	0.424	1.00	0.609	pCi/L	01/04/22 09:35	01/26/22 17:46	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.5*		*40 - 110*	*01/04/22 09:35*	*01/26/22 17:46*	*1*

Lab Sample ID: LCS 160-544699/1-A
Matrix: Water
Analysis Batch: 548200

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544699

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.1	12.99		1.72	1.00	0.565	pCi/L	86	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*97.2*		*40 - 110*

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: 660-116390-B-8-B MSD
Matrix: Water
Analysis Batch: 548203

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 544699

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	2.60		15.1	16.33		2.07	1.00	0.473	pCi/L	91	60 - 140	0.26	1

Carrier	*MSD %Yield*	*MSD Qualifier*	*Limits*
Ba Carrier	*88.4*		*40 - 110*

Lab Sample ID: 660-116390-C-8-D MS
Matrix: Water
Analysis Batch: 548203

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 544699

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	2.60		15.1	17.42		2.17	1.00	0.645	pCi/L	98	60 - 140

Carrier	*MS %Yield*	*MS Qualifier*	*Limits*
Ba Carrier	*90.7*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-544530/20-A
Matrix: Water
Analysis Batch: 548004

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544530

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.07377	U	0.301	0.301	1.00	0.529	pCi/L	01/03/22 12:48	01/25/22 12:43	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.6*		*40 - 110*	*01/03/22 12:48*	*01/25/22 12:43*	*1*
Y Carrier	*84.1*		*40 - 110*	*01/03/22 12:48*	*01/25/22 12:43*	*1*

Lab Sample ID: LCS 160-544530/1-A
Matrix: Water
Analysis Batch: 548168

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544530

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228			11.9	11.43		1.37	1.00	0.496	pCi/L	96	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*89.4*		*40 - 110*
Y Carrier	*84.5*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCSD 160-544530/2-A
Matrix: Water
Analysis Batch: 548168

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544530

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			11.9	11.13		1.33	1.00	0.542	pCi/L	93	75 - 125	0.11	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*97.2*		*40 - 110*
Y Carrier	*83.0*		*40 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-544884/16-A
Matrix: Water
Analysis Batch: 547239

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544884

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	-0.1328	U	0.444	0.444	3.00	0.811	pCi/L	01/05/22 09:29	01/20/22 15:46	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*84.7*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:46*	*1*
Y Carrier	*78.9*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:46*	*1*

Lab Sample ID: LCS 160-544884/1-A
Matrix: Water
Analysis Batch: 547233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544884

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Strontium-90			15.1	15.49		1.76	3.00	0.788	pCi/L	102	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*77.6*		*40 - 110*
Y Carrier	*85.2*		*40 - 110*

Lab Sample ID: LCSD 160-544884/2-A
Matrix: Water
Analysis Batch: 547233

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544884

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Strontium-90			15.1	16.58		1.84	3.00	0.739	pCi/L	110	75 - 125	0.30	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*79.2*		*40 - 110*
Y Carrier	*84.9*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-544497/1-A
Matrix: Water
Analysis Batch: 544877

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544497

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-117.1	U	198	198	500	366	pCi/L	01/03/22 08:49	01/04/22 18:11	1

Lab Sample ID: LCS 160-544497/2-A
Matrix: Water
Analysis Batch: 544877

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544497

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			2250	1757		358	500	364	pCi/L	78	75 - 125		

Lab Sample ID: 160-44348-A-1-B MS
Matrix: Water
Analysis Batch: 544877

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 544497

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium	108	U	2240	2306		404	500	361	pCi/L	98	60 - 140		

Lab Sample ID: 570-80231-U-1-B DU
Matrix: Water
Analysis Batch: 544877

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 544497

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	-187	U		-210.8	U	190	500	366	pCi/L			0.06	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-544910/1-A
Matrix: Water
Analysis Batch: 545867

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544910

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.04306	U	0.06185	0.06193	1.00	0.0834	pCi/L	01/05/22 12:22	01/11/22 19:28	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*84.8*		*30 - 110*	*01/05/22 12:22*	*01/11/22 19:28*	*1*

Lab Sample ID: LCS 160-544910/2-A
Matrix: Water
Analysis Batch: 545868

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544910

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Uranium-234			12.7	12.61		1.40	1.00	0.104	pCi/L	99	75 - 125		
Uranium-238			13.0	12.29		1.37	1.00	0.0937	pCi/L	94	75 - 125		

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: LCS 160-544910/2-A
Matrix: Water
Analysis Batch: 545868

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544910

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*84.2*		*30 - 110*

Lab Sample ID: 570-80241-1 DU
Matrix: Water
Analysis Batch: 545874

Client Sample ID: Outfall002_20211228_Comp
Prep Type: Total/NA
Prep Batch: 544910

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Total Uranium	0.0490	U		0.1267		0.09715	1.00	0.106	pCi/L			0.50	1

Tracer	*DU %Yield*	*DU Qualifier*	*Limits*
Uranium-232	*90.1*		*30 - 110*

Rad

Prep Batch: 544496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-544496/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-544496/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-80241-1 DU	Outfall002_20211228_Comp	Total/NA	Water	Fill_Geo-0	

Prep Batch: 544497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-544497/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-544497/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
160-44348-A-1-B MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	
570-80231-U-1-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 544530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	PrecSep_0	
MB 160-544530/20-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-544530/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-544530/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 544699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	PrecSep-21	
MB 160-544699/20-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-544699/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
660-116390-B-8-B MSD	Matrix Spike Duplicate	Total/NA	Water	PrecSep-21	
660-116390-C-8-D MS	Matrix Spike	Total/NA	Water	PrecSep-21	

Prep Batch: 544884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	PrecSep-7	
MB 160-544884/16-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-544884/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-544884/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Prep Batch: 544905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	Evaporation	
MB 160-544905/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-544905/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-544905/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-80145-R-1-H MS	Matrix Spike	Total/NA	Water	Evaporation	
570-80145-R-1-I MSBT	Matrix Spike	Total/NA	Water	Evaporation	
570-80145-R-1-J DU	Duplicate	Total/NA	Water	Evaporation	

Prep Batch: 544910

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80241-1	Outfall002_20211228_Comp	Total/NA	Water	ExtChrom	
MB 160-544910/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-544910/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
570-80241-1 DU	Outfall002_20211228_Comp	Total/NA	Water	ExtChrom	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Client Sample ID: Outfall002_20211228_Comp
Lab Sample ID: 570-80241-1
Date Collected: 12/28/21 13:30
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			150.02 mL	1.0 g	544905	01/05/22 10:40	KG	TAL SL
Total/NA	Analysis	900.0		1			545199	01/07/22 08:03	MLK	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	544496	01/03/22 08:33	LTC	TAL SL
Total/NA	Analysis	901.1		1			547226	01/20/22 21:09	CAH	TAL SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			750.51 mL	1.0 g	544699	01/04/22 09:35	LPS	TAL SL
Total/NA	Analysis	903.0		1			548200	01/26/22 17:09	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			750.77 mL	1.0 g	544530	01/03/22 12:48	LPS	TAL SL
Total/NA	Analysis	904.0		1			548004	01/25/22 12:43	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-7			500.21 mL	1.0 g	544884	01/05/22 09:29	LPS	TAL SL
Total/NA	Analysis	905		1			547239	01/20/22 15:45	FLC	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	LSC_Dist_Susp			100.27 mL	1.0 g	544497	01/03/22 08:49	BAL	TAL SL
Total/NA	Analysis	906.0		1			544877	01/04/22 20:04	JLP	TAL SL
	Instrument ID: LSCBROWN									
Total/NA	Prep	ExtChrom			499.86 mL	1.0 mL	544910	01/05/22 12:22	MLO	TAL SL
Total/NA	Analysis	A-01-R		1			545873	01/11/22 19:28	CLP	TAL SL
	Instrument ID: ALPHAVISION									

Laboratory References:
TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80241-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	TAL SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	TAL SL

Protocol References:

DOE = U.S. Department of Energy
EPA = US Environmental Protection Agency
None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80241-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002 COMP

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80241-1	Outfall002_20211228_Comp	Water	12/28/21 13:30	12/28/21 18:00

80241

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80241 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI# 44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R Total Recoverable Metals. (E200.7): Zn (E200.8): Cu, Pb, Cd, Se	R TCDD (and all congeners) (E1613B)	R BOD5 (20 degrees C) (E405.1(SM5210B_BODCalc))	R Surfactants (MBAS) (SM5540C/E425.1)	R Cl- SO_4, Nitrate-N Nitrite-N NO3+NO2-N Perchlorate (E300)	R Turbidity TDS (SM2540C/E180.1)	R TSS (160.2 (SM2540D))	R Ammonia-N (350.2)	R alpha-BHC (E608)	R 2,4,6 TCP 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	R Total Recoverable Metals. Mercury (E245.1)	C Total Recoverable Metals (E200.7) As, Mn Fe		Comments
			WM	500 mL Poly	1	HNO_3	90	No	X										X	X		Outfall 002 analyze for Fe ~~Outfall 002 analyze for Fe~~ ~~Outfall 011 analyze for As, Mn and Fe~~
			WM	1 L Glass Amber	2	None	110	No		X												
			WM	1L Poly	1	None	115	No			X											
			WM	500 mL Poly	2	None	120	No				X										
	Outfall002_20211228_Comp	12/28/2021 1330	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
Outfall 002			WM	500 mL Poly	1	H_2SO_4	160	No								X						
			WM	1 L Glass Amber	2	None	170	No									X					
			WM	1 L Glass Amber	2	None	180	No										X				
			WM	1L Poly	1	None	185	No							X							
			WM	1 L Glass Amber	2	None	110	No		H												Hold
			WM	500 mL Poly	2	None	120	No				H										Hold
	Outfall002_20211228_Comp_Extra	12/28/2021 1330	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:
	12-28-2021/1445	H:A		ECI 12/28/21 1445
	12/28/21 1800			12/28/21 1800

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: ___X___

2.3|3.2, 2.0|2.9 SCS

2/7/2022 (Rev. 1)

2019-2020 Rainy Season
Version 4

80241

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 2021 Routine Outfall [001, 002, 011, 018] Outfall 002 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI# 44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	ANALYSIS REQUIRED R: Total Dissolved Metals. (E200.7) Zn (E200.8). Cu, Pb, Cd, Se	R: Cyanide (SM4500-CN-E / E335.2)	R: Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	R: Chronic Toxicity Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	R: Total Dissolved Metals. Mercury (E245.1)	C: Total Dissolved Metals (E200.7) As, Mn Fe	Comments
Outfall 002	Outfall002_20211228_Comp_F	12/28/2021 1330	WM	1L Poly	1	None	200	No	X				X	Filter and preserve with 24hrs of receipt at lab ~~Outfall 001 analyze for Fe~~ Outfall 002 analyze for Fe ~~Outfall 011 analyze for As, Mn and Fe~~
			WM	borosilicate vials	1	None	320	No					X	Sample receiving DO NOT OPEN BAG Bag to be opened in Mercury Prep using clean procedures.
	Outfall002_20211228_Comp	12/28/2021 1330*	WM	500 mL Poly	1	NaOH	220	No		X				
			WM	2.5 Gal Cube	1	None	225	No			X			Unfiltered and unpreserved analysis. Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
				1 L Glass Amber	1	None	230	No						
			WM	1 Gal Cube	6	None	235	No				X		Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA.

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Mark Dominick	12/28/2021 1445	H.A		ECI 12/28/21 1445
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	12/28/21 1800			12/28/21 1800
Relinquished By	Date/Time:	Company:	Received By	Date/Time:

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements (Check)
No Level IV: _____ All Level IV: __X__

* Hand-delivered to ABC Labs by H.A

2019-2020 Rainy Season
Version 4

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148125 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80241-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/26/2022			
City: Earth City	TAT Requested (days)			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	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/PreoSep_21 Radium-226	904.0/PreoSep_0 Radium-228	905_Sr90/PreoSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note.
			Preservation Code:												
Outfall002_20211228_Comp (570-80241-1)	12/28/21	13 30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/29/21 1422				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148141 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80241-2
Address: 880 Riverside Parkway	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall002_20211228_Comp (570-80241-1)	12/28/21	13 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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
	Relinquished by:	12/29/21 1609				
	Relinquished by	Date/Time:	Company	Received by	Date/Time	Company
	Relinquished by	Date/Time.	Company	Received by	Date/Time	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148135 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80241-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/10/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A HCL	M - Hexane
B NaOH	N None
C Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E NaHSO4	Q - Na2SO3
F MeOH	R - Na2S2O3
G Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I Ice	U Acetone
J DI Water	V - MCAA
K EDTA	W pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.8/200.2 Cd,Pb,Cu,Se	245.1/245.1_Prep Mercury	200.7/200.2 Outfall 011 - 200.7 Total List	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	180 1/ Turbidity	SM4500NH3_G/ Ammonia	200.8/FILTRATION (MOD) Diss Cd,Pb,Cu,Se	245.1/FILTRATION Diss Mercury	200.7/FILTRATION Outfall 011 - 200.7 Diss List				Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall002_20211228_Comp (570-80241-1)	12/28/21	13 30 Pacific		Water			X	X	X	X	X	X	X							5	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall002_20211228_F (570-80241-3)	12/28/21	13 30 Pacific		Water										X	X	X				3	Filter within 24 hours use VOA vials from LL Hg Kit-Clean Hands procedure Filter

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/29/21 15:52	ECI			
2	Relinquished by:	Date/Time:	Company	Received by: Olga Oinelas	Date/Time: 12/29/21 1552	Company ECI
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06.08.2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148125.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80241-3
Address: 13715 Rider Trail North,	Due Date Requested: 1/26/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall002_20211228_Comp (570-80241-1)	12/28/21	13:30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 12/29/21 1422	Company:	Received by: FE	Date/Time:	Company:
Relinquished by: FE [signature]	Date/Time:	Company:	Received by: [signature]	Date/Time: 12/30/21 11:15	Company: ETA SR
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 | Environment Testing TestAmerica

CONDITION UPON RECEIPT FORM

Client: CasScience

Initiated by: MK Date: 12/30/21 Time: 11:15 Shipper: FE Package Quantity:

Completed by:

Sample must be received at < 6°C for Wet Chem and Mercury. If not, note temp below.
Metal soil samples must be refrigerated upon receipt.
If samples are from West Virginia, please fill out form ADMIN-0031.

Thermometer ID (°C): IR-2

Thermometer CF (°C): +0.4

	Shipping #(s)	Package Temp (°C)	Document #:
1.	7756 2913 0877	1.1	
2.	38 6897	0.5	
3.			
4.			
5.			
6.			
7.			

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1.	Y N	Are there custody seals present on the cooler?	8.	Y N	Are there custody seals present on bottles?
2.	Y N N/A	Do custody seals on cooler appear to be tampered with?	9.	Y N N/A	Do custody seals on bottles appear to be tampered with?
3.	Y N	Were contents of cooler frisked after opening, but before unpacking?	10.	Y N N/A	Was sample received with proper pH[1]? (If not, make note below) pH strip lot #: HC164522
4.	Y N	Sample received with Chain of Custody?	11.	Y N N/A	Containers for Rn-222, C-14, Cl-36, H-3 & I-129/131 marked with "Do Not Preserve" label?
5.	Y N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	Y N	Sample received in proper containers?
6.	Y N	Was sample received broken?	13.	Y N N/A	Headspace in VOA, or Rn-222 liquid samples? (>6mm) (If Yes, note sample ID's below)
7.	Y N	Is sample volume sufficient for analysis?	14.	Y N N/A	Soil containers for C-14, H-3,Tc-99 & I-129/131 marked with "Do Not Dry" label?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, Rn-222 and soils.

Notes:

pH Adjustment (if needed)	Date/Time of Preservation:
Initial pH and pH strip lot#:	Preservative and lot#:
Final pH and pH strip lot#:	Amount of Preservative:

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80241-3

Login Number: 80241
List Number: 1
Creator: Patel, Jayesh

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80241-3

Login Number: 80241
List Number: 3
Creator: Korrinhizer, Micha L

List Source: Eurofins St. Louis
List Creation: 12/30/21 02:57 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 America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80412-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 002
Revision: 1

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/25/2022 1:20:57 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Method Summary 6
Sample Summary 7
Subcontract Data 8
Chain of Custody 18
Receipt Checklists 21

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80412-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc.
Job ID: 570-80412-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

Job ID: 570-80412-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80412-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 1/15/2022. The report (revision 1) is being revised due to: The clients office requested the Enthalpy final report to be revised to remove Total Coliform reporting..

Receipt
The sample was received on 12/30/2021 3:50 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.9º C.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method 9223- Colilert 18 - E. Coli - level 4 required: This method was subcontracted to Enthalpy Analytical - Barkley. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80412-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

Client Sample ID: Outfall002_20211230_Grab
Lab Sample ID: 570-80412-1

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80412-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

Method	Method Description	Protocol	Laboratory
Subcontract	9223- Colilert 18 - E. Coli - level 4 required	None	Enthalpy

Protocol References:

None = None

Laboratory References:

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80412-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 002

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80412-1	Outfall002_20211230_Grab	Water	12/30/21 11:30	12/30/21 15:50

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 456203
Report Level: IV
Report Date: 01/25/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDES SSFL Outfalls #44024446

Authorized for release by:

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	Lab Job #: Project No: Location: Date Received:	456203 BOEING NPDES SSFL Boeing NPDES SSFL Outfalls #44024446 12/30/21

Sample ID	Lab ID	Collected	Matrix
OUTFALL002_20211230_GRAB	456203-001	12/30/21 11:30	Water

ENTHALPY ANALYTICAL

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Virendra Patel	Lab Job Number: 456203 Project No: BOEING NPDES SSFL Location: Boeing NPDES SSFL Outfalls #44024446 Date Received: 12/30/21

Total Coliform / E. coli by Quanti-Tray (SM 9223Bb):

This data package contains sample and QC results for one water sample, requested for the above referenced project on 12/30/21. The sample was received cold and intact.

No analytical problems were encountered.

Chain of Custody

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

&7 0 2 + (3 + / , - &

curofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148440.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-80412-1
Address: 931 W. Barkley Ave, ,	Due Date Requested: 1/12/2022			
City: Orange	TAT Requested (days):			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (9223- Colilert 18 - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
OF002 (570-80412-1)	12/30/21	11:30 Pacific		Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/30/21	ECI		12/30/21 1644	GA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver. 06/08/2021

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Eurofins Calscience LLC Project: Boeing NPDES SSFL Outfall

Date Received: 12/30/21 Sampler's Name Present: ☑ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2) Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 5.6 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 5.0 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✔		
Are sample IDs present?	✔		
Are sampling dates & times present?	✔		
Is a relinquished signature present?	✔		
Are the tests required clearly indicated on the COC?	✔		
Are custody seals present?		✔	
If custody seals are present, were they intact?			✔
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	✔		
Did all samples arrive intact? If no, indicate in Section 4 below.	✔		
Did all bottle labels agree with COC? (ID, dates and times)	✔		
Were the samples collected in the correct containers for the required tests?	✔		
Are the containers labeled with the correct preservatives?	✔		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✔
Was a sufficient amount of sample submitted for the requested tests?	✔		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 12/30/21

Enthalpy Analytical, a subsidiary of Montrose Environmental Group, Inc.
931 W. Barkley Ave, Orange, CA 92868 • T: (714) 771-6900 • F: (714) 538-1209
www.enthalpy.com/socal

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

&7 0 2 + (3 + / , - &

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148440.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-80412-1
Address: 931 W. Barkley Ave, ,	Due Date Requested: 1/12/2022			
City: Orange	TAT Requested (days):			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (9223- Colilert 18 - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
OF002 (570-80412-1)	12/30/21	11:30 Pacific		Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

Please update sample ID to:Outfall002_20211230_Grab
Virendra (01/13/22)

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 456203 **Project#:** BOEING NPDES SSFL

Client: Eurofins Calscience Tustin **Location:** Boeing NPDES SSFL Outfalls #44024446

Field ID:	OUTFALL002_20211230_GRAB	**Batch#:**	281040	**Analyzed:**	12/31/21 11:52
Lab ID:	456203-001	**Sampled:**	12/30/21 11:30	**Prep:**	
Matrix:	Water	**Received:**	12/30/21	**Analysis:**	SM 9223Bb
Dil'n Fac:	1.000	**Prepared:**	12/30/21 17:29	**Analyst:**	SZL

Analyte	Result	RL	Units
Coliform, E. Coli	**210**	1.0	MPN/100ml

Legend

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: M Prep Date/Time: 12/30/21 1729 QC Batch ID: 281040 Batch Page 1 of 1

Read Analyst: SL Read Date/Time 12/31/21 1152

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: ~~HK~~ HT510 (M 12/30/21) Pipette Lot #: A103665 + A103909 + A103931

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 12/1/21 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: A Incubator In, Temp/Time: 35.1 1745 Incubator Out, Temp/Time: 35.1 1152

Fecal Coliform: Water Bath ID: N/A Water Bath In, Temp/Time: N/A Water Bath Out, Temp/Time: N/A

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
Eurofins Calscience		456202-001	1x	49	48	>2419.6	>2400	45	10	135.4	140					EF-01
↓		↓ -001	10x	49	41	1203.3	12000	10	1	12.1	120					↓ -01
		-001	100x	47	11	166.4	17000	3	0	3.1	3100					-01
		456203-001	1x	49	48	>2419.6	>2400	49	11	214.3	210					EF2-01
		↓ -001	10x	49	46	1986.3	20000	10	3	14.4	140					↓ -01
		-001	100x	48	13	201.4	20000	0	0	<1	<100					-01
Quality Control		**Culture ID**														
Positive +/+ (E. Coli)		12/26/21		49	48	>2419.6	>2400	49	48	>2419.6	>2400					
Positive +/- (K. Pneumonia)		↓		49	48	>2419.6	>2400	0	0	<1	<1					
Negative -/- (P. Aeruginosa)				0	0	<1	<1	0	0	<1	<1					

M 1/15/22

M 1/15/22

Data Entered By: M 1/15/22 Data Reviewed By:

Patel, Virendra

From: Dallalah, Michelle <MDallalah@haleyaldrich.com>
Sent: Thursday, January 13, 2022 10:28 AM
To: Patel, Virendra; Barr, Anastasia; Miller, Katherine
Subject: RE: Eurofins Calscience sample confirmation files from 570-80412-1 Boeing NPDES SSFL Outfall - Outfall 002

EXTERNAL EMAIL*

Hi Virendra,

Please update the sample ID from OF002 to Outfall002_20211230_Grab

Thanks,

Michelle Dallalah
Staff Engineer

Haley & Aldrich, Inc.
5850 Canoga Avenue | Suite 400
Woodland Hills, CA 91367

T: 714.371.1804
C: 818.298.6878

www.haleyaldrich.com

From: Virendra Patel <Virendra.Patel@eurofinset.com>
Sent: Friday, December 31, 2021 10:36 AM
To: Barr, Anastasia <ABarr@haleyaldrich.com>; Miller, Katherine <KMiller@haleyaldrich.com>; Dallalah, Michelle <MDallalah@haleyaldrich.com>; Patel Virendra <Virendra.Patel@eurofinset.com>
Subject: Eurofins Calscience sample confirmation files from 570-80412-1 Boeing NPDES SSFL Outfall - Outfall 002

CAUTION: External Email

Hello,

Attached please find the sample confirmation files for job 570-80412-1; Boeing NPDES SSFL Outfall - Outfall 002

Please feel free to contact me if you have any questions.

Thank you.

Virendra Patel
Project Manager

Eurofins Calscience LLC
Phone: 714-895-5494 Ext: 218

E-mail: Virendra.Patel@eurofinset.com
www.eurofinsus.com/env

Reference: [570-275465]
Attachments: 3

> > Bank information has changed, please refer to remittance information on invoice. < <

80412

Test America Version 7/19/2010 CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
Haley & Aldrich, Inc. 5333 Mission Center Road, Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Outfall 002 Sampler: Neal Smith
Eurofins Contact. Virendra Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3269 **ECI #44024446**	Project Manager: Katherine Miller Phone Number: (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I D	Sampling Date/Time	Preservative	Bottle #	E. coli (SM9221)	Comments
OF002	W	125mL Sterile Poly	3	OF002_20211230	12/30/2021/1130	$Na_2S_2O_3$	10	X	Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

570-80412 Chain of Custody

Relinquished By	Date/Time	
[signature]	12.30.2021/1345	1345
Relinquished By	Date/Time	
[signature]	12/30/21 1550	[signature]
Relinquished By	Date/Time.	

Turn around Time (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal __X__

Sample Integrity: (check)
Intact _____ On Ice _____

Data Requirements: (check)
No Level IV ____ All Level IV ____

NPDES Level IV ____

20129SCS

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80412-1

Login Number: 80412

List Source: Eurofins Calscience

List Number: 1

Creator: Patel, Virendra

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80133-1
Client Project/Site: Boeing NPDES SSFL Outfalls
Revision: 2

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/6/2022 12:20:51 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Client Sample Results 6
Surrogate Summary 9
QC Sample Results 10
QC Association Summary 15
Lab Chronicle 16
Certification Summary 17
Method Summary 18
Sample Summary 19
Subcontract Data 20
Chain of Custody 30
Receipt Checklists 32

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfalls

Job ID: 570-80133-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
BU	Analyzed out of holding time

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: 570-80133-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80133-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 1/14/2022. The report (revision 2) is being revised due to: The clients office requested the EPA 624.1 analyte list adjusted.

Report revision history
Revision 1 - 1/25/2022 - Reason - The clients office requested the EPA 624.1 analyte list adjusted.

Receipt
The samples were received on 12/27/2021 5:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.3º C.

GC/MS VOA
Method 624.1: The following sample(s) was analyzed outside of analytical holding time due to laboratory relocation and requiring method validations. Clients were notified of hold time issues. Outfall008_20211224_Grab (570-80133-1) and TB-20211224 (570-80133-3).

Method 624.1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 440-663938 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 1664A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-205772. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.
1664

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfalls

Job ID: 570-80133-1

Client Sample ID: Outfall008_20211224_Grab — Lab Sample ID: 570-80133-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
HEM: Oil and Grease	0.73	J,DX	1.0	0.53	mg/L	1		1664A	Total/NA

Client Sample ID: TB-20211224 — Lab Sample ID: 570-80133-3

No Detections.

This Detection Summary does not include radiochemical test results.

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall008_20211224_Grab
Date Collected: 12/24/21 10:45
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80133-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	BU	0.50	0.25	ug/L			01/07/22 02:02	1
1,1,2,2-Tetrachloroethane	ND	BU	0.50	0.20	ug/L			01/07/22 02:02	1
1,1,2-Trichloroethane	ND	BU	0.50	0.17	ug/L			01/07/22 02:02	1
1,1-Dichloroethane	ND	BU	0.50	0.39	ug/L			01/07/22 02:02	1
1,1-Dichloroethene	ND	BU	0.50	0.33	ug/L			01/07/22 02:02	1
1,2-Dichlorobenzene	ND	BU	0.50	0.16	ug/L			01/07/22 02:02	1
1,2-Dichloroethane	ND	BU	0.50	0.15	ug/L			01/07/22 02:02	1
1,2-Dichloropropane	ND	BU	0.50	0.17	ug/L			01/07/22 02:02	1
1,3-Dichlorobenzene	ND	BU	0.50	0.16	ug/L			01/07/22 02:02	1
1,4-Dichlorobenzene	ND	BU	0.50	0.11	ug/L			01/07/22 02:02	1
2-Chloroethyl vinyl ether	ND	BU	2.0	1.1	ug/L			01/07/22 02:02	1
Acrolein	ND	BU	5.0	4.6	ug/L			01/07/22 02:02	1
Acrylonitrile	ND	BU	2.0	1.4	ug/L			01/07/22 02:02	1
Benzene	ND	BU	0.50	0.28	ug/L			01/07/22 02:02	1
Bromodichloromethane	ND	BU	0.50	0.19	ug/L			01/07/22 02:02	1
Bromoform	ND	BU	1.0	0.25	ug/L			01/07/22 02:02	1
Bromomethane	ND	BU	0.50	0.22	ug/L			01/07/22 02:02	1
Carbon tetrachloride	ND	BU	0.50	0.28	ug/L			01/07/22 02:02	1
Chlorobenzene	ND	BU	0.50	0.19	ug/L			01/07/22 02:02	1
Chloroethane	ND	BU	1.0	0.29	ug/L			01/07/22 02:02	1
Chloroform	ND	BU	0.50	0.19	ug/L			01/07/22 02:02	1
Chloromethane	ND	BU	0.50	0.30	ug/L			01/07/22 02:02	1
cis-1,2-Dichloroethene	ND	BU	0.50	0.21	ug/L			01/07/22 02:02	1
cis-1,3-Dichloropropene	ND	BU	0.50	0.30	ug/L			01/07/22 02:02	1
Dibromochloromethane	ND	BU	0.50	0.15	ug/L			01/07/22 02:02	1
Ethylbenzene	ND	BU	0.50	0.25	ug/L			01/07/22 02:02	1
m,p-Xylene	ND	BU	1.0	0.17	ug/L			01/07/22 02:02	1
Methylene Chloride	ND	BU	2.0	0.57	ug/L			01/07/22 02:02	1
Naphthalene	ND	BU	1.0	0.33	ug/L			01/07/22 02:02	1
o-Xylene	ND	BU	0.50	0.15	ug/L			01/07/22 02:02	1
Tetrachloroethene	ND	BU	0.50	0.21	ug/L			01/07/22 02:02	1
Toluene	ND	BU	0.50	0.23	ug/L			01/07/22 02:02	1
trans-1,2-Dichloroethene	ND	BU	0.50	0.24	ug/L			01/07/22 02:02	1
trans-1,3-Dichloropropene	ND	BU	0.50	0.18	ug/L			01/07/22 02:02	1
Trichloroethene	ND	BU	0.50	0.17	ug/L			01/07/22 02:02	1
Trichlorofluoromethane	ND	BU	0.50	0.29	ug/L			01/07/22 02:02	1
Vinyl chloride	ND	BU	0.50	0.47	ug/L			01/07/22 02:02	1
Xylenes, Total	ND	BU	1.0	0.17	ug/L			01/07/22 02:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*60 - 140*		*01/07/22 02:02*	*1*
Dibromofluoromethane (Surr)	*108*		*60 - 140*		*01/07/22 02:02*	*1*
Toluene-d8 (Surr)	*106*		*60 - 140*		*01/07/22 02:02*	*1*

Client Sample ID: TB-20211224
Date Collected: 12/24/21 10:45
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80133-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	BU	0.50	0.25	ug/L			01/07/22 02:31	1
1,1,2,2-Tetrachloroethane	ND	BU	0.50	0.20	ug/L			01/07/22 02:31	1

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: TB-20211224
Date Collected: 12/24/21 10:45
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80133-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND	BU	0.50	0.17	ug/L			01/07/22 02:31	1
1,1-Dichloroethane	ND	BU	0.50	0.39	ug/L			01/07/22 02:31	1
1,1-Dichloroethene	ND	BU	0.50	0.33	ug/L			01/07/22 02:31	1
1,2-Dichlorobenzene	ND	BU	0.50	0.16	ug/L			01/07/22 02:31	1
1,2-Dichloroethane	ND	BU	0.50	0.15	ug/L			01/07/22 02:31	1
1,2-Dichloropropane	ND	BU	0.50	0.17	ug/L			01/07/22 02:31	1
1,3-Dichlorobenzene	ND	BU	0.50	0.16	ug/L			01/07/22 02:31	1
1,4-Dichlorobenzene	ND	BU	0.50	0.11	ug/L			01/07/22 02:31	1
2-Chloroethyl vinyl ether	ND	BU	2.0	1.1	ug/L			01/07/22 02:31	1
Acrolein	ND	BU	5.0	4.6	ug/L			01/07/22 02:31	1
Acrylonitrile	ND	BU	2.0	1.4	ug/L			01/07/22 02:31	1
Benzene	ND	BU	0.50	0.28	ug/L			01/07/22 02:31	1
Bromodichloromethane	ND	BU	0.50	0.19	ug/L			01/07/22 02:31	1
Bromoform	ND	BU	1.0	0.25	ug/L			01/07/22 02:31	1
Bromomethane	ND	BU	0.50	0.22	ug/L			01/07/22 02:31	1
Carbon tetrachloride	ND	BU	0.50	0.28	ug/L			01/07/22 02:31	1
Chlorobenzene	ND	BU	0.50	0.19	ug/L			01/07/22 02:31	1
Chloroethane	ND	BU	1.0	0.29	ug/L			01/07/22 02:31	1
Chloroform	ND	BU	0.50	0.19	ug/L			01/07/22 02:31	1
Chloromethane	ND	BU	0.50	0.30	ug/L			01/07/22 02:31	1
cis-1,2-Dichloroethene	ND	BU	0.50	0.21	ug/L			01/07/22 02:31	1
cis-1,3-Dichloropropene	ND	BU	0.50	0.30	ug/L			01/07/22 02:31	1
Dibromochloromethane	ND	BU	0.50	0.15	ug/L			01/07/22 02:31	1
Ethylbenzene	ND	BU	0.50	0.25	ug/L			01/07/22 02:31	1
m,p-Xylene	ND	BU	1.0	0.17	ug/L			01/07/22 02:31	1
Methylene Chloride	ND	BU	2.0	0.57	ug/L			01/07/22 02:31	1
Naphthalene	ND	BU	1.0	0.33	ug/L			01/07/22 02:31	1
o-Xylene	ND	BU	0.50	0.15	ug/L			01/07/22 02:31	1
Tetrachloroethene	ND	BU	0.50	0.21	ug/L			01/07/22 02:31	1
Toluene	ND	BU	0.50	0.23	ug/L			01/07/22 02:31	1
trans-1,2-Dichloroethene	ND	BU	0.50	0.24	ug/L			01/07/22 02:31	1
trans-1,3-Dichloropropene	ND	BU	0.50	0.18	ug/L			01/07/22 02:31	1
Trichloroethene	ND	BU	0.50	0.17	ug/L			01/07/22 02:31	1
Trichlorofluoromethane	ND	BU	0.50	0.29	ug/L			01/07/22 02:31	1
Vinyl chloride	ND	BU	0.50	0.47	ug/L			01/07/22 02:31	1
Xylenes, Total	ND	BU	1.0	0.17	ug/L			01/07/22 02:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*60 - 140*		*01/07/22 02:31*	*1*
Dibromofluoromethane (Surr)	*111*		*60 - 140*		*01/07/22 02:31*	*1*
Toluene-d8 (Surr)	*106*		*60 - 140*		*01/07/22 02:31*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfalls

Job ID: 570-80133-1

General Chemistry

Client Sample ID: Outfall008_20211224_Grab
Date Collected: 12/24/21 10:45
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80133-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	0.73	J,DX	1.0	0.53	mg/L		01/05/22 16:55	01/05/22 16:55	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfalls

Job ID: 570-80133-1

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)						
570-80133-1	Outfall008_20211224_Grab	98	108	106						
570-80133-3	TB-20211224	100	111	106						
570-80528-G-1 MS	Matrix Spike	112	103	103						
570-80528-I-1 MSD	Matrix Spike Duplicate	108	103	104						
LCS 440-663938/1004	Lab Control Sample	109	98	99						
LCS 440-663938/1005	Lab Control Sample	99	107	109						
MB 440-663938/6	Method Blank	100	107	111						

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-663938/6
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/06/22 19:47	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/06/22 19:47	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/06/22 19:47	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/06/22 19:47	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/06/22 19:47	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/06/22 19:47	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/06/22 19:47	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/06/22 19:47	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/06/22 19:47	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/06/22 19:47	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/06/22 19:47	1
Acrolein	ND		5.0	4.6	ug/L			01/06/22 19:47	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/06/22 19:47	1
Benzene	ND		0.50	0.28	ug/L			01/06/22 19:47	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/06/22 19:47	1
Bromoform	ND		1.0	0.25	ug/L			01/06/22 19:47	1
Bromomethane	ND		0.50	0.22	ug/L			01/06/22 19:47	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/06/22 19:47	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/06/22 19:47	1
Chloroethane	ND		1.0	0.29	ug/L			01/06/22 19:47	1
Chloroform	ND		0.50	0.19	ug/L			01/06/22 19:47	1
Chloromethane	ND		0.50	0.30	ug/L			01/06/22 19:47	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/06/22 19:47	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/06/22 19:47	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/06/22 19:47	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/06/22 19:47	1
m,p-Xylene	ND		1.0	0.17	ug/L			01/06/22 19:47	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/06/22 19:47	1
Naphthalene	ND		1.0	0.33	ug/L			01/06/22 19:47	1
o-Xylene	ND		0.50	0.15	ug/L			01/06/22 19:47	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/06/22 19:47	1
Toluene	ND		0.50	0.23	ug/L			01/06/22 19:47	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/06/22 19:47	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/06/22 19:47	1
Trichloroethene	ND		0.50	0.17	ug/L			01/06/22 19:47	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			01/06/22 19:47	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/06/22 19:47	1
Xylenes, Total	ND		1.0	0.17	ug/L			01/06/22 19:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*60 - 140*		*01/06/22 19:47*	*1*
Dibromofluoromethane (Surr)	*107*		*60 - 140*		*01/06/22 19:47*	*1*
Toluene-d8 (Surr)	*111*		*60 - 140*		*01/06/22 19:47*	*1*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-663938/1004
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	25.5		ug/L		102	69 - 151
1,1,2,2-Tetrachloroethane	25.0	31.0		ug/L		124	68 - 136
1,1,2-Trichloroethane	25.0	28.6		ug/L		114	75 - 136
1,1-Dichloroethane	25.0	26.9		ug/L		108	71 - 143
1,1-Dichloroethene	25.0	27.4		ug/L		109	19 - 212
1,2-Dichlorobenzene	25.0	24.5		ug/L		98	59 - 174
1,2-Dichloroethane	25.0	27.1		ug/L		108	72 - 137
1,2-Dichloropropane	25.0	28.0		ug/L		112	19 - 181
1,3-Dichlorobenzene	25.0	24.9		ug/L		100	75 - 144
1,4-Dichlorobenzene	25.0	24.7		ug/L		99	59 - 174
2-Chloroethyl vinyl ether	25.0	29.5		ug/L		118	10 - 252
Acrolein	24.7	28.7		ug/L		116	50 - 150
Acrylonitrile	250	300		ug/L		120	50 - 150
Benzene	25.0	25.5		ug/L		102	75 - 125
Bromodichloromethane	25.0	27.1		ug/L		108	50 - 140
Bromoform	25.0	23.8		ug/L		95	57 - 156
Bromomethane	25.0	28.2		ug/L		113	10 - 206
Carbon tetrachloride	25.0	25.4		ug/L		101	65 - 125
Chlorobenzene	25.0	24.9		ug/L		99	82 - 137
Chloroethane	25.0	29.4		ug/L		118	42 - 202
Chloroform	25.0	25.6		ug/L		102	68 - 121
Chloromethane	25.0	31.6		ug/L		127	10 - 230
cis-1,2-Dichloroethene	25.0	23.1		ug/L		93	60 - 140
cis-1,3-Dichloropropene	25.0	28.7		ug/L		115	5 - 195
Dibromochloromethane	25.0	25.7		ug/L		103	69 - 133
Ethylbenzene	25.0	24.1		ug/L		97	75 - 134
m,p-Xylene	25.0	23.5		ug/L		94	60 - 140
Methylene Chloride	25.0	25.0		ug/L		100	10 - 205
Naphthalene	25.0	23.6		ug/L		95	60 - 140
o-Xylene	25.0	23.5		ug/L		94	60 - 140
Tetrachloroethene	25.0	23.5		ug/L		94	70 - 130
Toluene	25.0	24.8		ug/L		99	75 - 134
trans-1,2-Dichloroethene	25.0	23.2		ug/L		93	70 - 130
trans-1,3-Dichloropropene	25.0	29.0		ug/L		116	38 - 162
Trichloroethene	25.0	22.7		ug/L		91	75 - 138
Trichlorofluoromethane	25.0	29.8		ug/L		119	45 - 158
Vinyl chloride	25.0	31.8		ug/L		127	10 - 218
Xylenes, Total	50.0	47.0		ug/L		94	

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*60 - 140*
Dibromofluoromethane (Surr)	*98*		*60 - 140*
Toluene-d8 (Surr)	*99*		*60 - 140*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-663938/1005
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*60 - 140*
Dibromofluoromethane (Surr)	*107*		*60 - 140*
Toluene-d8 (Surr)	*109*		*60 - 140*

Lab Sample ID: 570-80528-G-1 MS
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		25.0	25.9		ug/L		104	52 - 162
1,1,2,2-Tetrachloroethane	ND		25.0	30.5		ug/L		122	46 - 157
1,1,2-Trichloroethane	ND		25.0	27.8		ug/L		111	52 - 150
1,1-Dichloroethane	ND		25.0	26.8		ug/L		107	59 - 155
1,1-Dichloroethene	ND		25.0	29.6		ug/L		119	10 - 234
1,2-Dichlorobenzene	ND		25.0	24.2		ug/L		97	18 - 190
1,2-Dichloroethane	ND		25.0	27.2		ug/L		109	49 - 155
1,2-Dichloropropane	ND		25.0	28.0		ug/L		112	10 - 210
1,3-Dichlorobenzene	ND		25.0	24.2		ug/L		97	59 - 156
1,4-Dichlorobenzene	ND		25.0	24.6		ug/L		98	18 - 190
2-Chloroethyl vinyl ether	ND		25.0	29.5		ug/L		118	10 - 305
Acrolein	ND		24.7	18.4		ug/L		74	40 - 160
Acrylonitrile	ND		250	273		ug/L		109	40 - 160
Benzene	ND		25.0	25.9		ug/L		104	37 - 151
Bromodichloromethane	ND		25.0	27.6		ug/L		110	35 - 155
Bromoform	ND		25.0	24.9		ug/L		100	45 - 169
Bromomethane	ND		25.0	29.4		ug/L		118	10 - 242
Carbon tetrachloride	ND		25.0	27.3		ug/L		109	70 - 140
Chlorobenzene	ND		25.0	25.4		ug/L		102	37 - 160
Chloroethane	ND		25.0	30.1		ug/L		121	14 - 230
Chloroform	ND		25.0	26.3		ug/L		105	51 - 138
Chloromethane	ND		25.0	32.8		ug/L		131	10 - 273
cis-1,2-Dichloroethene	ND		25.0	24.4		ug/L		98	60 - 140
cis-1,3-Dichloropropene	ND		25.0	28.6		ug/L		115	10 - 227
Dibromochloromethane	ND		25.0	26.1		ug/L		104	53 - 149
Ethylbenzene	ND		25.0	25.4		ug/L		102	37 - 162
m,p-Xylene	ND		25.0	24.4		ug/L		98	60 - 140
Methylene Chloride	ND		25.0	24.5		ug/L		98	10 - 221
Naphthalene	ND		25.0	23.3		ug/L		93	60 - 140
o-Xylene	ND		25.0	24.9		ug/L		99	60 - 140
Tetrachloroethene	ND		25.0	25.1		ug/L		100	64 - 148
Toluene	ND		25.0	26.1		ug/L		104	47 - 150
trans-1,2-Dichloroethene	ND		25.0	23.0		ug/L		92	54 - 156
trans-1,3-Dichloropropene	ND		25.0	28.6		ug/L		114	17 - 183
Trichloroethene	ND		25.0	23.5		ug/L		94	70 - 157
Trichlorofluoromethane	ND		25.0	30.9		ug/L		124	17 - 181
Vinyl chloride	ND		25.0	35.4		ug/L		142	10 - 251
Xylenes, Total	ND		50.0	49.3		ug/L		99	

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-80528-G-1 MS
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*60 - 140*
Dibromofluoromethane (Surr)	*103*		*60 - 140*
Toluene-d8 (Surr)	*103*		*60 - 140*

Lab Sample ID: 570-80528-I-1 MSD
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		25.0	26.3		ug/L		105	52 - 162	2	36
1,1,2,2-Tetrachloroethane	ND		25.0	31.3		ug/L		125	46 - 157	3	61
1,1,2-Trichloroethane	ND		25.0	28.1		ug/L		112	52 - 150	1	45
1,1-Dichloroethane	ND		25.0	27.9		ug/L		112	59 - 155	4	40
1,1-Dichloroethene	ND		25.0	30.4		ug/L		121	10 - 234	2	32
1,2-Dichlorobenzene	ND		25.0	24.3		ug/L		97	18 - 190	1	57
1,2-Dichloroethane	ND		25.0	26.8		ug/L		107	49 - 155	1	49
1,2-Dichloropropane	ND		25.0	27.9		ug/L		112	10 - 210	0	55
1,3-Dichlorobenzene	ND		25.0	24.0		ug/L		96	59 - 156	1	43
1,4-Dichlorobenzene	ND		25.0	23.9		ug/L		96	18 - 190	3	57
2-Chloroethyl vinyl ether	ND		25.0	28.9		ug/L		116	10 - 305	2	71
Acrolein	ND		24.7	24.4		ug/L		99	40 - 160	28	60
Acrylonitrile	ND		250	303		ug/L		121	40 - 160	10	60
Benzene	ND		25.0	26.1		ug/L		104	37 - 151	1	61
Bromodichloromethane	ND		25.0	27.0		ug/L		108	35 - 155	2	56
Bromoform	ND		25.0	25.5		ug/L		102	45 - 169	2	42
Bromomethane	ND		25.0	28.3		ug/L		113	10 - 242	4	61
Carbon tetrachloride	ND		25.0	27.3		ug/L		109	70 - 140	0	41
Chlorobenzene	ND		25.0	24.4		ug/L		98	37 - 160	4	53
Chloroethane	ND		25.0	29.7		ug/L		119	14 - 230	1	78
Chloroform	ND		25.0	26.7		ug/L		107	51 - 138	1	54
Chloromethane	ND		25.0	31.7		ug/L		127	10 - 273	3	60
cis-1,2-Dichloroethene	ND		25.0	25.1		ug/L		101	60 - 140	3	35
cis-1,3-Dichloropropene	ND		25.0	28.6		ug/L		114	10 - 227	0	58
Dibromochloromethane	ND		25.0	25.3		ug/L		101	53 - 149	3	50
Ethylbenzene	ND		25.0	25.3		ug/L		101	37 - 162	0	63
m,p-Xylene	ND		25.0	23.3		ug/L		93	60 - 140	4	35
Methylene Chloride	ND		25.0	25.5		ug/L		102	10 - 221	4	28
Naphthalene	ND		25.0	23.6		ug/L		94	60 - 140	1	35
o-Xylene	ND		25.0	24.4		ug/L		97	60 - 140	2	35
Tetrachloroethene	ND		25.0	25.3		ug/L		101	64 - 148	1	39
Toluene	ND		25.0	25.8		ug/L		103	47 - 150	1	41
trans-1,2-Dichloroethene	ND		25.0	24.2		ug/L		97	54 - 156	5	45
trans-1,3-Dichloropropene	ND		25.0	28.9		ug/L		115	17 - 183	1	86
Trichloroethene	ND		25.0	23.4		ug/L		94	70 - 157	0	48
Trichlorofluoromethane	ND		25.0	31.4		ug/L		125	17 - 181	1	84
Vinyl chloride	ND		25.0	35.2		ug/L		141	10 - 251	1	66
Xylenes, Total	ND		50.0	47.7		ug/L		95		3	

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-80528-I-1 MSD
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*60 - 140*
Dibromofluoromethane (Surr)	*103*		*60 - 140*
Toluene-d8 (Surr)	*104*		*60 - 140*

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-205772/1-A
Matrix: Water
Analysis Batch: 205970

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205772

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	ND		1.0	0.51	mg/L		01/05/22 16:55	01/05/22 16:55	1

Lab Sample ID: LCS 570-205772/2-A
Matrix: Water
Analysis Batch: 205970

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205772

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
HEM: Oil and Grease			40.0	38.6		mg/L		97	78 - 114		

Lab Sample ID: LCSD 570-205772/3-A
Matrix: Water
Analysis Batch: 205970

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205772

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM: Oil and Grease			40.0	39.2		mg/L		98	78 - 114	2	18

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfalls

Job ID: 570-80133-1

GC/MS VOA

Analysis Batch: 663938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80133-1	Outfall008_20211224_Grab	Total/NA	Water	624.1	
570-80133-3	TB-20211224	Total/NA	Water	624.1	
MB 440-663938/6	Method Blank	Total/NA	Water	624.1	
LCS 440-663938/1004	Lab Control Sample	Total/NA	Water	624.1	
LCS 440-663938/1005	Lab Control Sample	Total/NA	Water	624.1	
570-80528-G-1 MS	Matrix Spike	Total/NA	Water	624.1	
570-80528-I-1 MSD	Matrix Spike Duplicate	Total/NA	Water	624.1	

General Chemistry

Prep Batch: 205772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80133-1	Outfall008_20211224_Grab	Total/NA	Water	1664A	
MB 570-205772/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-205772/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-205772/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

Analysis Batch: 205970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80133-1	Outfall008_20211224_Grab	Total/NA	Water	1664A	205772
MB 570-205772/1-A	Method Blank	Total/NA	Water	1664A	205772
LCS 570-205772/2-A	Lab Control Sample	Total/NA	Water	1664A	205772
LCSD 570-205772/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	205772

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfalls

Job ID: 570-80133-1

Client Sample ID: Outfall008_20211224_Grab

Lab Sample ID: 570-80133-1

Date Collected: 12/24/21 10:45
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	663938	01/07/22 02:02	N1A	IRV 2
	Instrument ID: GCMS13									
Total/NA	Prep	1664A			964 mL	1000 mL	205772	01/05/22 16:55	USUL	ECL 1
Total/NA	Analysis	1664A		1			205970	01/05/22 16:55	L6IE	ECL 1
	Instrument ID: ICPMS05									

Client Sample ID: TB-20211224

Lab Sample ID: 570-80133-3

Date Collected: 12/24/21 10:45
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	663938	01/07/22 02:31	N1A	IRV 2
	Instrument ID: GCMS13									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80133-1
Project/Site: Boeing NPDES SSFL Outfalls

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
624.1		Water	cis-1,2-Dichloroethene
624.1		Water	Naphthalene
624.1		Water	Xylenes, Total

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfalls

Job ID: 570-80133-1

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	IRV 2
1664A	HEM and SGT-HEM	1664A	ECL 1
Subcontract	9223- Colilert 18 - E. Coli - level 4 required	None	Enthalpy
1664A	HEM and SGT-HEM (Aqueous)	1664A	ECL 1

Protocol References:

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

None = None

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfalls

Job ID: 570-80133-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80133-1	Outfall008_20211224_Grab	Water	12/24/21 10:45	12/27/21 17:35
570-80133-3	TB-20211224	Water	12/24/21 10:45	12/27/21 17:35

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 456049
Report Level: IV
Report Date: 01/25/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDES SSFL Outfalls #44024446

Authorized for release by:

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	Lab Job #: Project No: Location: Date Received:	456049 BOEING NPDES SSFL Boeing NPDES SSFL Outfalls #44024446 12/28/21

Sample ID	Lab ID	Collected	Matrix
OUTFALL008_20211224_GRAB (57080133-1)	456049-001	12/24/21 10:45	Water

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience, Inc. 7440 Lincoln Way Garden Grove, CA 92841-1427 Virendra Patel	Lab Job Number: 456049 Location: Boeing NPDES SSFL Outfalls #44024446 Date Received: 12/28/21

This data package contains sample and QC results for one water sample, requested for the above referenced project on 12/28/21. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

456049

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-147893.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-80133-1
Address: 931 W. Barkley Ave, ,	Due Date Requested: 1/7/2022			Preservation Codes:
City: Orange	TAT Requested (days):			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify) Other:
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (9223- Colilert 18 - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall008_20211224_Grab (570-80133-1)	12/24/21	10:45 Pacific		Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/27/21 1511	EC		12/28/21 1510	EA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Eurofins Calscience Garden Grove Project: Boeing NPDES SSFL Outfall

Date Received: 12/28/21 Sampler's Name Present: ☐ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2) Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 0.4 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 0.1 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✔		
Are sample IDs present?	✔		
Are sampling dates & times present?	✔		
Is a relinquished signature present?	✔		
Are the tests required clearly indicated on the COC?	✔		
Are custody seals present?		✔	
If custody seals are present, were they intact?			✔
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	✔		
Did all samples arrive intact? If no, indicate in Section 4 below.	✔		
Did all bottle labels agree with COC? (ID, dates and times)	✔		
Were the samples collected in the correct containers for the required tests?	✔		
Are the containers labeled with the correct preservatives?	✔		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✔
Was a sufficient amount of sample submitted for the requested tests?	✔		

Section 5 Explanations/Comments

Received outside holding time.

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 12/28/21

Enthalpy Analytical, a subsidiary of Montrose Environmental Group, Inc.
931 W. Barkley Ave, Orange, CA 92868 • T: (714) 771-6900 • F: (714) 538-1209
www.enthalpy.com/socal

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 456049 **Project#:** BOEING NPDES SSFL

Client: Eurofins Calscience Tustin **Location:** Boeing NPDES SSFL Outfalls #44024446

Field ID:	OUTFALL008_20211224_GRAB (57080133-1)	**Batch#:**	280855	**Analyzed:**	12/29/21 10:53
Lab ID:	456049-001	**Sampled:**	12/24/21 10:45	**Prep:**	
Matrix:	Water	**Received:**	12/28/21	**Analysis:**	SM 9223Bb
Dil'n Fac:	1.000	**Prepared:**	12/28/21 16:22	**Analyst:**	SZL

Analyte	Result	RL	Units	Qual
Coliform, E. Coli	**3.1**	1.0	MPN/100ml	H

Legend

H: Holding time was exceeded

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: SL Prep Date/Time: 12/28/21 1622 QC Batch ID: 280855 Batch Page 1 of 2

Read Analyst: SL Read Date/Time 12/29/21 1053

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: HT510 Pipette Lot #: A103665, A103909, & A103931

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 12/1/21 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: A Incubator In, Temp/Time: 34.8 1646 Incubator Out, Temp/Time: 1053 35.1

Fecal Coliform: Water Bath ID: N/A Water Bath In, Temp/Time: N/A Water Bath Out, Temp/Time: N/A

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
ECL GG		456046-001	1X	49	48	>2419.6	>2400	40	9	95.9	96					EU-01
↓		↓	10X	49	36	866.4	8700	8	1	9.7	97					↓
			100X	36	5	69.7	7000	0	0	<1	<100					
		456044-001	1X	49	48	>2419.6	>2400	46	10	146.7	150					EU2-01
		↓	10X	49	39	1046.2	10,000	7	3	10.7	110					↓
			100X	28	5	47.3	4700	0	0	<1	<100					
		456049-001	1X	49	48	>2419.6	>2400	3	0	3.1	3.1					EU3-01
		↓	10X	49	~~48~~ 25	461.1	4600	1	0	1.0	10					↓
			100X	34	5	63.1	6300	0	0	<1	<100					
		456047-001	1X	49	48	>2419.6	>2400	31	4	52.9	53					EU4-01
		↓	10X	49	48	>2419.6	>24000	1	0	1.0	10					↓
			100X	49	47	2419.6	240000	0	0	<1	<100					
↓		456052-001	1X	33	4	58.3	58	0	0	<1	<1					EU5-01
Quality Control		**Culture ID**														
Positive +/+ (E. Coli)		12/06/21		49	48	>2419.6	>2400	49	48	>2419.6	>2400					
Positive +/- (K. Pneumonia)		↓		49	48	>2419.6	>2400	0	0	<1	<1					
Negative -/- (P. Aeruginosa)				0	0	<1	<1	0	0	<1	<1					

(Fecal Coliform columns lined through: NA 12/30/21)

Data Entered By: NA 12/30/21 Data Reviewed By: ____________

SM 9223 B-b, Quanti-Tray

Prep Analyst: SL Prep Date/Time: 12/28/21 1622 QC Batch ID: 280855 Batch Page 2 of 2

Read Analyst: SL Read Date/Time 12/29/21 1053

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: HT510 Pipette Lot #: A103665, A103909, & A103931

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 12/1/21 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: A Incubator In, Temp/Time: 34.8 1646 Incubator Out, Temp/Time: 1035 35.1

Fecal Coliform: Water Bath ID: N/A Water Bath In, Temp/Time: N/A Water Bath Out, Temp/Time: N/A

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
ECL GG		456052-001	10X	1	1	2.0	20	0	0	<1	<10					EU5-01
↓		↓	100X	1	0	1.0	100	0	0	<1	<100					↓
Quality Control		Culture ID														
Positive +/+ (E. Coli)		12/26/21														
Positive +/- (K. Pneumonia)		↓														
Negative -/- (P. Aeruginosa)		↓														

NL 12/30/21

NL 12/30/21

Data Entered By: NL 12/30/21 Data Reviewed By:

80133

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80133 Chain of Custody

Client Name/Address.
Haley & Aldrich
5333 Mission Center Rd Suite 300
San Diego, CA 92108

Eurofins Calscience Irvine Contact: Virendra Patel ECI# 44024446
17461 Derian Ave Suite #100
Irvine CA 92614
Tel: 949-260-3218

Project:
Boeing-SSFL NPDES
Permit 2021
Annual Outfall [008]
Outfall 008
Grab

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Project Manager: Katherine Miller
520.289.8606, 520.904.6944 (cell)

Sampler: MARK DOMINICK

Field Manager: Mark Dominick
978.234.5033, 818.599.0702 (cell)

Field Readings | Meter serial #: WYR79S9L

Field Readings: (Include units)
Time of Readings: 1035
pH 7.19 pH unit
Temp 53 °C/°F

Field readings QC
Checked by: [signature]
Date/Time: 12-24-2021/1035

ANALYSIS REQUIRED

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	MST-Bacteroidales, Human (SAM348-357) Source Molecular in Miami Lakes FL (A)	E coli (SM9221) Enthalpy Analytical Orange CA (A)	Oil & Grease (E1664A-HEM) (R)	VOCs PP + xylenes, Freon 11 (E624) (A)	VOCs - only A+A+2CVE (E624) (A)					Comments
Outfall 008	Outfall008_20211224_Grab	* 12/24/2021/1045	WM	125 mL Sterile Poly	1	None	5	No	X									Deliver to lab ASAP 8 hr hold time
			WM	125 mL Sterile Poly	3	Na2S2O3	10	No		X								Deliver to lab ASAP 8 hr hold time Need 1x, 10x 100x dilutions
			WM	1 L Glass Amber	2	HCl	15	No			X							
			WM	40 mL VOA	3	HCl	40	No				X						
			WM	40 mL VOA	3	None	55	No					X					
	Outfall008_20211224_Grab_Extra	12/24/2021/1045	WM	1 L Glass Amber	2	HCl	15	No			H							Hold
			WM	40 mL VOA	3	HCl	40	No				H						Hold
			WM	40 mL VOA	3	None	55	No					H					Hold
Trip Blanks	TB-20211224	12/24/2021/1045	WQ	40 mL VOA	2	HCl	40	No				X						
			WQ	40 mL VOA	2	None	55	No					X					

Legend: R = Routine, A = Annual

Relinquished By	Date/Time:	Company	Received By	Date/Time:
[signature]	12-27 2021/1445	H+A	[signature]	EC 12/27/21 1445
[signature]	12/27/21 1735		[signature]	12/27/21 1735

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

*Delivered separately to ABC via FedEx

2.4/3.3 SCS

2019-2020 Rainy Season
Version 2

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148948 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80133-1
Address: 2841 Dow Avenue	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S - H2SO4
H Ascorbic Acid	T TSP Dodecahydrate
I Ice	U - Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	624.1_LL/624_Prep_3D PP+xyl+fr113,11,123A+cyclohex+A+A+2CVE	624.1_LL/624_Prep_3D PP+xyl+fr113,11,123A+cyclohex+A+A+2CVE (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall008_20211224_Grab (570-80133-1)	12/24/21	10 45 Pacific		Water			X		6	Analyze on "Closed System only"
Outfall008_20211224_Grab_Extra (570-80133-2)	12/24/21	10 45 Pacific		Water				X	6	Analyze on "Closed System only"
TB-20211224 (570-80133-3)	12/24/21	10 45 Pacific		Water			X		4	Analyze on "Closed System only"

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements: IR-89 1.4/14

Empty Kit Relinquished by	Date	Time	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	01/05/22	GCI			
Relinquished by	Date/Time	Company	Received by: Olga Cinelas	Date/Time 01/05/22 1130	Company FCT
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80133-1

Login Number: 80133
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: 570-80133-1

Login Number: 80133
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 01/05/22 01:07 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80145-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP
Revision: 1

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/28/2022 2:51:19 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 5
Detection Summary 7
Client Sample Results 8
Surrogate Summary 25
QC Sample Results 26
QC Association Summary 44
Lab Chronicle 49
Certification Summary 51
Method Summary 52
Sample Summary 53
Chain of Custody 54
Receipt Checklists 63

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
PI	Primary and confirm results varied by > than 40% RPD

HPLC/IC

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
BU	Analyzed out of holding time
BV	Sample received after holding time expired
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

Metals

Qualifier	Qualifier Description
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

General Chemistry

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TNTC	Too Numerous To Count

Job ID: 570-80145-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80145-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 1/24/2022. The report (revision 1) is being revised due to: The clients office requested As/Be to be added to the analyte lists for EPA 200.7 Total/Dissolved reporting.

Receipt
The samples were received on 12/27/2021 5:35 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 2.7º C and 2.9º C.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

HPLC/IC
Method 218.6: The following sample was diluted due to the nature of the sample matrix: Outfall008_20211226_Comp (570-80145-1). Elevated reporting limits (RLs) are provided.

Method 218.6: The following sample was received outside of holding time: Outfall008_20211226_Comp (570-80145-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall008_20211226_Comp_F (570-80145-2). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method 200.7 Rev 4.4: The method blank for preparation batch 440-664218 and analytical batch 440-664336 contained Arsenic, Calcium and Magnesium above the method detection limit. This target analyte concentration was less than the reporting limit (RL) or greater than 10X the value found in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 200.7 Rev 4.4: The method blank for preparation batch 440-663584 and 440-663619 and analytical batch 440-663658 contained Nickel above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 245.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate(MS/MSD) associated with preparation batch 440-663587 and 440-664073.

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall008_20211226_Comp_F (570-80145-2). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to Tustin relocation.

12/29/21 @ 14:40 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall008_20211226_Comp_F (570-80145-2). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to Tustin relocation.

Job ID: 570-80145-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

12/29/21 @ 15:47 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-203919. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 608.3

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-204353. 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.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4.8	J,DX	5.0	1.8	mg/L	5		300.0	Total/NA
Nitrite as N	0.18	J,DX	0.50	0.090	mg/L	5		300.0	Total/NA
Nitrate as N	4.2		0.50	0.12	mg/L	5		300.0	Total/NA
Sulfate	3.2	J,DX	5.0	1.2	mg/L	5		300.0	Total/NA
Nitrate Nitrite as N	4.4		0.20	0.071	mg/L	1		NO2NO3 Calc	Total/NA
Aluminum	100		100	50	ug/L	1		200.7 Rev 4.4	Total Recoverable
Boron	89		50	25	ug/L	1		200.7 Rev 4.4	Total Recoverable
Iron	99	J,DX	100	50	ug/L	1		200.7 Rev 4.4	Total Recoverable
Antimony	0.87	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	2.4		2.0	0.50	ug/L	1		200.8	Total Recoverable
Hardness, as CaCO3	44		0.91	0.17	mg/L	1		SM 2340B	Total Recoverable
Total Dissolved Solids	120		10	3.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	5.7		1.1	0.53	mg/L	1		SM 2540D	Total/NA
Ammonia (as N)	0.139	J,DX	0.200	0.100	mg/L	1		SM 4500 NH3 G	Total/NA

Client Sample ID: Outfall008_20211226_Comp_F
Lab Sample ID: 570-80145-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	76		50	25	ug/L	1		200.7 Rev 4.4	Dissolved
Chromium	3.5	J,DX	5.0	2.5	ug/L	1		200.7 Rev 4.4	Dissolved
Vanadium	2.4	J,DX	10	2.1	ug/L	1		200.7 Rev 4.4	Dissolved
Beryllium	0.80	J,DX	2.0	0.44	ug/L	1		200.7 Rev 4.4	Dissolved
Copper	1.8	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Hardness, as CaCO3	37		0.91	0.17	mg/L	1		SM 2340B	Dissolved

This Detection Summary does not include radiochemical test results.

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.21	0.14	ug/L		12/29/21 05:48	12/30/21 16:11	1
1,2-Dichlorobenzene	ND		0.21	0.14	ug/L		12/29/21 05:48	12/30/21 16:11	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.21	0.074	ug/L		12/29/21 05:48	12/30/21 16:11	1
1,3-Dichlorobenzene	ND		0.21	0.14	ug/L		12/29/21 05:48	12/30/21 16:11	1
1,4-Dichlorobenzene	ND		0.21	0.14	ug/L		12/29/21 05:48	12/30/21 16:11	1
bis (2-chloroisopropyl) ether	ND		0.21	0.098	ug/L		12/29/21 05:48	12/30/21 16:11	1
2,4,6-Trichlorophenol	ND		1.1	0.072	ug/L		12/29/21 05:48	12/30/21 16:11	1
2,4-Dichlorophenol	ND		1.1	0.10	ug/L		12/29/21 05:48	12/30/21 16:11	1
2,4-Dimethylphenol	ND		0.21	0.14	ug/L		12/29/21 05:48	12/30/21 16:11	1
2,4-Dinitrophenol	ND		5.3	1.1	ug/L		12/29/21 05:48	12/30/21 16:11	1
2,4-Dinitrotoluene	ND		0.21	0.11	ug/L		12/29/21 05:48	12/30/21 16:11	1
2,6-Dinitrotoluene	ND		0.21	0.14	ug/L		12/29/21 05:48	12/30/21 16:11	1
2-Chloronaphthalene	ND		0.21	0.15	ug/L		12/29/21 05:48	12/30/21 16:11	1
2-Chlorophenol	ND		0.21	0.088	ug/L		12/29/21 05:48	12/30/21 16:11	1
3,3'-Dichlorobenzidine	ND		5.3	1.7	ug/L		12/29/21 05:48	12/30/21 16:11	1
2-Nitrophenol	ND		5.3	1.5	ug/L		12/29/21 05:48	12/30/21 16:11	1
4,6-Dinitro-2-methylphenol	ND		5.3	4.2	ug/L		12/29/21 05:48	12/30/21 16:11	1
4-Bromophenyl phenyl ether	ND		0.21	0.082	ug/L		12/29/21 05:48	12/30/21 16:11	1
4-Chloro-3-methylphenol	ND		1.1	0.12	ug/L		12/29/21 05:48	12/30/21 16:11	1
4-Chlorophenyl phenyl ether	ND		0.21	0.096	ug/L		12/29/21 05:48	12/30/21 16:11	1
4-Nitrophenol	ND		5.3	1.2	ug/L		12/29/21 05:48	12/30/21 16:11	1
Acenaphthene	ND		0.21	0.092	ug/L		12/29/21 05:48	12/30/21 16:11	1
Acenaphthylene	ND		0.21	0.090	ug/L		12/29/21 05:48	12/30/21 16:11	1
Anthracene	ND		0.21	0.077	ug/L		12/29/21 05:48	12/30/21 16:11	1
Benzidine	ND		5.3	2.4	ug/L		12/29/21 05:48	12/30/21 16:11	1
Benzo[a]anthracene	ND		0.21	0.074	ug/L		12/29/21 05:48	12/30/21 16:11	1
Benzo[a]pyrene	ND		0.21	0.077	ug/L		12/29/21 05:48	12/30/21 16:11	1
Benzo[b]fluoranthene	ND		0.21	0.11	ug/L		12/29/21 05:48	12/30/21 16:11	1
Benzo[g,h,i]perylene	ND		0.21	0.13	ug/L		12/29/21 05:48	12/30/21 16:11	1
Benzo[k]fluoranthene	ND		0.21	0.082	ug/L		12/29/21 05:48	12/30/21 16:11	1
Bis(2-chloroethoxy)methane	ND		0.21	0.15	ug/L		12/29/21 05:48	12/30/21 16:11	1
Bis(2-chloroethyl)ether	ND		0.21	0.10	ug/L		12/29/21 05:48	12/30/21 16:11	1
Bis(2-ethylhexyl) phthalate	ND		5.3	1.9	ug/L		12/29/21 05:48	12/30/21 16:11	1
Butyl benzyl phthalate	ND		5.3	0.60	ug/L		12/29/21 05:48	12/30/21 16:11	1
Chrysene	ND		0.21	0.061	ug/L		12/29/21 05:48	12/30/21 16:11	1
Dibenz(a,h)anthracene	ND		0.21	0.15	ug/L		12/29/21 05:48	12/30/21 16:11	1
Diethyl phthalate	ND		2.1	0.14	ug/L		12/29/21 05:48	12/30/21 16:11	1
Dimethyl phthalate	ND		2.1	0.077	ug/L		12/29/21 05:48	12/30/21 16:11	1
Di-n-butyl phthalate	ND		2.1	0.73	ug/L		12/29/21 05:48	12/30/21 16:11	1
Di-n-octyl phthalate	ND		5.3	0.68	ug/L		12/29/21 05:48	12/30/21 16:11	1
Fluoranthene	ND		0.21	0.10	ug/L		12/29/21 05:48	12/30/21 16:11	1
Fluorene	ND		0.21	0.086	ug/L		12/29/21 05:48	12/30/21 16:11	1
Hexachlorobenzene	ND		0.21	0.10	ug/L		12/29/21 05:48	12/30/21 16:11	1
Hexachlorobutadiene	ND		0.21	0.18	ug/L		12/29/21 05:48	12/30/21 16:11	1
Hexachlorocyclopentadiene	ND		0.21	0.10	ug/L		12/29/21 05:48	12/30/21 16:11	1
Hexachloroethane	ND		0.21	0.16	ug/L		12/29/21 05:48	12/30/21 16:11	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.13	ug/L		12/29/21 05:48	12/30/21 16:11	1
Isophorone	ND		0.21	0.094	ug/L		12/29/21 05:48	12/30/21 16:11	1
Naphthalene	ND		0.21	0.10	ug/L		12/29/21 05:48	12/30/21 16:11	1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Client Sample ID: Outfall008_20211226_Comp **Lab Sample ID: 570-80145-1**
Date Collected: 12/26/21 09:10 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		0.21	0.10	ug/L		12/29/21 05:48	12/30/21 16:11	1
N-Nitrosodimethylamine	ND		0.21	0.15	ug/L		12/29/21 05:48	12/30/21 16:11	1
N-Nitrosodi-n-propylamine	ND		0.21	0.066	ug/L		12/29/21 05:48	12/30/21 16:11	1
N-Nitrosodiphenylamine	ND		0.21	0.10	ug/L		12/29/21 05:48	12/30/21 16:11	1
Pentachlorophenol	ND		1.1	0.11	ug/L		12/29/21 05:48	12/30/21 16:11	1
Phenanthrene	ND		0.21	0.079	ug/L		12/29/21 05:48	12/30/21 16:11	1
Phenol	ND		0.21	0.081	ug/L		12/29/21 05:48	12/30/21 16:11	1
Pyrene	ND		0.21	0.085	ug/L		12/29/21 05:48	12/30/21 16:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*73*		*28 - 127*	*12/29/21 05:48*	*12/30/21 16:11*	*1*
2-Fluorophenol	*48*		*17 - 120*	*12/29/21 05:48*	*12/30/21 16:11*	*1*
Nitrobenzene-d5	*62*		*27 - 120*	*12/29/21 05:48*	*12/30/21 16:11*	*1*
2-Fluorobiphenyl (Surr)	*53*		*31 - 120*	*12/29/21 05:48*	*12/30/21 16:11*	*1*
Phenol-d6 (Surr)	*33*		*10 - 120*	*12/29/21 05:48*	*12/30/21 16:11*	*1*
p-Terphenyl-d14 (Surr)	*61*		*45 - 120*	*12/29/21 05:48*	*12/30/21 16:11*	*1*

Method: 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00070	ug/L		12/28/21 12:24	12/29/21 15:56	1
alpha-BHC	ND		0.0013	0.00080	ug/L		12/28/21 12:24	12/29/21 15:56	1
beta-BHC	ND		0.0020	0.0017	ug/L		12/28/21 12:24	12/29/21 15:56	1
delta-BHC	ND		0.0013	0.0011	ug/L		12/28/21 12:24	12/29/21 15:56	1
gamma-BHC (Lindane)	ND		0.0013	0.00090	ug/L		12/28/21 12:24	12/29/21 15:56	1
Chlordane (technical)	ND		0.010	0.0065	ug/L		12/28/21 12:24	12/29/21 15:56	1
4,4'-DDD	ND		0.0013	0.00080	ug/L		12/28/21 12:24	12/29/21 15:56	1
4,4'-DDE	ND		0.0013	0.00050	ug/L		12/28/21 12:24	12/29/21 15:56	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		12/28/21 12:24	12/29/21 15:56	1
Dieldrin	ND		0.0013	0.00050	ug/L		12/28/21 12:24	12/29/21 15:56	1
Endosulfan I	ND		0.0013	0.00070	ug/L		12/28/21 12:24	12/29/21 15:56	1
Endosulfan II	ND		0.0013	0.00050	ug/L		12/28/21 12:24	12/29/21 15:56	1
Endosulfan sulfate	ND		0.0013	0.00060	ug/L		12/28/21 12:24	12/29/21 15:56	1
Endrin	ND		0.0013	0.00070	ug/L		12/28/21 12:24	12/29/21 15:56	1
Endrin aldehyde	ND		0.010	0.0051	ug/L		12/28/21 12:24	12/29/21 15:56	1
Heptachlor	ND		0.0013	0.00070	ug/L		12/28/21 12:24	12/29/21 15:56	1
Heptachlor epoxide	ND		0.0013	0.00040	ug/L		12/28/21 12:24	12/29/21 15:56	1
Toxaphene	ND		0.10	0.013	ug/L		12/28/21 12:24	12/29/21 15:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*39*	*PI*	*20 - 139*	*12/28/21 12:24*	*12/29/21 15:56*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		12/28/21 12:24	01/04/22 01:45	1
Aroclor 1221	ND		0.10	0.044	ug/L		12/28/21 12:24	01/04/22 01:45	1
Aroclor 1232	ND		0.10	0.044	ug/L		12/28/21 12:24	01/04/22 01:45	1
Aroclor 1242	ND		0.10	0.044	ug/L		12/28/21 12:24	01/04/22 01:45	1
Aroclor 1248	ND		0.10	0.044	ug/L		12/28/21 12:24	01/04/22 01:45	1
Aroclor 1254	ND		0.10	0.052	ug/L		12/28/21 12:24	01/04/22 01:45	1
Aroclor 1260	ND		0.10	0.052	ug/L		12/28/21 12:24	01/04/22 01:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*153*		*20 - 154*	*12/28/21 12:24*	*01/04/22 01:45*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND	BU BV	2.0	0.19	ug/L			12/28/21 13:44	10

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4.8**	**J,DX**	5.0	1.8	mg/L			12/28/21 06:13	5
Nitrite as N	**0.18**	**J,DX**	0.50	0.090	mg/L			12/28/21 06:13	5
Fluoride	ND		0.50	0.23	mg/L			12/28/21 06:13	5
Nitrate as N	**4.2**		0.50	0.12	mg/L			12/28/21 06:13	5
Sulfate	**3.2**	**J,DX**	5.0	1.2	mg/L			12/28/21 06:13	5

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method: 314.0 - Perchlorate (IC)

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	9.1	ug/L			12/28/21 15:07	10

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method: NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	4.4		0.20	0.071	mg/L			01/03/22 16:35	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**100**		100	50	ug/L		01/11/22 13:35	01/12/22 17:02	1
Boron	**89**		50	25	ug/L		01/11/22 13:35	01/12/22 17:02	1
Iron	**99**	**J,DX**	100	50	ug/L		01/11/22 13:35	01/12/22 17:02	1
Nickel	ND		10	5.0	ug/L		01/11/22 13:35	01/12/22 17:02	1
Vanadium	ND		10	2.1	ug/L		01/11/22 13:35	01/12/22 17:02	1
Zinc	ND		20	12	ug/L		01/11/22 13:35	01/12/22 17:02	1
Chromium	ND		5.0	2.5	ug/L		01/11/22 13:35	01/12/22 17:02	1
Beryllium	ND		2.0	0.44	ug/L		01/11/22 13:35	01/12/22 17:02	1
Arsenic	ND		20	8.9	ug/L		01/11/22 13:35	01/12/22 17:02	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: Outfall008_20211226_Comp_F
Lab Sample ID: 570-80145-2
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		100	50	ug/L		12/30/21 07:56	12/30/21 14:28	1
Boron	**76**		50	25	ug/L		12/30/21 07:56	12/30/21 14:28	1
Chromium	**3.5**	**J,DX**	5.0	2.5	ug/L		12/30/21 07:56	12/30/21 14:28	1
Iron	ND		100	50	ug/L		12/30/21 07:56	12/30/21 14:28	1
Nickel	ND		10	5.0	ug/L		12/30/21 07:56	12/30/21 14:28	1
Vanadium	**2.4**	**J,DX**	10	2.1	ug/L		12/30/21 07:56	12/30/21 14:28	1
Zinc	ND		20	12	ug/L		12/30/21 07:56	12/30/21 14:28	1
Beryllium	**0.80**	**J,DX**	2.0	0.44	ug/L		12/30/21 07:56	12/30/21 14:28	1
Arsenic	ND		20	8.9	ug/L		12/30/21 07:56	12/30/21 14:28	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.87**	**J,DX**	2.0	0.50	ug/L		01/11/22 13:09	01/12/22 10:18	1
Cadmium	ND		1.0	0.25	ug/L		01/11/22 13:09	01/12/22 10:18	1
Copper	**2.4**		2.0	0.50	ug/L		01/11/22 13:09	01/12/22 10:18	1
Lead	ND		1.0	0.50	ug/L		01/11/22 13:09	01/12/22 10:18	1
Selenium	ND		2.0	0.50	ug/L		01/11/22 13:09	01/12/22 10:18	1
Silver	ND		1.0	0.50	ug/L		01/11/22 13:09	01/12/22 10:18	1
Thallium	ND		1.0	0.20	ug/L		01/11/22 13:09	01/12/22 10:18	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall008_20211226_Comp_F
Lab Sample ID: 570-80145-2
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:55	1
Cadmium	ND		1.0	0.25	ug/L		12/29/21 16:21	12/30/21 12:55	1
Copper	**1.8**	**J,DX**	2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:55	1
Lead	ND		1.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:55	1
Selenium	ND		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:55	1
Silver	ND		1.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:55	1
Thallium	ND		1.0	0.20	ug/L		12/29/21 16:21	12/30/21 12:55	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method: 245.1 - Mercury (CVAA)

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/19/22 15:04	01/20/22 19:36	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall008_20211226_Comp_F
Lab Sample ID: 570-80145-2
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.25	0.12	ug/L		01/19/22 17:58	01/20/22 19:58	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	44		0.91	0.17	mg/L			01/06/22 17:16	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Client Sample ID: Outfall008_20211226_Comp_F
Lab Sample ID: 570-80145-2
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	37		0.91	0.17	mg/L			01/24/22 16:37	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

General Chemistry

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	ND		0.050	0.0069	mg/L			01/12/22 16:10	1
Total Dissolved Solids	**120**		10	3.0	mg/L			12/29/21 10:13	1
Total Suspended Solids	**5.7**		1.1	0.53	mg/L			12/29/21 12:18	1
Cyanide, Total	ND		0.0030	0.0014	mg/L		12/29/21 13:00	12/30/21 15:19	1
Ammonia (as N)	**0.139**	**J,DX**	0.200	0.100	mg/L			01/07/22 12:57	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	2FP	NBZ	FBP	PHL6	TPHd14
Lab Sample ID	Client Sample ID	(28-127)	(17-120)	(27-120)	(31-120)	(10-120)	(45-120)
570-80145-1	Outfall008_20211226_Comp	73	48	62	53	33	61
LCS 570-204353/2-A	Lab Control Sample	88	53	64	62	34	77
LCSD 570-204353/3-A	Lab Control Sample Dup	80	45	58	57	30	68
MB 570-204353/1-A	Method Blank	81	47	67	61	31	70

Surrogate Legend

TBP = 2,4,6-Tribromophenol
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
FBP = 2-Fluorobiphenyl (Surr)
PHL6 = Phenol-d6 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		TCX1
Lab Sample ID	Client Sample ID	(20-139)
570-80145-1	Outfall008_20211226_Comp	39 PI
LCS 570-203919/2-A	Lab Control Sample	53
LCSD 570-203919/3-A	Lab Control Sample Dup	57
MB 570-203919/1-A	Method Blank	56

Surrogate Legend

TCX = Tetrachloro-m-xylene

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		DCB1
Lab Sample ID	Client Sample ID	(20-154)
570-80145-1	Outfall008_20211226_Comp	153
LCS 570-203919/9-A	Lab Control Sample	79
LCSD 570-203919/10-A	Lab Control Sample Dup	71
MB 570-203919/1-A	Method Blank	56

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-204353/1-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204353

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
1,2-Dichlorobenzene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.20	0.069	ug/L		12/29/21 05:48	12/30/21 12:18	1
1,3-Dichlorobenzene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
1,4-Dichlorobenzene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
bis (2-chloroisopropyl) ether	ND		0.20	0.092	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,4,6-Trichlorophenol	ND		1.0	0.067	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,4-Dichlorophenol	ND		1.0	0.097	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,4-Dimethylphenol	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,4-Dinitrophenol	ND		5.0	0.99	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,4-Dinitrotoluene	ND		0.20	0.11	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,6-Dinitrotoluene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
2-Chloronaphthalene	ND		0.20	0.14	ug/L		12/29/21 05:48	12/30/21 12:18	1
2-Chlorophenol	ND		0.20	0.082	ug/L		12/29/21 05:48	12/30/21 12:18	1
3,3'-Dichlorobenzidine	ND		5.0	1.6	ug/L		12/29/21 05:48	12/30/21 12:18	1
2-Nitrophenol	ND		5.0	1.4	ug/L		12/29/21 05:48	12/30/21 12:18	1
4,6-Dinitro-2-methylphenol	ND		5.0	4.0	ug/L		12/29/21 05:48	12/30/21 12:18	1
4-Bromophenyl phenyl ether	ND		0.20	0.077	ug/L		12/29/21 05:48	12/30/21 12:18	1
4-Chloro-3-methylphenol	ND		1.0	0.12	ug/L		12/29/21 05:48	12/30/21 12:18	1
4-Chlorophenyl phenyl ether	ND		0.20	0.090	ug/L		12/29/21 05:48	12/30/21 12:18	1
4-Nitrophenol	ND		5.0	1.1	ug/L		12/29/21 05:48	12/30/21 12:18	1
Acenaphthene	ND		0.20	0.086	ug/L		12/29/21 05:48	12/30/21 12:18	1
Acenaphthylene	ND		0.20	0.084	ug/L		12/29/21 05:48	12/30/21 12:18	1
Anthracene	ND		0.20	0.072	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzidine	ND		5.0	2.3	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzo[a]anthracene	ND		0.20	0.070	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzo[a]pyrene	ND		0.20	0.072	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzo[b]fluoranthene	ND		0.20	0.10	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzo[g,h,i]perylene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzo[k]fluoranthene	ND		0.20	0.077	ug/L		12/29/21 05:48	12/30/21 12:18	1
Bis(2-chloroethoxy)methane	ND		0.20	0.15	ug/L		12/29/21 05:48	12/30/21 12:18	1
Bis(2-chloroethyl)ether	ND		0.20	0.098	ug/L		12/29/21 05:48	12/30/21 12:18	1
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		12/29/21 05:48	12/30/21 12:18	1
Butyl benzyl phthalate	ND		5.0	0.56	ug/L		12/29/21 05:48	12/30/21 12:18	1
Chrysene	ND		0.20	0.058	ug/L		12/29/21 05:48	12/30/21 12:18	1
Dibenz(a,h)anthracene	ND		0.20	0.14	ug/L		12/29/21 05:48	12/30/21 12:18	1
Diethyl phthalate	ND		2.0	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
Dimethyl phthalate	ND		2.0	0.072	ug/L		12/29/21 05:48	12/30/21 12:18	1
Di-n-butyl phthalate	ND		2.0	0.69	ug/L		12/29/21 05:48	12/30/21 12:18	1
Di-n-octyl phthalate	ND		5.0	0.64	ug/L		12/29/21 05:48	12/30/21 12:18	1
Fluoranthene	ND		0.20	0.096	ug/L		12/29/21 05:48	12/30/21 12:18	1
Fluorene	ND		0.20	0.080	ug/L		12/29/21 05:48	12/30/21 12:18	1
Hexachlorobenzene	ND		0.20	0.094	ug/L		12/29/21 05:48	12/30/21 12:18	1
Hexachlorobutadiene	ND		0.20	0.17	ug/L		12/29/21 05:48	12/30/21 12:18	1
Hexachlorocyclopentadiene	ND		0.20	0.098	ug/L		12/29/21 05:48	12/30/21 12:18	1
Hexachloroethane	ND		0.20	0.15	ug/L		12/29/21 05:48	12/30/21 12:18	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.12	ug/L		12/29/21 05:48	12/30/21 12:18	1
Isophorone	ND		0.20	0.088	ug/L		12/29/21 05:48	12/30/21 12:18	1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: MB 570-204353/1-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204353

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.20	0.098	ug/L		12/29/21 05:48	12/30/21 12:18	1
Nitrobenzene	ND		0.20	0.097	ug/L		12/29/21 05:48	12/30/21 12:18	1
N-Nitrosodimethylamine	ND		0.20	0.14	ug/L		12/29/21 05:48	12/30/21 12:18	1
N-Nitrosodi-n-propylamine	ND		0.20	0.062	ug/L		12/29/21 05:48	12/30/21 12:18	1
N-Nitrosodiphenylamine	ND		0.20	0.096	ug/L		12/29/21 05:48	12/30/21 12:18	1
Pentachlorophenol	ND		1.0	0.11	ug/L		12/29/21 05:48	12/30/21 12:18	1
Phenanthrene	ND		0.20	0.074	ug/L		12/29/21 05:48	12/30/21 12:18	1
Phenol	ND		0.20	0.076	ug/L		12/29/21 05:48	12/30/21 12:18	1
Pyrene	ND		0.20	0.080	ug/L		12/29/21 05:48	12/30/21 12:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*81*		*28 - 127*	*12/29/21 05:48*	*12/30/21 12:18*	*1*
2-Fluorophenol	*47*		*17 - 120*	*12/29/21 05:48*	*12/30/21 12:18*	*1*
Nitrobenzene-d5	*67*		*27 - 120*	*12/29/21 05:48*	*12/30/21 12:18*	*1*
2-Fluorobiphenyl (Surr)	*61*		*31 - 120*	*12/29/21 05:48*	*12/30/21 12:18*	*1*
Phenol-d6 (Surr)	*31*		*10 - 120*	*12/29/21 05:48*	*12/30/21 12:18*	*1*
p-Terphenyl-d14 (Surr)	*70*		*45 - 120*	*12/29/21 05:48*	*12/30/21 12:18*	*1*

Lab Sample ID: LCS 570-204353/2-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204353

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	20.0	12.8		ug/L		64	57 - 130
1,2-Dichlorobenzene	20.0	14.4		ug/L		72	41 - 100
1,2-Diphenylhydrazine(as Azobenzene)	20.0	14.5		ug/L		72	60 - 115
1,3-Dichlorobenzene	20.0	14.2		ug/L		71	39 - 100
1,4-Dichlorobenzene	20.0	14.5		ug/L		73	40 - 100
bis (2-chloroisopropyl) ether	20.0	16.7		ug/L		84	63 - 139
2,4,6-Trichlorophenol	20.0	17.0		ug/L		85	52 - 129
2,4-Dichlorophenol	20.0	14.1		ug/L		70	53 - 122
2,4-Dimethylphenol	20.0	14.1		ug/L		71	42 - 120
2,4-Dinitrophenol	20.0	19.6		ug/L		98	1 - 173
2,4-Dinitrotoluene	20.0	16.1		ug/L		80	48 - 127
2,6-Dinitrotoluene	20.0	17.4		ug/L		87	68 - 137
2-Chloronaphthalene	20.0	13.9		ug/L		69	65 - 120
2-Chlorophenol	20.0	16.4		ug/L		82	36 - 120
3,3'-Dichlorobenzidine	20.0	19.2		ug/L		96	8 - 213
2-Nitrophenol	20.0	15.4		ug/L		77	45 - 167
4,6-Dinitro-2-methylphenol	20.0	15.7		ug/L		79	53 - 130
4-Bromophenyl phenyl ether	20.0	15.1		ug/L		75	65 - 120
4-Chloro-3-methylphenol	20.0	13.8		ug/L		69	41 - 128
4-Chlorophenyl phenyl ether	20.0	15.1		ug/L		75	38 - 145
4-Nitrophenol	20.0	9.39		ug/L		47	13 - 129
Acenaphthene	20.0	14.7		ug/L		73	60 - 132
Acenaphthylene	20.0	17.0		ug/L		85	54 - 126
Anthracene	20.0	17.1		ug/L		86	43 - 120
Benzidine	20.0	13.1		ug/L		66	10 - 124

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCS 570-204353/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 204757 **Prep Batch: 204353**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	20.0	16.9		ug/L		84	42 - 133
Benzo[a]pyrene	20.0	18.5		ug/L		93	32 - 148
Benzo[b]fluoranthene	20.0	16.3		ug/L		82	42 - 140
Benzo[g,h,i]perylene	20.0	15.3		ug/L		77	1 - 195
Benzo[k]fluoranthene	20.0	16.5		ug/L		83	25 - 146
Bis(2-chloroethoxy)methane	20.0	13.4		ug/L		67	49 - 165
Bis(2-chloroethyl)ether	20.0	15.6		ug/L		78	43 - 126
Bis(2-ethylhexyl) phthalate	20.0	19.5		ug/L		98	29 - 137
Butyl benzyl phthalate	20.0	18.5		ug/L		93	1 - 140
Chrysene	20.0	14.8		ug/L		74	44 - 140
Dibenz(a,h)anthracene	20.0	15.4		ug/L		77	1 - 200
Diethyl phthalate	20.0	15.8		ug/L		79	1 - 120
Dimethyl phthalate	20.0	14.8		ug/L		74	1 - 120
Di-n-butyl phthalate	20.0	17.8		ug/L		89	8 - 120
Di-n-octyl phthalate	20.0	22.1		ug/L		111	19 - 132
Fluoranthene	20.0	16.8		ug/L		84	43 - 121
Fluorene	20.0	15.2		ug/L		76	70 - 120
Hexachlorobenzene	20.0	14.8		ug/L		74	8 - 142
Hexachlorobutadiene	20.0	12.5		ug/L		63	38 - 120
Hexachlorocyclopentadiene	20.0	16.5		ug/L		82	20 - 137
Hexachloroethane	20.0	14.4		ug/L		72	55 - 120
Indeno[1,2,3-cd]pyrene	20.0	14.8		ug/L		74	1 - 151
Isophorone	20.0	14.8		ug/L		74	47 - 180
Naphthalene	20.0	12.6		ug/L		63	36 - 120
Nitrobenzene	20.0	12.8		ug/L		64	54 - 158
N-Nitrosodimethylamine	20.0	11.0		ug/L		55	30 - 100
N-Nitrosodi-n-propylamine	20.0	18.4		ug/L		92	14 - 198
N-Nitrosodiphenylamine	20.0	20.2		ug/L		101	75 - 135
Pentachlorophenol	20.0	15.3		ug/L		77	38 - 152
Phenanthrene	20.0	15.0		ug/L		75	65 - 120
Phenol	20.0	7.39		ug/L		37	17 - 120
Pyrene	20.0	15.2		ug/L		76	70 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*88*		*28 - 127*
2-Fluorophenol	*53*		*17 - 120*
Nitrobenzene-d5	*64*		*27 - 120*
2-Fluorobiphenyl (Surr)	*62*		*31 - 120*
Phenol-d6 (Surr)	*34*		*10 - 120*
p-Terphenyl-d14 (Surr)	*77*		*45 - 120*

Lab Sample ID: LCSD 570-204353/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 204757 **Prep Batch: 204353**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	20.0	11.4		ug/L		57	57 - 130	12	30
1,2-Dichlorobenzene	20.0	13.3		ug/L		67	41 - 100	8	20

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-204353/3-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204353

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Diphenylhydrazine(as Azobenzene)	20.0	13.0		ug/L		65	60 - 115	11	30
1,3-Dichlorobenzene	20.0	12.8		ug/L		64	39 - 100	11	20
1,4-Dichlorobenzene	20.0	13.3		ug/L		67	40 - 100	9	20
bis (2-chloroisopropyl) ether	20.0	15.5		ug/L		77	63 - 139	8	46
2,4,6-Trichlorophenol	20.0	15.1		ug/L		75	52 - 129	12	35
2,4-Dichlorophenol	20.0	13.3		ug/L		66	53 - 122	6	30
2,4-Dimethylphenol	20.0	12.9		ug/L		65	42 - 120	9	35
2,4-Dinitrophenol	20.0	17.3		ug/L		87	1 - 173	12	79
2,4-Dinitrotoluene	20.0	14.9		ug/L		75	48 - 127	8	25
2,6-Dinitrotoluene	20.0	15.3		ug/L		77	68 - 137	13	29
2-Chloronaphthalene	20.0	13.0		ug/L		65	65 - 120	7	15
2-Chlorophenol	20.0	14.4		ug/L		72	36 - 120	13	37
3,3'-Dichlorobenzidine	20.0	18.3		ug/L		91	8 - 213	5	65
2-Nitrophenol	20.0	13.7		ug/L		69	45 - 167	12	33
4,6-Dinitro-2-methylphenol	20.0	14.0		ug/L		70	53 - 130	12	122
4-Bromophenyl phenyl ether	20.0	13.1		ug/L		65	65 - 120	14	26
4-Chloro-3-methylphenol	20.0	13.2		ug/L		66	41 - 128	5	44
4-Chlorophenyl phenyl ether	20.0	14.3		ug/L		72	38 - 145	5	36
4-Nitrophenol	20.0	8.35		ug/L		42	13 - 129	12	79
Acenaphthene	20.0	13.2		ug/L		66	60 - 132	11	29
Acenaphthylene	20.0	15.5		ug/L		78	54 - 126	9	45
Anthracene	20.0	15.5		ug/L		77	43 - 120	10	40
Benzidine	20.0	12.6		ug/L		63	10 - 124	4	40
Benzo[a]anthracene	20.0	15.8		ug/L		79	42 - 133	7	32
Benzo[a]pyrene	20.0	17.5		ug/L		87	32 - 148	6	43
Benzo[b]fluoranthene	20.0	15.2		ug/L		76	42 - 140	7	43
Benzo[g,h,i]perylene	20.0	14.0		ug/L		70	1 - 195	9	61
Benzo[k]fluoranthene	20.0	15.3		ug/L		77	25 - 146	7	38
Bis(2-chloroethoxy)methane	20.0	12.0		ug/L		60	49 - 165	11	32
Bis(2-chloroethyl)ether	20.0	14.3		ug/L		71	43 - 126	9	65
Bis(2-ethylhexyl) phthalate	20.0	18.2		ug/L		91	29 - 137	7	50
Butyl benzyl phthalate	20.0	17.1		ug/L		85	1 - 140	8	36
Chrysene	20.0	13.8		ug/L		69	44 - 140	7	53
Dibenz(a,h)anthracene	20.0	14.3		ug/L		71	1 - 200	8	75
Diethyl phthalate	20.0	14.3		ug/L		72	1 - 120	10	60
Dimethyl phthalate	20.0	13.7		ug/L		69	1 - 120	8	110
Di-n-butyl phthalate	20.0	16.0		ug/L		80	8 - 120	11	28
Di-n-octyl phthalate	20.0	20.3		ug/L		102	19 - 132	8	42
Fluoranthene	20.0	14.5		ug/L		72	43 - 121	15	40
Fluorene	20.0	14.3		ug/L		71	70 - 120	6	23
Hexachlorobenzene	20.0	13.7		ug/L		69	8 - 142	8	33
Hexachlorobutadiene	20.0	11.2		ug/L		56	38 - 120	11	38
Hexachlorocyclopentadiene	20.0	15.2		ug/L		76	20 - 137	8	20
Hexachloroethane	20.0	13.0		ug/L		65	55 - 120	11	32
Indeno[1,2,3-cd]pyrene	20.0	13.5		ug/L		68	1 - 151	9	60
Isophorone	20.0	13.3		ug/L		67	47 - 180	10	56
Naphthalene	20.0	11.6		ug/L		58	36 - 120	8	39
Nitrobenzene	20.0	11.8		ug/L		59	54 - 158	9	37

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-204353/3-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204353

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Nitrosodimethylamine			20.0	10.5		ug/L		52	30 - 100	5	20
N-Nitrosodi-n-propylamine			20.0	15.9		ug/L		80	14 - 198	15	52
N-Nitrosodiphenylamine			20.0	18.8		ug/L		94	75 - 135	7	20
Pentachlorophenol			20.0	14.0		ug/L		70	38 - 152	9	52
Phenanthrene			20.0	14.3		ug/L		71	65 - 120	5	24
Phenol			20.0	6.47		ug/L		32	17 - 120	13	39
Pyrene			20.0	14.0		ug/L		70	70 - 120	8	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol	*80*		*28 - 127*
2-Fluorophenol	*45*		*17 - 120*
Nitrobenzene-d5	*58*		*27 - 120*
2-Fluorobiphenyl (Surr)	*57*		*31 - 120*
Phenol-d6 (Surr)	*30*		*10 - 120*
p-Terphenyl-d14 (Surr)	*68*		*45 - 120*

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-203919/1-A
Matrix: Water
Analysis Batch: 204108

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 203919

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00070	ug/L		12/27/21 15:38	12/28/21 14:19	1
alpha-BHC	ND		0.0013	0.00080	ug/L		12/27/21 15:38	12/28/21 14:19	1
beta-BHC	ND		0.0020	0.0017	ug/L		12/27/21 15:38	12/28/21 14:19	1
delta-BHC	ND		0.0013	0.0011	ug/L		12/27/21 15:38	12/28/21 14:19	1
gamma-BHC (Lindane)	ND		0.0013	0.00090	ug/L		12/27/21 15:38	12/28/21 14:19	1
Chlordane (technical)	ND		0.010	0.0065	ug/L		12/27/21 15:38	12/28/21 14:19	1
4,4'-DDD	ND		0.0013	0.00080	ug/L		12/27/21 15:38	12/28/21 14:19	1
4,4'-DDE	ND		0.0013	0.00050	ug/L		12/27/21 15:38	12/28/21 14:19	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		12/27/21 15:38	12/28/21 14:19	1
Dieldrin	ND		0.0013	0.00050	ug/L		12/27/21 15:38	12/28/21 14:19	1
Endosulfan I	ND		0.0013	0.00070	ug/L		12/27/21 15:38	12/28/21 14:19	1
Endosulfan II	ND		0.0013	0.00050	ug/L		12/27/21 15:38	12/28/21 14:19	1
Endosulfan sulfate	ND		0.0013	0.00060	ug/L		12/27/21 15:38	12/28/21 14:19	1
Endrin	ND		0.0013	0.00070	ug/L		12/27/21 15:38	12/28/21 14:19	1
Endrin aldehyde	ND		0.010	0.0051	ug/L		12/27/21 15:38	12/28/21 14:19	1
Heptachlor	ND		0.0013	0.00070	ug/L		12/27/21 15:38	12/28/21 14:19	1
Heptachlor epoxide	ND		0.0013	0.00040	ug/L		12/27/21 15:38	12/28/21 14:19	1
Toxaphene	ND		0.10	0.013	ug/L		12/27/21 15:38	12/28/21 14:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*56*		*20 - 139*	*12/27/21 15:38*	*12/28/21 14:19*	*1*

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: LCS 570-203919/2-A
Matrix: Water
Analysis Batch: 204108

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 203919

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aldrin			0.0333	0.0160		ug/L		48	42 - 140		
alpha-BHC			0.0333	0.0196		ug/L		59	37 - 140		
beta-BHC			0.0333	0.0194		ug/L		58	17 - 147		
delta-BHC			0.0333	0.0201		ug/L		60	19 - 140		
gamma-BHC (Lindane)			0.0333	0.0171		ug/L		51	32 - 140		
4,4'-DDD			0.0333	0.0207		ug/L		62	31 - 141		
4,4'-DDE			0.0333	0.0192		ug/L		57	30 - 145		
4,4'-DDT			0.0333	0.0207		ug/L		62	25 - 160		
Dieldrin			0.0333	0.0190		ug/L		57	36 - 146		
Endosulfan I			0.0333	0.0183		ug/L		55	45 - 153		
Endosulfan II			0.0333	0.0200		ug/L		60	1 - 202		
Endosulfan sulfate			0.0333	0.0184		ug/L		55	26 - 144		
Endrin			0.0333	0.0188		ug/L		56	30 - 147		
Endrin aldehyde			0.0333	0.0364	PI	ug/L		109	60 - 140		
Heptachlor			0.0333	0.0239		ug/L		72	34 - 140		
Heptachlor epoxide			0.0333	0.0192		ug/L		58	37 - 142		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*53*		*20 - 139*

Lab Sample ID: LCSD 570-203919/3-A
Matrix: Water
Analysis Batch: 204108

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 203919

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin			0.0333	0.0160		ug/L		48	42 - 140	0	35
alpha-BHC			0.0333	0.0204		ug/L		61	37 - 140	4	36
beta-BHC			0.0333	0.0210		ug/L		63	17 - 147	8	44
delta-BHC			0.0333	0.0214		ug/L		64	19 - 140	6	52
gamma-BHC (Lindane)			0.0333	0.0180		ug/L		54	32 - 140	5	39
4,4'-DDD			0.0333	0.0217		ug/L		65	31 - 141	5	39
4,4'-DDE			0.0333	0.0202		ug/L		61	30 - 145	5	35
4,4'-DDT			0.0333	0.0229		ug/L		69	25 - 160	10	42
Dieldrin			0.0333	0.0203		ug/L		61	36 - 146	6	49
Endosulfan I			0.0333	0.0201		ug/L		60	45 - 153	9	28
Endosulfan II			0.0333	0.0222		ug/L		67	1 - 202	11	53
Endosulfan sulfate			0.0333	0.0217		ug/L		65	26 - 144	16	38
Endrin			0.0333	0.0203		ug/L		61	30 - 147	8	48
Endrin aldehyde			0.0333	0.0350	PI	ug/L		105	60 - 140	4	30
Heptachlor			0.0333	0.0255		ug/L		77	34 - 140	7	43
Heptachlor epoxide			0.0333	0.0200		ug/L		60	37 - 142	4	26

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*57*		*20 - 139*

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 570-203919/1-A
Matrix: Water
Analysis Batch: 204995

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 203919

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		12/27/21 15:38	01/04/22 00:16	1
Aroclor 1221	ND		0.10	0.044	ug/L		12/27/21 15:38	01/04/22 00:16	1
Aroclor 1232	ND		0.10	0.044	ug/L		12/27/21 15:38	01/04/22 00:16	1
Aroclor 1242	ND		0.10	0.044	ug/L		12/27/21 15:38	01/04/22 00:16	1
Aroclor 1248	ND		0.10	0.044	ug/L		12/27/21 15:38	01/04/22 00:16	1
Aroclor 1254	ND		0.10	0.052	ug/L		12/27/21 15:38	01/04/22 00:16	1
Aroclor 1260	ND		0.10	0.052	ug/L		12/27/21 15:38	01/04/22 00:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*56*		*20 - 154*	*12/27/21 15:38*	*01/04/22 00:16*	*1*

Lab Sample ID: LCS 570-203919/9-A
Matrix: Water
Analysis Batch: 204995

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 203919

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor 1016			0.133	0.179		ug/L		134	50 - 140		
Aroclor 1260			0.133	0.172		ug/L		129	8 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*79*		*20 - 154*

Lab Sample ID: LCSD 570-203919/10-A
Matrix: Water
Analysis Batch: 204995

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 203919

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016			0.133	0.165		ug/L		123	50 - 140	8	36
Aroclor 1260			0.133	0.154		ug/L		116	8 - 140	11	38

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*71*		*20 - 154*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 570-204051/6
Matrix: Water
Analysis Batch: 204051

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.20	0.019	ug/L			12/28/21 09:39	1

Lab Sample ID: LCS 570-204051/7
Matrix: Water
Analysis Batch: 204051

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			50.0	51.7		ug/L		103	95 - 107		

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

Lab Sample ID: LCSD 570-204051/8
Matrix: Water
Analysis Batch: 204051

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
Chromium, hexavalent			50.0	50.3		ug/L		101	95 - 107	3	20

Lab Sample ID: 570-80145-1 MS
Matrix: Water
Analysis Batch: 204051

Client Sample ID: Outfall008_20211226_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND	BU BV	50.0	50.4		ug/L		101	85 - 121

Lab Sample ID: 570-80145-1 MSD
Matrix: Water
Analysis Batch: 204051

Client Sample ID: Outfall008_20211226_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND	BU BV	50.1	51.1		ug/L		102	85 - 121	1	25

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-203940/15
Matrix: Water
Analysis Batch: 203940

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			12/28/21 00:35	1
Nitrate as N	ND		0.10	0.024	mg/L			12/28/21 00:35	1

Lab Sample ID: LCS 570-203940/16
Matrix: Water
Analysis Batch: 203940

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	2.39		mg/L		96	90 - 110
Nitrate as N			5.00	4.87		mg/L		97	90 - 110

Lab Sample ID: LCSD 570-203940/17
Matrix: Water
Analysis Batch: 203940

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	2.40		mg/L		96	90 - 110	1	15
Nitrate as N			5.00	4.87		mg/L		97	90 - 110	0	15

Lab Sample ID: MB 570-203941/15
Matrix: Water
Analysis Batch: 203941

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			12/28/21 00:35	1
Fluoride	ND		0.10	0.046	mg/L			12/28/21 00:35	1
Sulfate	ND		1.0	0.24	mg/L			12/28/21 00:35	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 570-203941/16
Matrix: Water
Analysis Batch: 203941

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			50.0	48.2		mg/L		96	90 - 110		
Fluoride			2.50	2.41		mg/L		96	90 - 110		
Sulfate			50.0	49.2		mg/L		98	90 - 110		

Lab Sample ID: LCSD 570-203941/17
Matrix: Water
Analysis Batch: 203941

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			50.0	48.1		mg/L		96	90 - 110	0	15
Fluoride			2.50	2.43		mg/L		97	90 - 110	1	15
Sulfate			50.0	49.1		mg/L		98	90 - 110	0	15

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 570-79264-H-1 MS
Matrix: Water
Analysis Batch: 203940

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N - DL	ND		2.50	2.60		mg/L		104	80 - 120		
Nitrate as N - DL	0.19	J,DX	5.00	5.15		mg/L		99	80 - 120		

Lab Sample ID: 570-79264-H-1 MSD
Matrix: Water
Analysis Batch: 203940

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N - DL	ND		2.50	2.74		mg/L		110	80 - 120	5	20
Nitrate as N - DL	0.19	J,DX	5.00	5.33		mg/L		103	80 - 120	3	20

Lab Sample ID: 570-79264-H-1 MS
Matrix: Water
Analysis Batch: 203941

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride - DL	26		50.0	72.2		mg/L		92	80 - 120		
Fluoride - DL	ND		2.50	3.06	LM	mg/L		122	80 - 120		
Sulfate - DL	120		50.0	178		mg/L		108	80 - 120		

Lab Sample ID: 570-79264-H-1 MSD
Matrix: Water
Analysis Batch: 203941

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride - DL	26		50.0	74.6		mg/L		97	80 - 120	3	20
Fluoride - DL	ND		2.50	3.19	LM	mg/L		128	80 - 120	4	20
Sulfate - DL	120		50.0	183		mg/L		117	80 - 120	3	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-204101/6
Matrix: Water
Analysis Batch: 204101

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			12/28/21 12:08	1

Lab Sample ID: LCS 570-204101/7
Matrix: Water
Analysis Batch: 204101

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	26.3		ug/L		105	85 - 115		

Lab Sample ID: LCSD 570-204101/8
Matrix: Water
Analysis Batch: 204101

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	26.3		ug/L		105	85 - 115	0	15

Method: 314.0 - Perchlorate (IC) - DL

Lab Sample ID: 570-79640-G-1 MS
Matrix: Water
Analysis Batch: 204101

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate - DL	5000		50.0	5240	BB	ug/L		524	80 - 120		

Lab Sample ID: 570-79640-G-1 MSD
Matrix: Water
Analysis Batch: 204101

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate - DL	5000		50.0	5230	BB	ug/L		506	80 - 120	0	15

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-664218/1-A
Matrix: Water
Analysis Batch: 664336

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664218

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		100	50	ug/L		01/11/22 13:35	01/12/22 14:48	1
Boron	ND		50	25	ug/L		01/11/22 13:35	01/12/22 14:48	1
Iron	ND		100	50	ug/L		01/11/22 13:35	01/12/22 14:48	1
Nickel	ND		10	5.0	ug/L		01/11/22 13:35	01/12/22 14:48	1
Vanadium	ND		10	2.1	ug/L		01/11/22 13:35	01/12/22 14:48	1
Zinc	ND		20	12	ug/L		01/11/22 13:35	01/12/22 14:48	1
Chromium	ND		5.0	2.5	ug/L		01/11/22 13:35	01/12/22 14:48	1
Beryllium	ND		2.0	0.44	ug/L		01/11/22 13:35	01/12/22 14:48	1
Arsenic	9.30	J,DX	20	8.9	ug/L		01/11/22 13:35	01/12/22 14:48	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-664218/2-A
Matrix: Water
Analysis Batch: 664336

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664218

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	500	521		ug/L		104	85 - 115
Boron	500	514		ug/L		103	85 - 115
Iron	500	467		ug/L		93	85 - 115
Nickel	500	538		ug/L		108	85 - 115
Vanadium	500	451		ug/L		90	85 - 115
Zinc	500	547		ug/L		109	85 - 115
Chromium	500	511		ug/L		102	85 - 115
Beryllium	500	529		ug/L		106	85 - 115
Arsenic	500	510		ug/L		102	85 - 115

Lab Sample ID: 440-293517-A-2-C MS
Matrix: Water
Analysis Batch: 664336

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664218

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	110		500	682		ug/L		114	70 - 130
Boron	25	J,DX	500	561		ug/L		107	70 - 130
Iron	220		500	772		ug/L		111	70 - 130
Nickel	ND		500	549		ug/L		110	70 - 130
Vanadium	2.2	J,DX	500	535		ug/L		107	70 - 130
Zinc	280		500	845		ug/L		114	70 - 130
Chromium	ND		500	537		ug/L		107	70 - 130
Beryllium	ND		500	546		ug/L		109	70 - 130
Arsenic	17	J,DX MB	500	546		ug/L		106	70 - 130

Lab Sample ID: 440-293517-A-2-D MSD
Matrix: Water
Analysis Batch: 664336

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664218

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	110		500	687		ug/L		115	70 - 130	1	20
Boron	25	J,DX	500	553		ug/L		106	70 - 130	1	20
Iron	220		500	762		ug/L		109	70 - 130	1	20
Nickel	ND		500	543		ug/L		109	70 - 130	1	20
Vanadium	2.2	J,DX	500	528		ug/L		105	70 - 130	1	20
Zinc	280		500	829		ug/L		111	70 - 130	2	20
Chromium	ND		500	527		ug/L		105	70 - 130	2	20
Beryllium	ND		500	540		ug/L		108	70 - 130	1	20
Arsenic	17	J,DX MB	500	539		ug/L		104	70 - 130	1	20

Lab Sample ID: MB 440-663584/1-C
Matrix: Water
Analysis Batch: 663658

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663619

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		100	50	ug/L		12/30/21 07:56	12/30/21 14:16	1
Boron	ND		50	25	ug/L		12/30/21 07:56	12/30/21 14:16	1
Iron	ND		100	50	ug/L		12/30/21 07:56	12/30/21 14:16	1
Nickel	9.00	J,DX	10	5.0	ug/L		12/30/21 07:56	12/30/21 14:16	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 440-663584/1-C
Matrix: Water
Analysis Batch: 663658

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663619

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vanadium	ND		10	2.1	ug/L		12/30/21 07:56	12/30/21 14:16	1
Zinc	ND		20	12	ug/L		12/30/21 07:56	12/30/21 14:16	1
Chromium	ND		5.0	2.5	ug/L		12/30/21 07:56	12/30/21 14:16	1
Beryllium	ND		2.0	0.44	ug/L		12/30/21 07:56	12/30/21 14:16	1
Arsenic	ND		20	8.9	ug/L		12/30/21 07:56	12/30/21 14:16	1

Lab Sample ID: LCS 440-663584/2-C
Matrix: Water
Analysis Batch: 663658

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663619

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	500	469		ug/L		94	85 - 115
Boron	500	456		ug/L		91	85 - 115
Iron	500	473		ug/L		95	85 - 115
Nickel	500	470		ug/L		94	85 - 115
Vanadium	500	470		ug/L		94	85 - 115
Zinc	500	468		ug/L		94	85 - 115
Chromium	500	474		ug/L		95	85 - 115
Beryllium	500	472		ug/L		94	85 - 115
Arsenic	500	465		ug/L		93	85 - 115

Lab Sample ID: 570-80142-C-2-G MS
Matrix: Water
Analysis Batch: 663658

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663619

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	110		500	592		ug/L		97	70 - 130
Boron	38	J,DX	500	510		ug/L		94	70 - 130
Iron	79	J,DX	500	555		ug/L		95	70 - 130
Nickel	ND		500	482		ug/L		96	70 - 130
Vanadium	2.1	J,DX	500	486		ug/L		97	70 - 130
Zinc	ND		500	489		ug/L		98	70 - 130
Chromium	ND		500	487		ug/L		97	70 - 130
Beryllium	ND		500	489		ug/L		98	70 - 130
Arsenic	ND		500	487		ug/L		97	70 - 130

Lab Sample ID: 570-80142-C-2-H MSD
Matrix: Water
Analysis Batch: 663658

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663619

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	110		500	585		ug/L		95	70 - 130	1	20
Boron	38	J,DX	500	503		ug/L		93	70 - 130	1	20
Iron	79	J,DX	500	559		ug/L		96	70 - 130	1	20
Nickel	ND		500	476		ug/L		95	70 - 130	1	20
Vanadium	2.1	J,DX	500	479		ug/L		95	70 - 130	1	20
Zinc	ND		500	482		ug/L		96	70 - 130	2	20
Chromium	ND		500	479		ug/L		96	70 - 130	2	20
Beryllium	ND		500	482		ug/L		96	70 - 130	1	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 570-80142-C-2-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 663658 — **Prep Batch: 663619**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	474		ug/L		95	70 - 130	3	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-664215/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 664271 — **Prep Batch: 664215**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.50	ug/L		01/11/22 13:09	01/12/22 10:05	1
Cadmium	ND		1.0	0.25	ug/L		01/11/22 13:09	01/12/22 10:05	1
Copper	ND		2.0	0.50	ug/L		01/11/22 13:09	01/12/22 10:05	1
Lead	ND		1.0	0.50	ug/L		01/11/22 13:09	01/12/22 10:05	1
Selenium	ND		2.0	0.50	ug/L		01/11/22 13:09	01/12/22 10:05	1
Silver	ND		1.0	0.50	ug/L		01/11/22 13:09	01/12/22 10:05	1
Thallium	ND		1.0	0.20	ug/L		01/11/22 13:09	01/12/22 10:05	1

Lab Sample ID: LCS 440-664215/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 664271 — **Prep Batch: 664215**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	80.0	85.5		ug/L		107	85 - 115
Cadmium	80.0	81.2		ug/L		101	85 - 115
Copper	80.0	81.5		ug/L		102	85 - 115
Lead	80.0	82.1		ug/L		103	85 - 115
Selenium	80.0	78.2		ug/L		98	85 - 115
Silver	80.0	78.5		ug/L		98	85 - 115
Thallium	80.0	82.6		ug/L		103	85 - 115

Lab Sample ID: 570-79681-A-25-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 664271 — **Prep Batch: 664215**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	1.1	J,DX	80.0	103		ug/L		128	70 - 130
Cadmium	ND		80.0	90.5		ug/L		113	70 - 130
Copper	6.9		80.0	98.6		ug/L		115	70 - 130
Lead	ND		80.0	90.4		ug/L		113	70 - 130
Selenium	ND		80.0	78.7		ug/L		98	70 - 130
Silver	ND		80.0	89.1		ug/L		111	70 - 130
Thallium	ND		80.0	88.3		ug/L		110	70 - 130

Lab Sample ID: 570-79681-A-25-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 664271 — **Prep Batch: 664215**

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	103		ug/L		128	70 - 130	0	20
Cadmium	ND		80.0	89.8		ug/L		112	70 - 130	1	20

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-79681-A-25-C MSD
Matrix: Water
Analysis Batch: 664271

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664215

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Copper	6.9		80.0	101		ug/L		117	70 - 130	2	20
Lead	ND		80.0	89.6		ug/L		112	70 - 130	1	20
Selenium	ND		80.0	75.5		ug/L		94	70 - 130	4	20
Silver	ND		80.0	88.7		ug/L		111	70 - 130	0	20
Thallium	ND		80.0	87.8		ug/L		110	70 - 130	1	20

Lab Sample ID: MB 440-663584/1-B
Matrix: Water
Analysis Batch: 663652

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663593

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:45	1
Cadmium	ND		1.0	0.25	ug/L		12/29/21 16:21	12/30/21 12:45	1
Copper	ND		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:45	1
Lead	ND		1.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:45	1
Selenium	ND		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:45	1
Silver	ND		1.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:45	1
Thallium	ND		1.0	0.20	ug/L		12/29/21 16:21	12/30/21 12:45	1

Lab Sample ID: LCS 440-663584/2-B
Matrix: Water
Analysis Batch: 663652

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663593

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	80.0	85.1		ug/L		106	85 - 115
Cadmium	80.0	74.8		ug/L		94	85 - 115
Copper	80.0	74.3		ug/L		93	85 - 115
Lead	80.0	75.7		ug/L		95	85 - 115
Selenium	80.0	75.1		ug/L		94	85 - 115
Silver	80.0	77.6		ug/L		97	85 - 115
Thallium	80.0	75.5		ug/L		94	85 - 115

Lab Sample ID: 570-80142-C-2-D MS
Matrix: Water
Analysis Batch: 663652

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663593

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		80.0	86.0		ug/L		108	70 - 130
Cadmium	ND		80.0	75.1		ug/L		94	70 - 130
Copper	2.8		80.0	78.5		ug/L		95	70 - 130
Lead	ND		80.0	76.5		ug/L		96	70 - 130
Selenium	ND		80.0	74.6		ug/L		93	70 - 130
Silver	ND		80.0	78.4		ug/L		98	70 - 130
Thallium	ND		80.0	76.4		ug/L		95	70 - 130

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-80142-C-2-E MSD
Matrix: Water
Analysis Batch: 663652

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663593

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		80.0	89.1		ug/L		111	70 - 130	4	20
Cadmium	ND		80.0	77.6		ug/L		97	70 - 130	3	20
Copper	2.8		80.0	81.6		ug/L		98	70 - 130	4	20
Lead	ND		80.0	79.4		ug/L		99	70 - 130	4	20
Selenium	ND		80.0	76.6		ug/L		96	70 - 130	3	20
Silver	ND		80.0	80.9		ug/L		101	70 - 130	3	20
Thallium	ND		80.0	79.0		ug/L		99	70 - 130	3	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-208325/1-A
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208325

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/19/22 15:04	01/20/22 18:41	1

Lab Sample ID: LCS 570-208325/2-A
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208325

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	9.44		ug/L		94	85 - 115

Lab Sample ID: LCSD 570-208325/3-A
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208325

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	10.0	9.47		ug/L		95	85 - 115	0	10

Lab Sample ID: 570-81280-A-2-B MS
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 208325

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		10.0	8.92		ug/L		89	70 - 130

Lab Sample ID: 570-81280-A-2-C MSD
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 208325

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	9.44		ug/L		94	70 - 130	6	10

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: MB 570-208358/1-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 208361

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/19/22 17:58	01/20/22 19:43	1

Lab Sample ID: LCS 570-208358/2-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	9.71		ug/L		97	85 - 115

Lab Sample ID: LCSD 570-208358/3-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	10.0	9.72		ug/L		97	85 - 115	0	10

Lab Sample ID: 570-80548-C-3-H MS
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		10.0	9.05		ug/L		90	70 - 130

Lab Sample ID: 570-80548-C-3-I MSD
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	9.21		ug/L		92	70 - 130	2	10

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-663505/1
Matrix: Water
Analysis Batch: 663505

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	3.0	mg/L			12/28/21 08:43	1

Lab Sample ID: LCS 440-663505/2
Matrix: Water
Analysis Batch: 663505

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	984		mg/L		98	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 440-293601-G-5 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 663505

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	4000			4070		mg/L				1	5

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-663578/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 663578

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			12/29/21 12:18	1

Lab Sample ID: LCS 440-663578/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 663578

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			1000	1110		mg/L		111	85 - 115		

Lab Sample ID: 440-293605-B-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 663578

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	210			202		mg/L				4	5

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 570-204823/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204811 — **Prep Batch: 204823**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0030	0.0014	mg/L		12/29/21 13:00	12/30/21 15:07	1

Lab Sample ID: LCS 570-204823/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204811 — **Prep Batch: 204823**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			0.0100	0.0104		mg/L		104	80 - 120		

Lab Sample ID: LCSD 570-204823/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204811 — **Prep Batch: 204823**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total			0.0100	0.0111		mg/L		111	80 - 120	7	20

Method: SM 4500 CN E - Cyanide, Total (Low Level) (Continued)

Lab Sample ID: 570-79831-I-1-A MS
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 204823

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total	ND		0.0100	0.0119	LM	mg/L		119	74 - 115		

Lab Sample ID: 570-79831-I-1-B MSD
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 204823

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		0.0100	0.0110		mg/L		110	74 - 115	8	20

Method: SM 4500 NH3 G - Ammonia

Lab Sample ID: MB 440-664022/10
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.200	0.100	mg/L			01/07/22 11:11	1

Lab Sample ID: LCS 440-664022/11
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	5.00	5.370		mg/L		107	90 - 110

Lab Sample ID: MRL 440-664022/9
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.200	0.1950	J,DX	mg/L		98	50 - 150

Lab Sample ID: 570-80545-H-1 MS
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.845		5.00	5.760		mg/L		98	90 - 110

Lab Sample ID: 570-80545-H-1 MSD
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.845		5.00	5.710		mg/L		97	90 - 110	1	15

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

GC/MS Semi VOA

Prep Batch: 204353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	625	
MB 570-204353/1-A	Method Blank	Total/NA	Water	625	
LCS 570-204353/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-204353/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 204757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	625.1 SIM	204353
MB 570-204353/1-A	Method Blank	Total/NA	Water	625.1 SIM	204353
LCS 570-204353/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	204353
LCSD 570-204353/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	204353

GC Semi VOA

Prep Batch: 203919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	608	
MB 570-203919/1-A	Method Blank	Total/NA	Water	608	
LCS 570-203919/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 570-203919/9-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-203919/10-A	Lab Control Sample Dup	Total/NA	Water	608	
LCSD 570-203919/3-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 204108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-203919/1-A	Method Blank	Total/NA	Water	608.3	203919
LCS 570-203919/2-A	Lab Control Sample	Total/NA	Water	608.3	203919
LCSD 570-203919/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	203919

Analysis Batch: 204446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	608.3	203919

Analysis Batch: 204995

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	608.3	203919
MB 570-203919/1-A	Method Blank	Total/NA	Water	608.3	203919
LCS 570-203919/9-A	Lab Control Sample	Total/NA	Water	608.3	203919
LCSD 570-203919/10-A	Lab Control Sample Dup	Total/NA	Water	608.3	203919

HPLC/IC

Analysis Batch: 203940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	300.0	
MB 570-203940/15	Method Blank	Total/NA	Water	300.0	
LCS 570-203940/16	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-203940/17	Lab Control Sample Dup	Total/NA	Water	300.0	
570-79264-H-1 MS - DL	Matrix Spike	Total/NA	Water	300.0	
570-79264-H-1 MSD - DL	Matrix Spike Duplicate	Total/NA	Water	300.0	

HPLC/IC

Analysis Batch: 203941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	300.0	
MB 570-203941/15	Method Blank	Total/NA	Water	300.0	
LCS 570-203941/16	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-203941/17	Lab Control Sample Dup	Total/NA	Water	300.0	
570-79264-H-1 MS - DL	Matrix Spike	Total/NA	Water	300.0	
570-79264-H-1 MSD - DL	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 204051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	218.6	
MB 570-204051/6	Method Blank	Total/NA	Water	218.6	
LCS 570-204051/7	Lab Control Sample	Total/NA	Water	218.6	
LCSD 570-204051/8	Lab Control Sample Dup	Total/NA	Water	218.6	
570-80145-1 MS	Outfall008_20211226_Comp	Total/NA	Water	218.6	
570-80145-1 MSD	Outfall008_20211226_Comp	Total/NA	Water	218.6	

Analysis Batch: 204101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	314.0	
MB 570-204101/6	Method Blank	Total/NA	Water	314.0	
LCS 570-204101/7	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-204101/8	Lab Control Sample Dup	Total/NA	Water	314.0	
570-79640-G-1 MS - DL	Matrix Spike	Total/NA	Water	314.0	
570-79640-G-1 MSD - DL	Matrix Spike Duplicate	Total/NA	Water	314.0	

Analysis Batch: 205165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	NO2NO3 Calc	

Metals

Prep Batch: 208325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	245.1	
MB 570-208325/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-208325/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-208325/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-81280-A-2-B MS	Matrix Spike	Total/NA	Water	245.1	
570-81280-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Filtration Batch: 208358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-2	Outfall008_20211226_Comp_F	Dissolved	Water	Filtration	
MB 570-208358/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-80548-C-3-H MS	Matrix Spike	Dissolved	Water	Filtration	
570-80548-C-3-I MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

Metals

Prep Batch: 208361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-2	Outfall008_20211226_Comp_F	Dissolved	Water	245.1	208358
MB 570-208358/1-B	Method Blank	Dissolved	Water	245.1	208358
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	245.1	208358
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	208358
570-80548-C-3-H MS	Matrix Spike	Dissolved	Water	245.1	208358
570-80548-C-3-I MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	208358

Analysis Batch: 208671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	245.1	208325
570-80145-2	Outfall008_20211226_Comp_F	Dissolved	Water	245.1	208361
MB 570-208325/1-A	Method Blank	Total/NA	Water	245.1	208325
MB 570-208358/1-B	Method Blank	Dissolved	Water	245.1	208361
LCS 570-208325/2-A	Lab Control Sample	Total/NA	Water	245.1	208325
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	245.1	208361
LCSD 570-208325/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	208325
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	208361
570-80548-C-3-H MS	Matrix Spike	Dissolved	Water	245.1	208361
570-80548-C-3-I MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	208361
570-81280-A-2-B MS	Matrix Spike	Total/NA	Water	245.1	208325
570-81280-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	208325

Filtration Batch: 663584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-2	Outfall008_20211226_Comp_F	Dissolved	Water	FILTRATION	
MB 440-663584/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-663584/1-C	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663584/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-663584/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
570-80142-C-2-D MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80142-C-2-E MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
570-80142-C-2-G MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80142-C-2-H MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Prep Batch: 663593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-2	Outfall008_20211226_Comp_F	Dissolved	Water	200.2	663584
MB 440-663584/1-B	Method Blank	Dissolved	Water	200.2	663584
LCS 440-663584/2-B	Lab Control Sample	Dissolved	Water	200.2	663584
570-80142-C-2-D MS	Matrix Spike	Dissolved	Water	200.2	663584
570-80142-C-2-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663584

Prep Batch: 663619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-2	Outfall008_20211226_Comp_F	Dissolved	Water	200.2	663584
MB 440-663584/1-C	Method Blank	Dissolved	Water	200.2	663584
LCS 440-663584/2-C	Lab Control Sample	Dissolved	Water	200.2	663584
570-80142-C-2-G MS	Matrix Spike	Dissolved	Water	200.2	663584
570-80142-C-2-H MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663584

Metals

Analysis Batch: 663652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-2	Outfall008_20211226_Comp_F	Dissolved	Water	200.8	663593
MB 440-663584/1-B	Method Blank	Dissolved	Water	200.8	663593
LCS 440-663584/2-B	Lab Control Sample	Dissolved	Water	200.8	663593
570-80142-C-2-D MS	Matrix Spike	Dissolved	Water	200.8	663593
570-80142-C-2-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	663593

Analysis Batch: 663658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-2	Outfall008_20211226_Comp_F	Dissolved	Water	200.7 Rev 4.4	663619
MB 440-663584/1-C	Method Blank	Dissolved	Water	200.7 Rev 4.4	663619
LCS 440-663584/2-C	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	663619
570-80142-C-2-G MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	663619
570-80142-C-2-H MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	663619

Analysis Batch: 663736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-2	Outfall008_20211226_Comp_F	Dissolved	Water	SM 2340B	

Analysis Batch: 663948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total Recoverable	Water	SM 2340B	

Prep Batch: 664215

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total Recoverable	Water	200.2	
MB 440-664215/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664215/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-79681-A-25-B MS	Matrix Spike	Total Recoverable	Water	200.2	
570-79681-A-25-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Prep Batch: 664218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total Recoverable	Water	200.2	
MB 440-664218/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664218/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
440-293517-A-2-C MS	Matrix Spike	Total Recoverable	Water	200.2	
440-293517-A-2-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 664271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total Recoverable	Water	200.8	664215
MB 440-664215/1-A	Method Blank	Total Recoverable	Water	200.8	664215
LCS 440-664215/2-A	Lab Control Sample	Total Recoverable	Water	200.8	664215
570-79681-A-25-B MS	Matrix Spike	Total Recoverable	Water	200.8	664215
570-79681-A-25-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	664215

Analysis Batch: 664336

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total Recoverable	Water	200.7 Rev 4.4	664218
MB 440-664218/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	664218
LCS 440-664218/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	664218

Metals (Continued)

Analysis Batch: 664336 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-293517-A-2-C MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	664218
440-293517-A-2-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	664218

General Chemistry

Analysis Batch: 204811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	SM 4500 CN E	204823
MB 570-204823/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	204823
LCS 570-204823/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	204823
LCSD 570-204823/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	204823
570-79831-I-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	204823
570-79831-I-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	204823

Prep Batch: 204823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	SM 4500 CN C	
MB 570-204823/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-204823/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-204823/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-79831-I-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN C	
570-79831-I-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN C	

Analysis Batch: 207080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	218.6 CR3	

Analysis Batch: 663505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	SM 2540C	
MB 440-663505/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-663505/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-293601-G-5 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 663578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	SM 2540D	
MB 440-663578/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-663578/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-293605-B-3 DU	Duplicate	Total/NA	Water	SM 2540D	

Analysis Batch: 664022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	SM 4500 NH3 G	
MB 440-664022/10	Method Blank	Total/NA	Water	SM 4500 NH3 G	
LCS 440-664022/11	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
MRL 440-664022/9	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
570-80545-H-1 MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 G	
570-80545-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 G	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			936.9 mL	2 mL	204353	12/29/21 05:48	H1SH	ECL 1
Total/NA	Analysis	625.1 SIM		1			204757	12/30/21 16:11	ULLI	ECL 1
	Instrument ID:	GCMSJJJ								
Total/NA	Prep	608			1500 mL	1.0 mL	203919	12/28/21 12:24	PQS1	ECL 1
Total/NA	Analysis	608.3		1			204446	12/29/21 15:56	UJ3K	ECL 1
	Instrument ID:	GC44								
Total/NA	Prep	608			1500 mL	1.0 mL	203919	12/28/21 12:24	PQS1	ECL 1
Total/NA	Analysis	608.3		1			204995	01/04/22 01:45	UHHN	ECL 1
	Instrument ID:	GC58								
Total/NA	Analysis	218.6		10			204051	12/28/21 13:44	URMH	ECL 1
	Instrument ID:	IC16								
Total/NA	Analysis	300.0		5			203940	12/28/21 06:13	URMH	ECL 1
	Instrument ID:	IC10								
Total/NA	Analysis	300.0		5			203941	12/28/21 06:13	URMH	ECL 1
	Instrument ID:	IC10								
Total/NA	Analysis	314.0		10			204101	12/28/21 15:07	URMH	ECL 1
	Instrument ID:	IC8								
Total/NA	Analysis	NO2NO3 Calc		1			205165	01/03/22 16:35	URMH	ECL 1
	Instrument ID:	IC10								
Total Recoverable	Prep	200.2			25 mL	25 mL	664218	01/11/22 13:35		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664336	01/12/22 17:02	P1R	IRV 2
	Instrument ID:	ICP8								
Total Recoverable	Prep	200.2			25 mL	25 mL	664215	01/11/22 13:09		IRV 2
Total Recoverable	Analysis	200.8		1			664271	01/12/22 10:18	Y2WS	IRV 2
	Instrument ID:	ICPMS6								
Total/NA	Prep	245.1			50 mL	100 mL	208325	01/19/22 15:04	VWJ7	ECL 4
Total/NA	Analysis	245.1		1			208671	01/20/22 19:36	VWJ7	ECL 1
	Instrument ID:	HG7								
Total Recoverable	Analysis	SM 2340B		1			663948	01/06/22 17:16	P1R	IRV 2
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	218.6 CR3		1			207080	01/12/22 16:10	URMH	ECL 1
	Instrument ID:	IC16								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	663505	12/29/21 10:13	VY3D	IRV 2
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	SM 2540D		1	950 mL	1000 mL	663578	12/29/21 12:18	ZL7L	IRV 2
	Instrument ID:	NOEQUIP								
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	204823	12/29/21 13:00	UAPD	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	5 mL	5 mL	204811	12/30/21 15:19	UAPD	ECL 1
	Instrument ID:	UV9								
Total/NA	Analysis	SM 4500 NH3 G		1	0.8 mL	8.0 mL	664022	01/07/22 12:57	GG0B	IRV 2
	Instrument ID:	LACHAT01								

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Client Sample ID: Outfall008_20211226_Comp_F
Lab Sample ID: 570-80145-2

Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			125 mL	125 mL	663584	12/29/21 14:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663619	12/30/21 07:56	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			663658	12/30/21 14:28	K1UV	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			125 mL	125 mL	663584	12/29/21 14:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663593	12/29/21 16:21	LZY7	IRV 2
Dissolved	Analysis	200.8		1			663652	12/30/21 12:55	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	208358	01/19/22 17:49	UIAS	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	208361	01/19/22 17:58	VWJ7	ECL 4
Dissolved	Analysis	245.1		1			208671	01/20/22 19:58	VWJ7	ECL 1
	Instrument ID: HG7									
Dissolved	Analysis	SM 2340B		1			663736	01/24/22 16:37	P1R	IRV 2
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method	Method Description	Protocol	Laboratory
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	40CFR136A	ECL 1
608.3	Organochlorine Pesticides in Water	40CFR136A	ECL 1
608.3	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	ECL 1
218.6	Chromium, Hexavalent (Ion Chromatography)	EPA	ECL 1
300.0	Anions, Ion Chromatography	MCAWW	ECL 1
314.0	Perchlorate (IC)	EPA	ECL 1
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	ECL 1
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	ECL 1
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	IRV 2
218.6 CR3	Chromium, Trivalent (Calculation)	EPA	ECL 1
SM 2540C	Solids, Total Dissolved (TDS)	SM	IRV 2
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 2
SM 4500 CN E	Cyanide, Total (Low Level)	SM	ECL 1
SM 4500 NH3 G	Ammonia	SM	IRV 2
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	ECL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	ECL 1
625	Liquid-Liquid Extraction	40CFR136A	ECL 1
Filtration	Sample Filtration	None	ECL 4
FILTRATION	Sample Filtration	None	IRV 2
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80145-1	Outfall008_20211226_Comp	Water	12/26/21 09:10	12/27/21 17:35
570-80145-2	Outfall008_20211226_Comp_F	Water	12/26/21 09:10	12/27/21 17:35

80145

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80145 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [008] Outfall 008 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **EC# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289 8606, 520 904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033 818.599 0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R/A Total Recoverable Metals: (E200.7): Al, B, Fe, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag Cd, Cu, Pb, Sb, Se, Tl Add 200.7 As and Be	R TCDD (and all congeners) (E1613B)	R/A Cl- F- SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (300)	R TDS (SM2540C/E160.1)	A TSS (160.2 (SM2540D))	R/A Total Dissolved Metals (E200.7): Al, B, Fe, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl Add 200.7 As and Be	R Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 228 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	R Chronic Toxicity Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	R Ammonia-N (350.2)	R Cyanide (SM4500-CN-E / E335.2)	A Priority Pollutants-Pesticides+PCBs (E608)	R Total Recoverable Metals: Mercury (E245.1)	R Total Dissolved Metals: Mercury (E245.1)			Comments
Outfall 008	Outfall008_20211226_Comp	12/26/2021 10:30 am 6410	WM	500 mL Poly	1	HNO_3	85	No	X											X						
			WM	1 L Glass Amber	2	None	110	No		X																
			WM	500 mL Poly	2	None	125	No			X															48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	155	No				X														
			WM	500 mL Poly	1	H2SO4	160	No										X								
			WM	1L Poly	1	None	185	No					X													
			WM	500 mL Poly	1	NaOH	220	No											X							
			WM	2.5 Gal Cube	1	None	225	No							X											Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No																		
		*	WM	1 Gal Cube	6	None	235	No								X										Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA
			WM	1 L Glass Amber	2	None	250	No												X						
	Outfall008_20211226_Comp_F	12/26/2021 0918	WM	1L Poly	1	None	195	No						X												Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No															X			Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall008_20211226_Comp_Extra	12/26/2021 0910	WM	1 L Glass Amber	2	None	110	No		H																Hold
			WM	500 mL Poly	2	None	125	No			H															Hold
			WM	1 L Glass Amber	2	None	250	No												H						Hold

COC Revised on 1/28/2022 at 1:30pm by Michelle Dallalah (H&A).

Legend: R = Routine, A = Annual

Relinquished By	Date/Time:	Company	Received By	Date/Time:	Company
MDominick	12-27-2021 1445	H:A			EC1
	12/27/21 1735			12/27/21 1735	

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day: ___X___
48 Hour _____ 5 Day _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements: (Check)
No Level IV: _____ All Level IV: ___X___

* Hand delivered to ABC Labs by H:A

1.8/2.7, 2.0/2.9 SCS

1/28/2022 (Rev. 1)

2019-2020 Rainy Season
Version 2

80145

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80145 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [008] Outfall 008 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **EC# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289 8606, 520 904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033 818.599 0702 (cell)

									ANALYSIS REQUIRED																			
									R/A	R	R/A	R	A	R/A	R	R	R	R	A	R	R						
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): Al, B, Fe, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	Cl- F- SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (300)	TDS (SM2540C/E160.1)	TSS (160.2 (SM2540D))	Total Dissolved Metals (E200.7): Al, B, Fe, Ni, V Zn, Hardness as CaCO3 (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 228 (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	Ammonia-N (350.2)	Cyanide (SM4500-CN-E / E335.2)	Priority Pollutants-Pesticides+PCBs (E608)	Total Recoverable Metals: Mercury (E245.1)	Total Dissolved Metals: Mercury (E245.1)				Comments
Outfall 008	Outfall008_20211226_Comp	12/26/2021 0910	WM	500 mL Poly	1	HNO_3	85	No	X												X							
			WM	1 L Glass Amber	2	None	110	No		X																		
			WM	500 mL Poly	2	None	125	No			X																	48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	155	No				X																
			WM	500 mL Poly	1	H2SO4	160	No										X										
			WM	1L Poly	1	None	185	No					X															
			WM	500 mL Poly	1	NaOH	220	No											X									
			WM	2.5 Gal Cube	1	None	225	No							X													Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No																				
		*	WM	1 Gal Cube	6	None	235	No								X												Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA
			WM	1 L Glass Amber	2	None	250	No												X								
	Outfall008_20211226_Comp_F	12/26/2021 0910	WM	1L Poly	1	None	195	No						X														Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No																X				Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall008_20211226_Comp_Extra	12/26/2021 0910	WM	1 L Glass Amber	2	None	110	No		H																		Hold
			WM	500 mL Poly	2	None	125	No			H																	Hold
			WM	1 L Glass Amber	2	None	250	No												H								Hold

Legend: R = Routine, A = Annual

Relinquished By	Date/Time:	Company	Received By	Date/Time:	Company
	12-27-2021 1445	H:A		12/27/21 1445	EC1
	12/27/21 1735			12/27/21 1735	

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day ___X___
48 Hour _____ 5 Day _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements: (Check)
No Level IV: _____ All Level IV: ___X___

* Hand delivered to ABC Labs by H:A

1.8|2.7, 2.0|2.9 SCS

1/28/2022 (Rev. 1)

2019-2020 Rainy Season
Version 2

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address.	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Annual Outfall [008] Outfall 008 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **ECI# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	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: Priority Pollutants-SVOCs (E625)	Cr (VI), Total (E218.6)	Asbestos (EPA100.2)	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights CA	Comments
									A	A	A	A	
Outfall 008	Outfall008_20211226_Comp	12/26/2021	WM	1 L Glass Amber	2	None	175	No	X				
			WM	500 mL Poly	1	None	260	No		X			
			WM	1L Poly	1	None	270	No			X		
			WM	1 L Glass Amber	2	None	275	No				X	Extract within 24-Hours of sampling.
	Outfall008_20211226_Comp_Extra	12/26/2021	WM	1 L Glass Amber	2	None	175	No	H				Hold
			WM	1 L Glass Amber	2	None	275	No				H	Hold

Legend: A = Annual

Relinquished By	Date/Time:	Company	Received By	Date/Time:
[signature]	12-27-2021/1445	H&A	[signature]	ECI 12/27/21 1445
[signature]	12/27/21 1735		[signature]	12/27/21 1735
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 LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-147895 1
Client Contact: Shipping/Receiving	Phone:	E Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80145-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/25/2022			
City: Earth City	TAT Requested (days):			
State Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B NaOH, C Zn Acetate, D - Nitric Acid, E - NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q - Na2SO3, R Na2S2O3, S - H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09 10 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/28/21 1252				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time:	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147926 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80145-2
Address: 880 Riverside Parkway	Due Date Requested: 1/13/2022			
City: West Sacramento	TAT Requested (days)			
State Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09:10 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, Use Boeing glassware
Outfall008_20211226_Comp_Extra (570-80145-3)	12/26/21	09:10 Pacific		Water				X	2	See QAS Boeing_w/u to zero, Use Boeing glassware

Note Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time.	Method of Shipment:

Relinquished by:	Date/Time: 12/28/21 1500	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

1/28/2022 (Rev. 1)

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147943 1
Client Contact: Shipping/Receiving	Phone	E Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc		Accreditations Required (See note): State Program - California		Job #: 570-80145-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/11/2022			
City: City of Industry	TAT Requested (days):			
State Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck- 625.2 - Diazinon and Chlorpyrifos (ug/L units))	SUB (Weck- 625.2 - Diazinon and Chlorpyrifos (ug/L units)) (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09:10 Pacific		Water			X		2	525.2- 24 hour extraction for Diaznon and Chyloriphrous- level IV package needed
Outfall008_20211226_Comp_Extra (570-80145-3)	12/26/21	09:10 Pacific		Water				X	2	525.2- 24 hour extraction for Diaznon and Chyloriphrous- level IV package needed

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/28/21 1615				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147950 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: EMSL Analytical Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80145-2
Address: 520 Mission Street, ,	Due Date Requested: 1/11/2022			
City: South Pasadena	TAT Requested (days)			
State, Zip: CA, 91030				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E - NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L - EDA, M - Hexane, N None, O AsNaO2, P Na2O4S, Q - Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U - Acetone, V MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Asbestos 100.2)/ Asbestos 100.2	(WASTEWATER)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09 10 Pacific		Water			X	X	1	Level IV package needed

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/28/21 1650				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80145-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/5/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 (MOD) Al,As,Be,B,Ca,Cr,Fe,Mg,Ni,V,Zn	200.8/200.2 Ag,Sb,Cd,Cu,Pb,Se,Tl	245.1/245.1_Prep Mercury	SM2340B/Auto_TotalRec (MOD) Local Method	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	200.7/FILTRATION (MOD) Diss Al,As,Be,B,Ca,Cr,Fe,Mg,Ni,V,Z	200.8/FILTRATION Diss Ag,Sb,Cd,Cu,Pb,Se,Tl	245.1/FILTRATION Diss Mercury	SM2340B/FILTRATION Diss hardness			Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09:10 Pacific		Water			X	X	X	X	X	X	X							4	use VOA vials from LL Hg Kit-Clean Hands procedure.
Outfall008_20211226_Comp_F (570-80145-2)	12/26/21	09:10 Pacific		Water										X	X	X	X			3	Filter within 24 hours use VOA vials from LL Hg Kit-Clean Hands procedure Filter

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements IR-89 1.4/1.4

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	12/28/21	GC			
Relinquished by:	Date/Time:	Company	Received by: Olga Omeles	Date/Time: 12/28/21 1752	Company EAT
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80145-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/5/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Preservation Codes:

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 (MOD) Al,As,Be,B,Ca,Cr,Fe,Mg,Ni,V,Zn	200.8/200.2 Ag,Sb,Cd,Cu,Pb,Se,Tl	245.1/245.1_Prep Mercury	SM2340B/Auto_TotalRec (MOD) Local Method	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	200.7/FILTRATION (MOD) Diss Al,As,Be,B,Ca,Cr,Fe,Mg,Ni,V,Z	200 8/FILTRATION Diss Ag,Sb,Cd,Cu,Pb,Se,Tl	245.1/FILTRATION Diss Mercury	SM2340B/FILTRATION Diss hardness			Total Number of containers	Special Instructions/Note.
			Preservation Code:																		
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09:10 Pacific		Water			X	X	X	X	X	X	X							4	use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall008_20211226_Comp_F (570-80145-2)	12/26/21	09 10 Pacific		Water										X	X	X	X			3	Filter within 24 hours, use VOA vials from LL Hg Kit-Clean Hands procedure Filter

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements IR-8G 1.4/1.4

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
		12/28/21	GC			
	Relinquished by	Date/Time	Company	Received by: Olga Oviedo	Date/Time: 12/28/21 1752	Company: EAT
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact | Custody Seal No | Cooler Temperature(s) °C and Other Remarks.

Page 82 of 84

1/28/2022 (Rev. 1)

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80145-1

Login Number: 80145
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: 570-80145-1

Login Number: 80145
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 12/29/21 09:18 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80145-2
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/2/2022 6:08:49 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Client Sample Results 6
Surrogate Summary 9
Isotope Dilution Summary 10
QC Sample Results 12
QC Association Summary 16
Lab Chronicle 17
Certification Summary 18
Method Summary 19
Sample Summary 20
Subcontract Data 21
Chain of Custody 40
Receipt Checklists 47

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80145-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 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: 570-80145-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80145-2

Comments
No additional comments.

Receipt
The samples were received on 12/27/2021 5:35 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 2.7º C and 2.9º C.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 10D5 exceeded this criteria: (CCV 320-557344/2), (LCS 320-555916/2-A), (LCSD 320-555916/3-A) and (MB 320-555916/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 10D5 exceeded this criteria: Outfall008_20211226_Comp (570-80145-1) and (CCV 320-557869/16). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: Outfall008_20211226_Comp (570-80145-1), (CCV 320-557644/2) and (MB 320-555916/1-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.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method Chronic-Selenestrum: This method was subcontracted to Aquatic Bioassay & Consulting. The subcontract laboratory certification is different from that of the facility issuing the final report.

Method Asbestos 100.2: This method was subcontracted to EMSL Analytical Inc - LA Testing - Pasadena. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1

Sample Analysis Not Complete.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall008_20211226_Comp
Date Collected: 12/26/21 09:10
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80145-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000032	ug/L		01/04/22 13:59	01/14/22 07:33	1
1,2,3,7,8-PeCDD	ND		0.000052	0.00000035	ug/L		01/04/22 13:59	01/14/22 07:33	1
1,2,3,7,8-PeCDF	**0.00000050**	**J,DX**	0.000052	0.00000030	ug/L		01/04/22 13:59	01/14/22 07:33	1
2,3,4,7,8-PeCDF	ND		0.000052	0.00000029	ug/L		01/04/22 13:59	01/14/22 07:33	1
1,2,3,4,7,8-HxCDD	**0.0000017**	**J,DX q MB**	0.000052	0.00000028	ug/L		01/04/22 13:59	01/14/22 07:33	1
1,2,3,6,7,8-HxCDD	ND		0.000052	0.00000031	ug/L		01/04/22 13:59	01/14/22 07:33	1
1,2,3,7,8,9-HxCDD	ND		0.000052	0.00000025	ug/L		01/04/22 13:59	01/14/22 07:33	1
1,2,3,4,7,8-HxCDF	**0.00000028**	**J,DX q**	0.000052	0.00000017	ug/L		01/04/22 13:59	01/14/22 07:33	1
1,2,3,6,7,8-HxCDF	ND		0.000052	0.00000019	ug/L		01/04/22 13:59	01/14/22 07:33	1
1,2,3,7,8,9-HxCDF	**0.00000052**	**J,DX**	0.000052	0.00000017	ug/L		01/04/22 13:59	01/14/22 07:33	1
2,3,4,6,7,8-HxCDF	**0.00000024**	**J,DX q**	0.000052	0.00000015	ug/L		01/04/22 13:59	01/14/22 07:33	1
1,2,3,4,6,7,8-HpCDD	**0.0000018**	**J,DX MB**	0.000052	0.00000016	ug/L		01/04/22 13:59	01/14/22 07:33	1
1,2,3,4,6,7,8-HpCDF	**0.00000069**	**J,DX q MB**	0.000052	0.00000021	ug/L		01/04/22 13:59	01/14/22 07:33	1
1,2,3,4,7,8,9-HpCDF	ND		0.000052	0.00000023	ug/L		01/04/22 13:59	01/14/22 07:33	1
OCDD	**0.0000070**	**J,DX MB**	0.00010	0.00000028	ug/L		01/04/22 13:59	01/14/22 07:33	1
OCDF	**0.00000072**	**J,DX q**	0.00010	0.00000028	ug/L		01/04/22 13:59	01/14/22 07:33	1
Total TCDD	**0.0000028**	**J,DX MB**	0.000010	0.00000032	ug/L		01/04/22 13:59	01/14/22 07:33	1
Total TCDF	**0.00000060**	**J,DX q MB**	0.000010	0.00000015	ug/L		01/04/22 13:59	01/14/22 07:33	1
Total PeCDD	ND		0.000052	0.00000035	ug/L		01/04/22 13:59	01/14/22 07:33	1
Total PeCDF	**0.00000050**	**J,DX**	0.000052	0.00000029	ug/L		01/04/22 13:59	01/14/22 07:33	1
Total HxCDD	**0.0000017**	**J,DX q MB**	0.000052	0.00000025	ug/L		01/04/22 13:59	01/14/22 07:33	1
Total HxCDF	**0.0000012**	**J,DX q**	0.000052	0.00000015	ug/L		01/04/22 13:59	01/14/22 07:33	1
Total HpCDD	**0.0000035**	**J,DX q MB**	0.000052	0.00000016	ug/L		01/04/22 13:59	01/14/22 07:33	1
Total HpCDF	**0.00000069**	**J,DX q MB**	0.000052	0.00000021	ug/L		01/04/22 13:59	01/14/22 07:33	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*75*		*25 - 164*	*01/04/22 13:59*	*01/14/22 07:33*	*1*
13C-2,3,7,8-TCDF	*76*		*24 - 169*	*01/04/22 13:59*	*01/14/22 07:33*	*1*
13C-1,2,3,7,8-PeCDD	*76*		*25 - 181*	*01/04/22 13:59*	*01/14/22 07:33*	*1*
13C-1,2,3,7,8-PeCDF	*72*		*24 - 185*	*01/04/22 13:59*	*01/14/22 07:33*	*1*
13C-2,3,4,7,8-PeCDF	*82*		*21 - 178*	*01/04/22 13:59*	*01/14/22 07:33*	*1*
13C-1,2,3,4,7,8-HxCDD	*88*		*32 - 141*	*01/04/22 13:59*	*01/14/22 07:33*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDD	84		28 - 130	01/04/22 13:59	01/14/22 07:33	1
13C-1,2,3,4,7,8-HxCDF	87		26 - 152	01/04/22 13:59	01/14/22 07:33	1
13C-1,2,3,6,7,8-HxCDF	78		26 - 123	01/04/22 13:59	01/14/22 07:33	1
13C-1,2,3,7,8,9-HxCDF	79		29 - 147	01/04/22 13:59	01/14/22 07:33	1
13C-2,3,4,6,7,8-HxCDF	82		28 - 136	01/04/22 13:59	01/14/22 07:33	1
13C-1,2,3,4,6,7,8-HpCDD	81		23 - 140	01/04/22 13:59	01/14/22 07:33	1
13C-1,2,3,4,6,7,8-HpCDF	76		28 - 143	01/04/22 13:59	01/14/22 07:33	1
13C-1,2,3,4,7,8,9-HpCDF	92		26 - 138	01/04/22 13:59	01/14/22 07:33	1
13C-OCDD	93		17 - 157	01/04/22 13:59	01/14/22 07:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	88		35 - 197	01/04/22 13:59	01/14/22 07:33	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000015	ug/L		01/04/22 13:59	01/12/22 15:30	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*82*		*24 - 169*	*01/04/22 13:59*	*01/12/22 15:30*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*91*		*35 - 197*	*01/04/22 13:59*	*01/12/22 15:30*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 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)								
570-80145-1 - RA	Outfall008_20211226_Comp	91								
570-80145-1	Outfall008_20211226_Comp	88								
MB 320-555916/1-A	Method Blank	90								
MB 320-555916/1-A - RA	Method Blank	92								

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	37TCDD (31-191)								
LCS 320-555916/2-A	Lab Control Sample	90								
LCSD 320-555916/3-A	Lab Control Sample Dup	87								

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 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)
570-80145-1 - RA	Outfall008_20211226_Comp		82						
570-80145-1	Outfall008_20211226_Comp	75	76	76	72	82	88	84	87
MB 320-555916/1-A	Method Blank	52	54	51	50	57	53	59	56
MB 320-555916/1-A - RA	Method Blank		54						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-80145-1 - RA	Outfall008_20211226_Comp							
570-80145-1	Outfall008_20211226_Comp	78	79	82	81	76	92	93
MB 320-555916/1-A	Method Blank	56	50	55	48	48	53	48
MB 320-555916/1-A - RA	Method Blank							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-555916/2-A	Lab Control Sample	67	68	66	64	74	71	79	75
LCSD 320-555916/3-A	Lab Control Sample Dup	59	63	59	59	65	71	71	71

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-555916/2-A	Lab Control Sample	73	67	72	74	70	79	80
LCSD 320-555916/3-A	Lab Control Sample Dup	71	65	69	71	67	80	78

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80145-2

Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-555916/1-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 555916

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000050	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000032	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000036	ug/L		01/04/22 13:59	01/11/22 14:39	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000033	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,4,7,8-HxCDD	0.00000183	J,DX q	0.000050	0.00000026	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.00000028	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.00000024	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.00000018	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.00000019	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,7,8,9-HxCDF	ND		0.000050	0.00000021	ug/L		01/04/22 13:59	01/11/22 14:39	1
2,3,4,6,7,8-HxCDF	ND		0.000050	0.00000017	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,4,6,7,8-HpCDD	0.00000158	J,DX q	0.000050	0.00000024	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,4,6,7,8-HpCDF	0.000000872	J,DX q	0.000050	0.00000024	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,4,7,8,9-HpCDF	0.000000423	J,DX q	0.000050	0.00000030	ug/L		01/04/22 13:59	01/11/22 14:39	1
OCDD	0.00000603	J,DX	0.00010	0.00000038	ug/L		01/04/22 13:59	01/11/22 14:39	1
OCDF	ND		0.00010	0.00000044	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total TCDD	0.00000504	J,DX q	0.000010	0.00000050	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total TCDF	0.000000609	J,DX	0.000010	0.00000018	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total PeCDD	ND		0.000050	0.00000039	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total PeCDF	ND		0.000050	0.00000036	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total HxCDD	0.00000183	J,DX q	0.000050	0.00000026	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total HxCDF	ND		0.000050	0.00000021	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total HpCDD	0.00000350	J,DX q	0.000050	0.00000024	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total HpCDF	0.00000129	J,DX q	0.000050	0.00000027	ug/L		01/04/22 13:59	01/11/22 14:39	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*52*		*25 - 164*	*01/04/22 13:59*	*01/11/22 14:39*	*1*
13C-2,3,7,8-TCDF	*54*		*24 - 169*	*01/04/22 13:59*	*01/11/22 14:39*	*1*
13C-1,2,3,7,8-PeCDD	*51*		*25 - 181*	*01/04/22 13:59*	*01/11/22 14:39*	*1*
13C-1,2,3,7,8-PeCDF	*50*		*24 - 185*	*01/04/22 13:59*	*01/11/22 14:39*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-555916/1-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 555916

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	57		21 - 178	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,4,7,8-HxCDD	53		32 - 141	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,6,7,8-HxCDD	59		28 - 130	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,4,7,8-HxCDF	56		26 - 152	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,6,7,8-HxCDF	56		26 - 123	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,7,8,9-HxCDF	50		29 - 147	01/04/22 13:59	01/11/22 14:39	1
13C-2,3,4,6,7,8-HxCDF	55		28 - 136	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,4,6,7,8-HpCDD	48		23 - 140	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,4,6,7,8-HpCDF	48		28 - 143	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,4,7,8,9-HpCDF	53		26 - 138	01/04/22 13:59	01/11/22 14:39	1
13C-OCDD	48		17 - 157	01/04/22 13:59	01/11/22 14:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	90		35 - 197	01/04/22 13:59	01/11/22 14:39	1

Lab Sample ID: LCS 320-555916/2-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 555916

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000203		ug/L		102	67 - 158
2,3,7,8-TCDF	0.000200	0.000210	MB	ug/L		105	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.00102		ug/L		102	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.00104		ug/L		104	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000928		ug/L		93	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000874	MB	ug/L		87	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000917		ug/L		92	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000858		ug/L		86	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000873		ug/L		87	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000967		ug/L		97	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.000972		ug/L		97	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000999		ug/L		100	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000875	MB	ug/L		88	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000897	MB	ug/L		90	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000807	MB	ug/L		81	78 - 138
OCDD	0.00200	0.00167	MB	ug/L		84	78 - 144
OCDF	0.00200	0.00162		ug/L		81	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	67		20 - 175
13C-2,3,7,8-TCDF	68		22 - 152
13C-1,2,3,7,8-PeCDD	66		21 - 227
13C-1,2,3,7,8-PeCDF	64		21 - 192
13C-2,3,4,7,8-PeCDF	74		13 - 328
13C-1,2,3,4,7,8-HxCDD	71		21 - 193
13C-1,2,3,6,7,8-HxCDD	79		25 - 163
13C-1,2,3,4,7,8-HxCDF	75		19 - 202
13C-1,2,3,6,7,8-HxCDF	73		21 - 159

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-555916/2-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 555916

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,7,8,9-HxCDF	67		17 - 205
13C-2,3,4,6,7,8-HxCDF	72		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	74		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	70		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	79		20 - 186
13C-OCDD	80		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	90		31 - 191

Lab Sample ID: LCSD 320-555916/3-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 555916

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000202		ug/L		101	67 - 158	0	50
2,3,7,8-TCDF			0.000200	0.000199	MB	ug/L		100	75 - 158	5	50
1,2,3,7,8-PeCDD			0.00100	0.00105		ug/L		105	70 - 142	2	50
1,2,3,7,8-PeCDF			0.00100	0.00105		ug/L		105	80 - 134	1	50
2,3,4,7,8-PeCDF			0.00100	0.000925		ug/L		92	68 - 160	0	50
1,2,3,4,7,8-HxCDD			0.00100	0.000879	MB	ug/L		88	70 - 164	1	50
1,2,3,6,7,8-HxCDD			0.00100	0.00106		ug/L		106	76 - 134	14	50
1,2,3,7,8,9-HxCDD			0.00100	0.000931		ug/L		93	64 - 162	8	50
1,2,3,4,7,8-HxCDF			0.00100	0.000959		ug/L		96	72 - 134	9	50
1,2,3,6,7,8-HxCDF			0.00100	0.00104		ug/L		104	84 - 130	8	50
1,2,3,7,8,9-HxCDF			0.00100	0.00105		ug/L		105	78 - 130	8	50
2,3,4,6,7,8-HxCDF			0.00100	0.00106		ug/L		106	70 - 156	6	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.00101	MB	ug/L		101	70 - 140	15	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.00102	MB	ug/L		102	82 - 122	13	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000904	MB	ug/L		90	78 - 138	11	50
OCDD			0.00200	0.00196	MB	ug/L		98	78 - 144	16	50
OCDF			0.00200	0.00191		ug/L		95	63 - 170	16	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	59		20 - 175
13C-2,3,7,8-TCDF	63		22 - 152
13C-1,2,3,7,8-PeCDD	59		21 - 227
13C-1,2,3,7,8-PeCDF	59		21 - 192
13C-2,3,4,7,8-PeCDF	65		13 - 328
13C-1,2,3,4,7,8-HxCDD	71		21 - 193
13C-1,2,3,6,7,8-HxCDD	71		25 - 163
13C-1,2,3,4,7,8-HxCDF	71		19 - 202
13C-1,2,3,6,7,8-HxCDF	71		21 - 159
13C-1,2,3,7,8,9-HxCDF	65		17 - 205
13C-2,3,4,6,7,8-HxCDF	69		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	71		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	67		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	80		20 - 186

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-555916/3-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 555916

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C-OCDD	*78*		*13 - 199*

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*87*		*31 - 191*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-555916/1-A
Matrix: Water
Analysis Batch: 557644

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 555916

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	ND		0.000010	0.0000018	ug/L		01/04/22 13:59	01/12/22 11:40	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF - RA	*54*		*24 - 169*	*01/04/22 13:59*	*01/12/22 11:40*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD - RA	*92*		*35 - 197*	*01/04/22 13:59*	*01/12/22 11:40*	*1*

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Specialty Organics

Prep Batch: 555916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	1613B	
570-80145-1 - RA	Outfall008_20211226_Comp	Total/NA	Water	1613B	
MB 320-555916/1-A	Method Blank	Total/NA	Water	1613B	
MB 320-555916/1-A - RA	Method Blank	Total/NA	Water	1613B	
LCS 320-555916/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-555916/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 557344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-555916/1-A	Method Blank	Total/NA	Water	1613B	555916
LCS 320-555916/2-A	Lab Control Sample	Total/NA	Water	1613B	555916
LCSD 320-555916/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	555916

Analysis Batch: 557644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1 - RA	Outfall008_20211226_Comp	Total/NA	Water	1613B	555916
MB 320-555916/1-A - RA	Method Blank	Total/NA	Water	1613B	555916

Analysis Batch: 557869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	1613B	555916

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			970.4 mL	20.0 uL	555916	01/04/22 13:59	CGB	TAL SAC
Total/NA	Analysis	1613B		1			557869	01/14/22 07:33	GRB	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		970.4 mL	20.0 uL	555916	01/04/22 13:59	CGB	TAL SAC
Total/NA	Analysis	1613B	RA	1			557644	01/12/22 15:30	DB	TAL SAC
	Instrument ID: 11D2									

Laboratory References:

EMSL-LA = EMSL Analytical Inc - LA Testing - Pasadena, 520 Mission Street, South Pasadena, CA 91030

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-29-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Kansas	NELAP	E-10375	10-31-21 *
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-18-22
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-21 *
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
100.2	EPA 100.2 Asbestos in Drinking Water	EPA	EMSL-LA
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EMSL-LA = EMSL Analytical Inc - LA Testing - Pasadena, 520 Mission Street, South Pasadena, CA 91030

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80145-1	Outfall008_20211226_Comp	Water	12/26/21 09:10	12/27/21 17:35

aquatic bioassay & consulting laboratories, inc

January 26, 2022

Mr. Virendra Patel
Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841-1432

Dear Mr. Patel:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013.* Results were as follows:

CLIENT:	Eurofins Calscience
SAMPLE I.D.:	Outfall 008
DATE RECEIVED:	27 Dec - 2021
ABC LAB. NO.:	CSE1221.237

CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY

IWC = 100.00 %

TST RESULT

GROWTH = PASS % EFFECT = -3.86 %

Yours very truly,

Scott Johnson
Laboratory Director

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	04-5394-1762	**Test Type:**	Cell Growth	**Analyst:**		
Start Date:	28 Dec-21 18:00	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water	
Ending Date:	01 Jan-22 16:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable	
Test Length:	94h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:** 5d
Sample ID:	10-8455-1862	**Code:**	CSE1221.237	**Project:**	Boeing-SSFL NPDES	
Sample Date:	26 Dec-21 09:10	**Material:**	Sample Water	**Source:**	Bioassay Report	
Receipt Date:	27 Dec-21 16:20	**CAS (PC):**		**Station:**	Outfall 008	
Sample Age:	57h (0.5 °C)	**Client:**	Eurofins Calscience			

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result	S
21-3292-9361	Cell Density	TST-Welch's t Test	<1.0E-05	100% passed cell density	1

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
21-3292-9361	Cell Density	Control CV	0.03237	<<	0.2	Yes	Passes Criteria
21-3292-9361	Cell Density	Control Resp	1.16E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	8	1.157E+6	1.126E+6	1.188E+6	1.107E+6	1.219E+6	1.324E+4	3.744E+4	3.24%	0.00%
100		8	1.202E+6	1.142E+6	1.261E+6	1.038E+6	1.281E+6	2.515E+4	7.114E+4	5.92%	-3.86%

Cell Density Detail — MD5: EF98AC7DF2E89F3A873C934077AF9F24

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.156E+6	1.203E+6	1.133E+6	1.107E+6	1.130E+6	1.150E+6	1.219E+6	1.157E+6
100		1.201E+6	1.204E+6	1.210E+6	1.038E+6	1.233E+6	1.281E+6	1.208E+6	1.237E+6

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	21-3292-9361	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:36	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:	23 Jan-22 16:34	**MD5 Hash:**	E854F423F1093DB317CF71E374EA5FFB	**Editor ID:**	000-189-126-0
Batch ID:	04-5394-1762	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	28 Dec-21 18:00	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	01 Jan-22 16:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	94h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 5d
Sample ID:	10-8455-1862	**Code:**	CSE1221.237	**Project:**	Boeing-SSFL NPDES
Sample Date:	26 Dec-21 09:10	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	27 Dec-21 16:20	**CAS (PC):**		**Station:**	Outfall 008
Sample Age:	57h (0.5 °C)	**Client:**	Eurofins Calscience		

Data Transform	Alt Hyp	TST_b	Comparison Result
Untransformed	C*b < T	0.75	100% passed cell density endpoint

TST-Welch's t Test

Control	vs	Conc-%	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:25%)
Negative Control		100*	12.35	0.7027	9	CDF	<1.0E-05	Non-Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.03237	<<	0.2	Yes	Passes Criteria
Control Resp	1.16E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	7.966E+09	7.966E+09	1	2.465	0.1387	Non-Significant Effect
Error	4.524E+10	3.231E+09	14			
Total	5.321E+10		15			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Levene Equality of Variance Test	0.4178	8.862	0.5285	Equal Variances
	Mod Levene Equality of Variance Test	0.2818	8.862	0.6038	Equal Variances
	Variance Ratio F Test	3.609	8.885	0.1121	Equal Variances
Distribution	Anderson-Darling A2 Test	0.9226	3.878	0.0191	Normal Distribution
	D'Agostino Skewness Test	2.721	2.576	0.0065	Non-Normal Distribution
	Kolmogorov-Smirnov D Test	0.2002	0.2471	0.0861	Normal Distribution
	Shapiro-Wilk W Normality Test	0.8542	0.8408	0.0157	Normal Distribution

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	8	1.157E+6	1.126E+6	1.188E+6	1.153E+6	1.107E+6	1.219E+6	1.324E+4	3.24%	0.00%
100		8	1.202E+6	1.142E+6	1.261E+6	1.209E+6	1.038E+6	1.281E+6	2.515E+4	5.92%	-3.86%

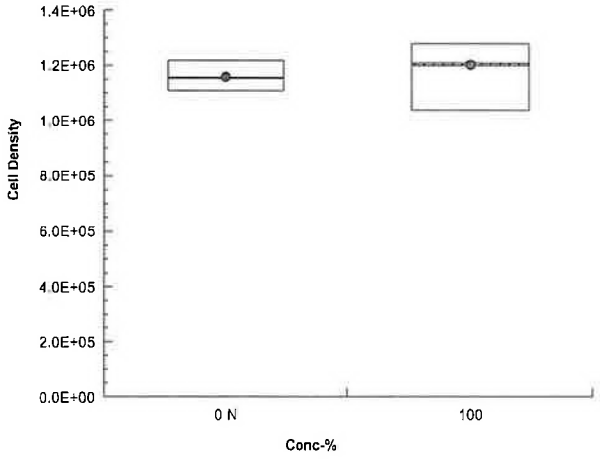
Cell Density Detail

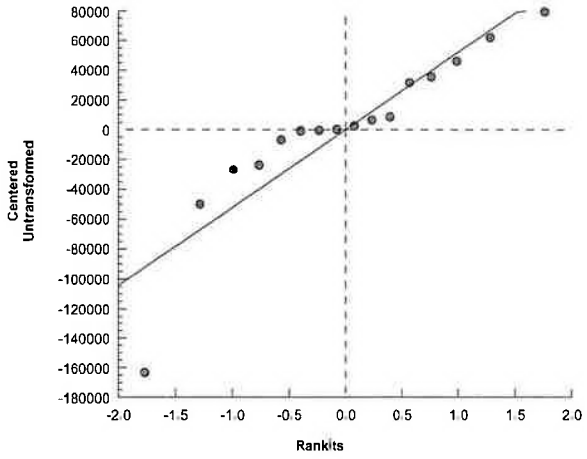
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.156E+6	1.203E+6	1.133E+6	1.107E+6	1.130E+6	1.150E+6	1.219E+6	1.157E+6
100		1.201E+6	1.204E+6	1.210E+6	1.038E+6	1.233E+6	1.281E+6	1.208E+6	1.237E+6

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	21-3292-9361	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:36	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:	23 Jan-22 16:34	**MD5 Hash:**	E854F423F1093DB317CF71E374EA5FFB	**Editor ID:**	000-189-126-0

Graphics





Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	04-5394-1762	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	28 Dec-21 18:00	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	01 Jan-22 16:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	94h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	5d

Sample ID:	10-8455-1862	**Code:**	CSE1221.237	**Project:**	Boeing-SSFL NPDES
Sample Date:	26 Dec-21 09:10	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	27 Dec-21 16:20	**CAS (PC):**		**Station:**	Outfall 008
Sample Age:	57h (0.5 °C)	**Client:**	Eurofins Calscience		

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	62	---	---	62	62	---	0	---	0
100		1	62	---	---	62	62	---	0	---	0
Overall		2	62	62	62	62	62	0	0	0.00%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	450.4	440.4	460.4	437	458	1.616	8.081	1.79%	0
100		5	235.8	212.7	258.9	203	249	3.724	18.62	7.90%	0
Overall		10	343.1	261.6	424.6	203	458	36.02	113.9	33.20%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	100	---	---	100	100	---	0	---	0
100		1	68	---	---	68	68	---	0	---	0
Overall		2	84	-119.3	287.3	68	100	16	22.63	26.94%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	8.14	7.998	8.282	8	8.3	0.0228	0.114	1.40%	0
100		5	8.02	7.687	8.353	7.8	8.4	0.05367	0.2683	3.35%	0
Overall		10	8.08	7.934	8.226	7.8	8.4	0.06464	0.2044	2.53%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.08	24.94	25.22	25	25.2	0.02191	0.1095	0.44%	0
100		5	25.06	24.95	25.17	25	25.2	0.01789	0.08943	0.36%	0
Overall		10	25.07	25	25.14	25	25.2	0.03	0.09487	0.38%	0 (0%)

Selenastrum Growth Test									Aquatic Bioassay & Consulting Labs, Inc.
Alkalinity (CaCO3)-mg/L									
Conc-%	**Code**	**Read**	**Time**	**Measure**	**QA**	**Diff-%**	**Inst ID**	**Analyst**	**Notes**
0	N	1		62					
100				62					
Conductivity-µmhos									
Conc-%	**Code**	**Read**	**Time**	**Measure**	**QA**	**Diff-%**	**Inst ID**	**Analyst**	**Notes**
0	N	1		437					
100				243					
0	N	2		450					
100				249					
0	N	3		458					
100				203					
0	N	4		455					
100				244					
0	N	5		452					
100				240					
Hardness (CaCO3)-mg/L									
Conc-%	**Code**	**Read**	**Time**	**Measure**	**QA**	**Diff-%**	**Inst ID**	**Analyst**	**Notes**
0	N	1		100					
100				68					
pH-Units									
Conc-%	**Code**	**Read**	**Time**	**Measure**	**QA**	**Diff-%**	**Inst ID**	**Analyst**	**Notes**
0	N	1		8.3					
100				8.4					
0	N	2		8.2					
100				8.2					
0	N	3		8.1					
100				7.8					
0	N	4		8.1					
100				7.8					
0	N	5		8					
100				7.9					
Temperature-°C									
Conc-%	**Code**	**Read**	**Time**	**Measure**	**QA**	**Diff-%**	**Inst ID**	**Analyst**	**Notes**
0	N	1		25					
100				25					
0	N	2		25					
100				25					
0	N	3		25					
100				25					
0	N	4		25.2					
100				25.1					
0	N	5		25.2					
100				25.2					

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

2/2/2022

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [008] Outfall 008 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **ECI# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)
Sampler: MARK DOMINICK	

ANALYSIS REQUIRED

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): Al, B, Fe, Ni, V, Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl (R/A)	TCDD (and all congeners) (E1613B) (R)	Cl-, F-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (300) (R/A)	TDS (SM2540C/E160.1) (R)	TSS (160.2 (SM2540D)) (A)	Total Dissolved Metals : (E200.7): Al, B, Fe, Ni, V, Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl (R/A)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1) (R)	Chronic Toxicity - Setenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA (R)	Ammonia-N (350.2) (R)	Cyanide (SM4500-CN-E / E335.2) (R)	Priority Pollutants+Pesticides+PCBs (E608) (A)	Total Recoverable Metals: Mercury (E245.1) (R)	Total Dissolved Metals: Mercury (E245.1) (R)			Comments
Outfall 008	Outfall008_20211226_Comp	12/26/2021 0910	WM	500 mL Poly	1	HNO_3	85	No	X											X						
			WM	1 L Glass Amber	2	None	110	No		X																
			WM	500 mL Poly	2	None	125	No			X															48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	165	No				X														
			WM	500 mL Poly	1	H2SO4	160	No										X								
			WM	1L Poly	1	None	185	No					X													
			WM	500 mL Poly	1	NaOH	220	No											X							
			WM	2.5 Gal Cube	1	None	225	No							X											Unfiltered and unpreserved analysis, Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No																		
		*	WM	1 Gal Cube	6	None	235	No								X										Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura CA
			WM	1 L Glass Amber	2	None	250	No												X						
	Outfall008_20211226_Comp_F	12/26/2021 0910	WM	1L Poly	1	None	195	No						X												Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No															X			Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall008_20211226_Comp_Extra	12/26/2021 0910	WM	1 L Glass Amber	2	None	110	No		H																Hold
			WM	500 mL Poly	2	None	125	No			H															Hold
			WM	1 L Glass Amber	2	None	250	No												H						Hold

Legend: R = Routine, A = Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
W Dominick	12-27-2021	H:A	Victa My	12/27/21 1620
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Relinquished By	Date/Time:	Company:	Received By	Date/Time:

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

* Hand delivered to ABC Labs by H:A

Chlorine (mg/L) = <0.1

-237

K (mg/L) = <0.1

2019-2020 Rainy Season
Version 2

aquatic bioassay & consulting laboratories, inc

CHRONIC SELENASTRUM GROWTH BIOASSAY

DATE: 1 December - 2021

STANDARD TOXICANT: Cadmium Chloride

NOEC = 40.00 ug/l

IC25 = 80.10 ug/l
IC50 = >180.00 ug/l

Yours very truly,

Scott Johnson
Laboratory Director

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX		
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant		
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX		
Sample Age:	---	**Client:**	Internal Lab				

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	S
12-9938-5833	Cell Density	Steel Many-One Rank Sum Test		40	80	56.57	20.9%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	µg/L	95% LCL	95% UCL	S
05-8956-0180	Cell Density	Linear Interpolation (ICPIN)		IC10	38.71	19.34	68.85	1
				IC15	52.07	16.61	76.06	
				IC20	66.06	13.49	90.22	
				IC25	80.1	10.35	112.7	
				IC40	151.3	133.7	175.1	
				IC50	>180	---	---	

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
05-8956-0180	Cell Density	Control CV	0.05263	<<	0.2	Yes	Passes Criteria
12-9938-5833	Cell Density	Control CV	0.05263	<<	0.2	Yes	Passes Criteria
05-8956-0180	Cell Density	Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria
12-9938-5833	Cell Density	Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.713E+6	1.570E+6	1.856E+6	1.597E+6	1.814E+6	4.508E+4	9.015E+4	5.26%	0.00%
20		4	1.859E+6	1.635E+6	2.082E+6	1.689E+6	2.023E+6	7.027E+4	1.405E+5	7.56%	-8.51%
40		4	1.595E+6	8.516E+5	2.338E+6	8.980E+5	1.869E+6	2.336E+5	4.672E+5	29.29%	6.89%
80		4	1.340E+6	1.213E+6	1.466E+6	1.235E+6	1.428E+6	3.976E+4	7.952E+4	5.94%	21.79%
140		4	1.132E+6	1.037E+6	1.226E+6	1.092E+6	1.219E+6	2.971E+4	5.941E+4	5.25%	33.95%
180		4	9.200E+5	7.681E+5	1.072E+6	7.860E+5	9.900E+5	4.774E+4	9.549E+4	10.38%	46.29%

Cell Density Detail — MD5: A31AFF07134985287B29E5F730798522

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.738E+6	1.597E+6	1.703E+6	1.814E+6
20		1.903E+6	1.689E+6	1.820E+6	2.023E+6
40		1.854E+6	1.759E+6	8.980E+5	1.869E+6
80		1.342E+6	1.428E+6	1.235E+6	1.354E+6
140		1.092E+6	1.118E+6	1.097E+6	1.219E+6
180		9.870E+5	9.900E+5	9.170E+5	7.860E+5

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	12-9938-5833	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0
Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	40	80	56.57	---	357800	20.89%

Steel Many-One Rank Sum Test

Control	vs	Conc-µg/L	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		20	23	10	0	6	CDF	0.9966	Non-Significant Effect
		40	21	10	0	6	CDF	0.9778	Non-Significant Effect
		80*	10	10	0	6	CDF	0.0417	Significant Effect
		140*	10	10	0	6	CDF	0.0417	Significant Effect
		180*	10	10	0	6	CDF	0.0417	Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.05263	<<	0.2	Yes	Passes Criteria
Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2.594E+12	5.187E+11	5	11.74	3.7E-05	Significant Effect
Error	7.954E+11	4.419E+10	18			
Total	3.389E+12		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	18.46	15.09	0.0024	Unequal Variances
	Levene Equality of Variance Test	4.633	4.248	0.0068	Unequal Variances
	Mod Levene Equality of Variance Test	0.8699	4.248	0.5203	Equal Variances
Distribution	Anderson-Darling A2 Test	1.388	3.878	0.0008	Non-Normal Distribution
	D'Agostino Kurtosis Test	3.63	2.576	0.0003	Non-Normal Distribution
	D'Agostino Skewness Test	3.782	2.576	0.0002	Non-Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	27.48	9.21	<1.0E-05	Non-Normal Distribution
	Kolmogorov-Smirnov D Test	0.2076	0.2056	0.0089	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.7996	0.884	0.0003	Non-Normal Distribution

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.713E+6	1.570E+6	1.856E+6	1.720E+6	1.597E+6	1.814E+6	4.508E+4	5.26%	0.00%
20		4	1.859E+6	1.635E+6	2.082E+6	1.862E+6	1.689E+6	2.023E+6	7.027E+4	7.56%	-8.51%
40		4	1.595E+6	8.516E+5	2.338E+6	1.806E+6	8.980E+5	1.869E+6	2.336E+5	29.29%	6.89%
80		4	1.340E+6	1.213E+6	1.466E+6	1.348E+6	1.235E+6	1.428E+6	3.976E+4	5.94%	21.79%
140		4	1.132E+6	1.037E+6	1.226E+6	1.108E+6	1.092E+6	1.219E+6	2.971E+4	5.25%	33.95%
180		4	9.200E+5	7.681E+5	1.072E+6	9.520E+5	7.860E+5	9.900E+5	4.774E+4	10.38%	46.29%

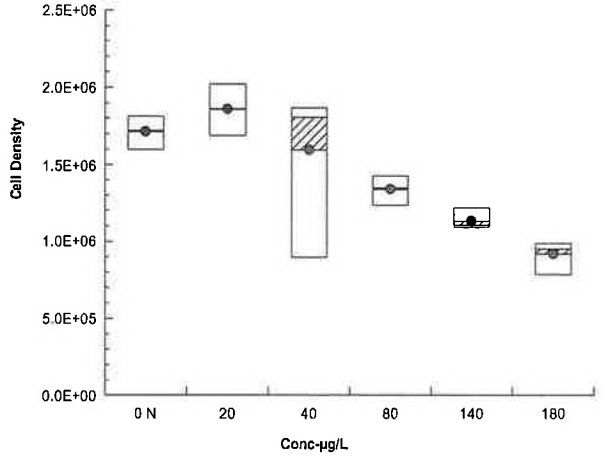
Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

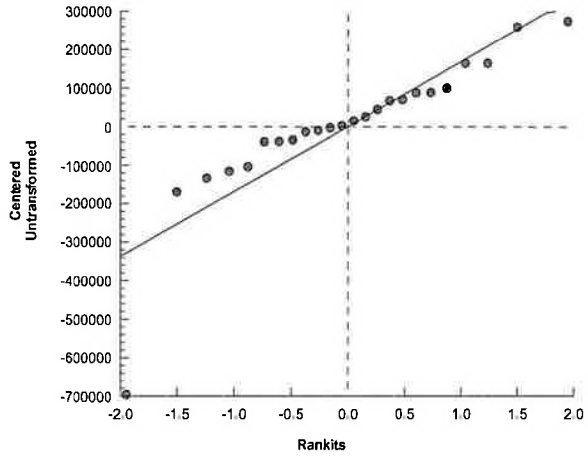
Analysis ID:	12-9938-5833	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0

Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.738E+6	1.597E+6	1.703E+6	1.814E+6
20		1.903E+6	1.689E+6	1.820E+6	2.023E+6
40		1.854E+6	1.759E+6	8.980E+5	1.869E+6
80		1.342E+6	1.428E+6	1.235E+6	1.354E+6
140		1.092E+6	1.118E+6	1.097E+6	1.219E+6
180		9.870E+5	9.900E+5	9.170E+5	7.860E+5

Graphics





Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	05-8956-0180	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0
Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.05263	<<	0.2	Yes	Passes Criteria
Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria

Point Estimates

Level	µg/L	95% LCL	95% UCL
IC10	38.71	19.34	68.85
IC15	52.07	16.61	76.06
IC20	66.06	13.49	90.22
IC25	80.1	10.35	112.7
IC40	151.3	133.7	175.1
IC50	>180	---	---

Cell Density Summary

			Calculated Variate						Isotonic Variate	
Conc-µg/L	**Code**	**Count**	**Mean**	**Median**	**Min**	**Max**	**CV%**	**%Effect**	**Mean**	**%Effect**
0	N	4	1.713E+6	1.720E+6	1.597E+6	1.814E+6	5.26%	0.00%	1.786E+6	0.00%
20		4	1.859E+6	1.862E+6	1.689E+6	2.023E+6	7.56%	-8.51%	1.786E+6	0.00%
40		4	1.595E+6	1.806E+6	8.980E+5	1.869E+6	29.29%	6.89%	1.595E+6	10.69%
80		4	1.340E+6	1.348E+6	1.235E+6	1.428E+6	5.94%	21.79%	1.340E+6	24.98%
140		4	1.132E+6	1.108E+6	1.092E+6	1.219E+6	5.25%	33.95%	1.132E+6	36.64%
180		4	9.200E+5	9.520E+5	7.860E+5	9.900E+5	10.38%	46.29%	9.200E+5	48.48%

Cell Density Detail

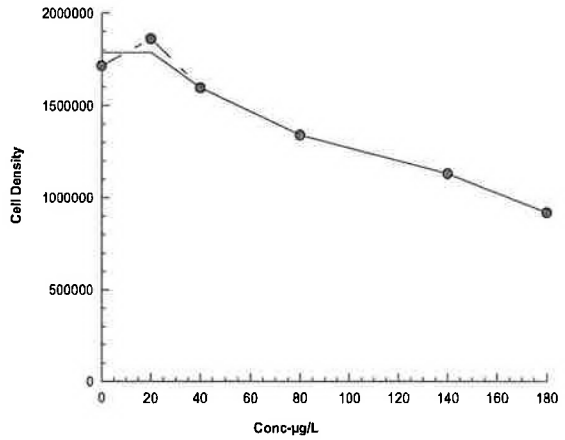
Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.738E+6	1.597E+6	1.703E+6	1.814E+6
20		1.903E+6	1.689E+6	1.820E+6	2.023E+6
40		1.854E+6	1.759E+6	8.980E+5	1.869E+6
80		1.342E+6	1.428E+6	1.235E+6	1.354E+6
140		1.092E+6	1.118E+6	1.097E+6	1.219E+6
180		9.870E+5	9.900E+5	9.170E+5	7.860E+5

Analyst: _____ QA: _____ 2/2/2022

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	05-8956-0180	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0

Graphics



Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**		
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water	
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable	
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:** 6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX	
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant	
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX	
Sample Age:	---	**Client:**	Internal Lab			

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	60	---	---	60	60	---	0	---	0
20		1	59	---	---	59	59	---	0	---	0
40		1	64	---	---	64	64	---	0	---	0
80		1	57	---	---	57	57	---	0	---	0
140		1	57	---	---	57	57	---	0	---	0
180		1	60	---	---	60	60	---	0	---	0
Overall		6	59.5	56.78	62.22	57	64	1.057	2.588	4.35%	0 (0%)

Conductivity-µmhos

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	475.2	468.4	482	466	480	1.09	5.45	1.15%	0
20		5	574.6	516	633.2	500	612	9.438	47.19	8.21%	0
40		5	463.6	442.9	484.3	447	482	3.33	16.65	3.59%	0
80		5	432	429	435	429	435	0.4899	2.449	0.57%	0
140		5	412	405.9	418.1	406	418	0.9798	4.899	1.19%	0
180		5	402	391.1	412.9	389	410	1.755	8.775	2.18%	0
Overall		30	459.9	436.9	482.9	389	612	11.23	61.51	13.37%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	115	---	---	115	115	---	0	---	0
20		1	110	---	---	110	110	---	0	---	0
40		1	110	---	---	110	110	---	0	---	0
80		1	115	---	---	115	115	---	0	---	0
140		1	110	---	---	110	110	---	0	---	0
180		1	110	---	---	110	110	---	0	---	0
Overall		6	111.7	109	114.4	110	115	1.054	2.582	2.31%	0 (0%)

pH-Units

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.84	7.516	8.164	7.4	8	0.05215	0.2608	3.33%	0
20		5	8.16	8.018	8.302	8	8.3	0.0228	0.114	1.40%	0
40		5	8.18	8.076	8.284	8.1	8.3	0.01673	0.08367	1.02%	0
80		5	8.18	8.076	8.284	8.1	8.3	0.01673	0.08367	1.02%	0
140		5	8.22	8.164	8.276	8.2	8.3	0.008944	0.04472	0.54%	0
180		5	8.22	8.164	8.276	8.2	8.3	0.008944	0.04472	0.54%	0
Overall		30	8.133	8.067	8.2	7.4	8.3	0.03264	0.1788	2.20%	0 (0%)

Temperature-°C

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
20		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
40		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
80		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
140		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
180		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
Overall		30	25.54	25.42	25.66	25	25.9	0.05825	0.3191	1.25%	0 (0%)

Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		60					
20				59					
40				64					
80				57					
140				57					
180				60					

Conductivity-µmhos

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		466					
20				500					
40				447					
80				429					
140				408					
180				389					
0	N	2		480					
20				556					
40				449					
80				430					
140				406					
180				397					
0	N	3		475					
20				607					
40				460					
80				435					
140				418					
180				410					
0	N	4		477					
20				612					
40				482					
80				433					
140				414					
180				407					
0	N	5		478					
20				598					
40				480					
80				433					
140				414					
180				407					

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		115					
20				110					
40				110					
80				115					
140				110					
180				110					

Selenastrum Growth Test
Aquatic Bioassay & Consulting Labs, Inc.

pH-Units

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.4					
20				8.2					
40				8.2					
80				8.2					
140				8.2					
180				8.2					
0	N	2		7.8					
20				8.2					
40				8.2					
80				8.2					
140				8.2					
180				8.2					
0	N	3		8					
20				8.3					
40				8.3					
80				8.3					
140				8.3					
180				8.3					
0	N	4		8					
20				8.1					
40				8.1					
80				8.1					
140				8.2					
180				8.2					
0	N	5		8					
20				8					
40				8.1					
80				8.1					
140				8.2					
180				8.2					

Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		25					
20				25					
40				25					
80				25					
140				25					
180				25					
0	N	2		25.8					
20				25.8					
40				25.8					
80				25.8					
140				25.8					
180				25.8					
0	N	3		25.9					
20				25.9					
40				25.9					
80				25.9					
140				25.9					
180				25.9					
0	N	4		25.5					
20				25.5					
40				25.5					
80				25.5					
140				25.5					
180				25.5					
0	N	5		25.5					
20				25.5					
40				25.5					
80				25.5					
140				25.5					
180				25.5					

LA Testing
520 Mission Street South Pasadena, CA 91030
Phone/Fax: (323) 254-9960 / (323) 254-9982
http://www.LATesting.com / pasadenalab@latesting.com

LA Testing Order ID: 322123579
Customer ID: 32CALS51
Customer PO:
Project ID:

Attn: Virendra Patel
Eurofins Calscience, Inc.
7440 Lincoln Way
Garden Grove, CA 92841

Phone: (714) 895-5494
Fax: (714) 894-7501
Received: 12/29/2021
Analyzed: 01/08/2022

Proj: COC No: 570-147950.1 / Job #: 570-80145-2 / Project #: 44024446

Test Report: Determination of Asbestos Structures ≥ 0.5 µm & > 10µm in Water Performed by the 100.2 Method (EPA 600/R-94/134)

Sample ID Client / EMSL	Sample Filtration Date/Time	Original Sample Vol. Filtered (ml)	Effective Filter Area (mm^2)	Area Analyzed (mm^2)	ASBESTOS					
						Asbestos Types	Fibers Detected	Analytical Sensitivity	Concentration	Confidence Limits
								MFL (million fibers per liter)		
Outfall008_20211226_Comp (570-80145-1) 322123579-0001	12/29/2021 04:00 PM	1	1288	0.2560	≥ 0.5 µm	None Detected	ND	5.00	<5.00	0.00 - 19.00
					> 10 µm only	None Detected	ND	5.00	<5.00	0.00 - 19.00

Collection Date/Time: *12/26/2021 09:10 AM*

Sample ozonated prior to analysis due to lab receipt time exceeding 48hr method hold time.

Analyst(s)
Sherrie Ahmad (1)

Jerry Drapala Ph.D, Laboratory Manager
or Other Approved Signatory

Any questions please contact Jerry Drapala.

Initial report from: 01/09/2022 15:48:39

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

#322123579

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-147950.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: EMSL Analytical, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80145-2
Address: 520 Mission Street, ,	Due Date Requested: 1/11/2022			
City: South Pasadena	TAT Requested (days):			
State, Zip: CA, 91030				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Asbestos 100.2)/ Asbestos 100.2	(WASTEWATER)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09:10 Pacific		Water			X	X	1	Level IV package needed

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	12/28/21 1650		[signature] (Fx)	12/29/2021 1025	LA Testing
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: 0.6°

Ver: 06/08/2021

80145

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80145 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [008] Outfall 008 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **EC# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289 8606, 520 904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033 818.599 0702 (cell)

									ANALYSIS REQUIRED																			
									R/A	R	R/A	R	A	R/A	R	R	R	R	A	R	R						
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): Al, B, Fe, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	Cl- F- SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (300)	TDS (SM2540C/E160.1)	TSS (160.2 (SM2540D))	Total Dissolved Metals (E200.7): Al, B, Fe, Ni, V Zn, Hardness as CaCO3 (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 228 (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	Ammonia-N (350.2)	Cyanide (SM4500-CN-E / E335.2)	Priority Pollutants-Pesticides+PCBs (E608)	Total Recoverable Metals: Mercury (E245.1)	Total Dissolved Metals: Mercury (E245.1)				Comments
Outfall 008	Outfall008_20211226_Comp	12/26/2021 0910	WM	500 mL Poly	1	HNO_3	85	No	X												X							
			WM	1 L Glass Amber	2	None	110	No		X																		
			WM	500 mL Poly	2	None	125	No			X																	48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	155	No				X																
			WM	500 mL Poly	1	H2SO4	160	No										X										
			WM	1L Poly	1	None	185	No					X															
			WM	500 mL Poly	1	NaOH	220	No											X									
			WM	2.5 Gal Cube	1	None	225	No							X													Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No																				
		*	WM	1 Gal Cube	6	None	235	No								X												Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA
			WM	1 L Glass Amber	2	None	250	No												X								
	Outfall008_20211226_Comp_F	12/26/2021 0918	WM	1L Poly	1	None	195	No						X														Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No																X				Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall008_20211226_Comp_Extra	12/26/2021 0910	WM	1 L Glass Amber	2	None	110	No		H																		Hold
			WM	500 mL Poly	2	None	125	No			H																	Hold
			WM	1 L Glass Amber	2	None	250	No												H								Hold

Legend: R = Routine, A = Annual

Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:	
[signature]	12-27-2021 1445	H:A	[signature]	EC1	12/27/21 1445
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:	
[signature]	12/27/21 1735		[signature]	12/27/21 1735	
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:	

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: ___X___

* Hand delivered to ABC Labs by H:A

1.8/2.7, 2.0/2.9 SCS

2/2/2022

2019-2020 Rainy Season
Version 2

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address.	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Annual Outfall [008] Outfall 008 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **ECI# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599 0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	A Priority Pollutants-SVOCs (E625)	A Cr (VI), Total (E218.6)	A Asbestos (EPA100.2)	A Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights CA	Comments
Outfall 008	Outfall008_20211226_Comp	12/26/2021	WM	1 L Glass Amber	2	None	175	No	X				
			WM	500 mL Poly	1	None	260	No		X			
			WM	1L Poly	1	None	270	No			X		
			WM	1 L Glass Amber	2	None	275	No				X	Extract within 24-Hours of sampl ng.
	Outfall008_20211226_Comp_Extra	12/26/2021	WM	1 L Glass Amber	2	None	175	No	H				Hold
			WM	1 L Glass Amber	2	None	275	No				H	Hold

Legend: A = Annual

Relinquished By	Date/Time:	Company	Received By	Date/Time:
[signature]	12-27-2021/1445	[illegible]	[signature]	ECI 12/27/21 1445
[signature]	12/27/21 1735		[signature]	12/27/21 1735

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV _____ All Level IV: ___X___

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147895 1
Client Contact: Shipping/Receiving	Phone:	E Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80145-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/25/2022			
City: Earth City	TAT Requested (days)			
State Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B NaOH	N None
C Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F MeOH	R Na2S2O3
G Amchlor	S - H2SO4
H Ascorbic Acid	T TSP Dodecahydrate
I Ice	U Acetone
J DI Water	V MCAA
K EDTA	W pH 4-5
L EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	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:												
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09 10 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/28/21 1252				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time:	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147926 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80145-2
Address: 880 Riverside Parkway	Due Date Requested: 1/13/2022			
City: West Sacramento	TAT Requested (days)			
State Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09:10 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, Use Boeing glassware
Outfall008_20211226_Comp_Extra (570-80145-3)	12/26/21	09:10 Pacific		Water				X	2	See QAS Boeing_w/u to zero, Use Boeing glassware

Note Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time.	Method of Shipment:

Relinquished by:	Date/Time: 12/28/21 1500	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147943 1
Client Contact: Shipping/Receiving	Phone	E Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc		Accreditations Required (See note): State Program - California		Job #: 570-80145-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/11/2022			
City: City of Industry	TAT Requested (days):			
State Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck- 625.2 - Diazinon and Chlorpyrifos (ug/L units))	SUB (Weck- 625.2 - Diazinon and Chlorpyrifos (ug/L units)) (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09:10 Pacific		Water			X		2	525.2- 24 hour extraction for Diaznon and Chyloriphrous- level IV package needed
Outfall008_20211226_Comp_Extra (570-80145-3)	12/26/21	09:10 Pacific		Water				X	2	525.2- 24 hour extraction for Diaznon and Chyloriphrous- level IV package needed

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/28/21 1615				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147950 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: EMSL Analytical Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80145-2
Address: 520 Mission Street, ,	Due Date Requested: 1/11/2022			
City: South Pasadena	TAT Requested (days)			
State, Zip: CA, 91030				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E - NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L - EDA, M - Hexane, N None, O AsNaO2, P Na2O4S, Q - Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U - Acetone, V MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Asbestos 100.2)/ Asbestos 100.2 (WASTEWATER)		Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09 10 Pacific		Water			X	X	1	Level IV package needed

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/28/21 1650				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80145-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/5/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 (MOD) Al,As,Be,B,Ca,Cr,Fe,Mg,Ni,V,Zn	200.8/200.2 Ag,Sb,Cd,Cu,Pb,Se,Tl	245.1/245.1_Prep Mercury	SM2340B/Auto_TotalRec (MOD) Local Method	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	200.7/FILTRATION (MOD) Diss Al,As,Be,B,Ca,Cr,Fe,Mg,Ni,V,Z	200.8/FILTRATION Diss Ag,Sb,Cd,Cu,Pb,Se,Tl	245.1/FILTRATION Diss Mercury	SM2340B/FILTRATION Diss hardness			Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09:10 Pacific		Water			X	X	X	X	X	X	X								4	use VOA vials from LL Hg Kit-Clean Hands procedure.
Outfall008_20211226_Comp_F (570-80145-2)	12/26/21	09:10 Pacific		Water										X	X	X	X				3	Filter within 24 hours use VOA vials from LL Hg Kit-Clean Hands procedure Filter

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements IR-89 1.4/1.4

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	12/28/21	GC			
Relinquished by:	Date/Time:	Company	Received by: Olga Omeles	Date/Time: 12/28/21 1752	Company EAT
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80145-2

Login Number: 80145
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: 570-80145-2

Login Number: 80145
List Number: 4
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 12/29/21 03:04 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.6c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80145-3
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/25/2022 4:58:08 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 7
Client Sample Results 8
Tracer Carrier Summary 15
QC Sample Results 16
QC Association Summary 21
Lab Chronicle 22
Certification Summary 23
Method Summary 24
Sample Summary 25
Chain of Custody 26
Receipt Checklists 34

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80145-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80145-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80145-3

Comments
No additional comments.

Receipt
The samples were received on 12/27/2021 5:35 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 2.7º C and 2.9º C.

RAD
Method 900.0: Gross alpha beta batch 544905
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.
Outfall008_20211226_Comp (570-80145-1), (LCS 160-544905/2-A), (LCSB 160-544905/3-A), (MB 160-544905/1-A), (570-80145-R-1-J DU), (570-80145-R-1-H MS) and (570-80145-R-1-I MSBT)

Method 901.1: Gamma Prep Batch 160-544496
Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

**The method blank (MB) Z-score is within limits and is located in the level IV raw data

Outfall008_20211226_Comp (570-80145-1), (570-80241-R-1-A) and (570-80241-R-1-B DU)

Method 903.0: Radium 226 batch 544163

Job ID: 570-80145-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall008_20211226_Comp (570-80145-1), (LCS 160-544163/1-A), (LCSD 160-544163/2-A) and (MB 160-544163/21-A)

Method 904.0: Radium 228 batch 544167
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall008_20211226_Comp (570-80145-1), (LCS 160-544167/1-A), (LCSD 160-544167/2-A) and (MB 160-544167/21-A)

Method 905: Strontium 90 batch 544884
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall008_20211226_Comp (570-80145-1), (LCS 160-544884/1-A), (LCSD 160-544884/2-A) and (MB 160-544884/16-A)

Method 906.0: Tritium in liquid batch 160-543993
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.
Outfall008_20211226_Comp (570-80145-1), (LCS 160-543993/2-A), (MB 160-543993/1-A), (570-80132-U-1-A), (570-80132-U-1-B MS) and (570-80145-I-1-B DU)

Methods A-01-R, U-02-RC: Isotopic Uranium batch 544715
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.

Outfall008_20211226_Comp (570-80145-1), (LCS 160-544715/2-A), (LCSD 160-544715/3-A) and (MB 160-544715/1-A)

Method ExtChrom: Uranium Prep Batch 160-544715

The following samples were prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall008_20211226_Comp

Job ID: 570-80145-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

(570-80145-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method LSC_Dist_Susp: Tritium Prep Batch 543993:

The following sample had an unclear matrix: Outfall008_20211226_Comp (570-80145-1). The sample was marigold in color and transparent.

Method PrecSep_0: Radium-228 Prep Batch 160-544167

The following samples were prepared at a reduced aliquot due to Matrix: Outfall008_20211226_Comp (570-80145-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-544163

The following samples were prepared at a reduced aliquot due to Matrix: Outfall008_20211226_Comp (570-80145-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-544884

The following samples were prepared at a reduced aliquot due to Matrix: Outfall008_20211226_Comp (570-80145-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall008_20211226_Comp **Lab Sample ID: 570-80145-1**
Date Collected: 12/26/21 09:10 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	**2.10**		1.07	1.09	3.00	1.35	pCi/L	01/05/22 10:40	01/06/22 14:25	1
Gross Beta	**4.10**		0.808	0.906	4.00	0.812	pCi/L	01/05/22 10:40	01/06/22 14:25	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall008_20211226_Comp
Date Collected: 12/26/21 09:10
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80145-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-4.98	U	12.9	12.9	20.0	15.0	pCi/L	01/03/22 08:33	01/21/22 23:00	1
Potassium-40	54.8	U	93.6	93.8		98.4	pCi/L	01/03/22 08:33	01/21/22 23:00	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method: 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall008_20211226_Comp
Date Collected: 12/26/21 09:10
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80145-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0493	U	0.106	0.106	1.00	0.192	pCi/L	12/30/21 09:56	01/24/22 09:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.7*		*40 - 110*	*12/30/21 09:56*	*01/24/22 09:58*	*1*

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall008_20211226_Comp **Lab Sample ID: 570-80145-1**
Date Collected: 12/26/21 09:10 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.368	U	0.419	0.420	1.00	0.690	pCi/L	12/30/21 10:34	01/20/22 13:02	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.7*		*40 - 110*	*12/30/21 10:34*	*01/20/22 13:02*	*1*
Y Carrier	*78.1*		*40 - 110*	*12/30/21 10:34*	*01/20/22 13:02*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method: 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall008_20211226_Comp
Date Collected: 12/26/21 09:10
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80145-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	-0.391	U	0.334	0.336	3.00	0.685	pCi/L	01/05/22 09:29	01/20/22 15:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*80.5*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:44*	*1*
Y Carrier	*83.0*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:44*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-34.7	U	174	174	500	319	pCi/L	12/29/21 14:28	01/04/22 23:28	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.0433	U	0.180	0.180	1.00	0.307	pCi/L	01/04/22 12:56	01/09/22 21:41	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*81.0*		*30 - 110*	*01/04/22 12:56*	*01/09/22 21:41*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
570-80145-1	Outfall008_20211226_Comp	98.7
LCS 160-544163/1-A	Lab Control Sample	98.2
LCSD 160-544163/2-A	Lab Control Sample Dup	104
MB 160-544163/21-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	(40-110)	(40-110)
570-80145-1	Outfall008_20211226_Comp	98.7	78.1
LCS 160-544167/1-A	Lab Control Sample	98.2	79.6
LCSD 160-544167/2-A	Lab Control Sample Dup	104	80.4
MB 160-544167/21-A	Method Blank	99.0	87.9

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Sr	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80145-1	Outfall008_20211226_Comp	80.5	83.0
LCS 160-544884/1-A	Lab Control Sample	77.6	85.2
LCSD 160-544884/2-A	Lab Control Sample Dup	79.2	84.9
MB 160-544884/16-A	Method Blank	84.7	78.9

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)
570-80145-1	Outfall008_20211226_Comp	81.0
LCS 160-544715/2-A	Lab Control Sample	88.8
LCSD 160-544715/3-A	Lab Control Sample Dup	103
MB 160-544715/1-A	Method Blank	93.4

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-544905/1-A
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544905

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.8965	U	0.678	0.686	3.00	1.01	pCi/L	01/05/22 10:40	01/06/22 14:23	1
Gross Beta	0.1978	U	0.523	0.524	4.00	0.880	pCi/L	01/05/22 10:40	01/06/22 14:23	1

Lab Sample ID: LCS 160-544905/2-A
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	59.45		8.64	3.00	2.32	pCi/L	117	75 - 125

Lab Sample ID: LCSB 160-544905/3-A
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.7	74.99		8.03	4.00	1.03	pCi/L	99	75 - 125

Lab Sample ID: 570-80145-1 MS
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Outfall008_20211226_Comp
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	2.10		50.6	53.08		7.32	3.00	1.34	pCi/L	101	60 - 140

Lab Sample ID: 570-80145-1 MSBT
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Outfall008_20211226_Comp
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	4.10		75.7	76.77		8.19	4.00	0.790	pCi/L	96	60 - 140

Lab Sample ID: 570-80145-1 DU
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Outfall008_20211226_Comp
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	2.10		1.928		1.04	3.00	1.33	pCi/L	0.08	1
Gross Beta	4.10		5.162		1.00	4.00	0.789	pCi/L	0.56	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-544496/1-A
Matrix: Water
Analysis Batch: 547455

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544496

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.0000	U	2.36	2.36	20.0	13.2	pCi/L	01/03/22 08:33	01/21/22 17:08	1
Potassium-40	-6.817	U	148	148		157	pCi/L	01/03/22 08:33	01/21/22 17:08	1

Lab Sample ID: LCS 160-544496/2-A
Matrix: Water
Analysis Batch: 547775

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544496

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium-241	135000	139600		16600		428	pCi/L	103	75 - 125
Cesium-137	42000	42670		5080	20.0	101	pCi/L	102	75 - 125

Lab Sample ID: 570-80241-R-1-B DU
Matrix: Water
Analysis Batch: 547775

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 544496

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Cesium-137	7.38		1.605	U	9.00	20.0	11.0	pCi/L	0.39	1
Potassium-40	116		-4.545	U	121		132	pCi/L	0.67	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-544163/21-A
Matrix: Water
Analysis Batch: 547796

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544163

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.001592	U	0.0935	0.0935	1.00	0.191	pCi/L	12/30/21 09:56	01/24/22 12:33	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.0*		*40 - 110*	*12/30/21 09:56*	*01/24/22 12:33*	*1*

Lab Sample ID: LCS 160-544163/1-A
Matrix: Water
Analysis Batch: 547796

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544163

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.1	13.71		1.50	1.00	0.263	pCi/L	91	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*98.2*		*40 - 110*

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-544163/2-A
Matrix: Water
Analysis Batch: 547796

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544163

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	12.36		1.37	1.00	0.260	pCi/L	82	75 - 125	0.47	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*104*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-544167/21-A
Matrix: Water
Analysis Batch: 547242

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544167

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.2693	U	0.301	0.302	1.00	0.577	pCi/L	12/30/21 10:34	01/20/22 13:05	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.0*		*40 - 110*	*12/30/21 10:34*	*01/20/22 13:05*	*1*
Y Carrier	*87.9*		*40 - 110*	*12/30/21 10:34*	*01/20/22 13:05*	*1*

Lab Sample ID: LCS 160-544167/1-A
Matrix: Water
Analysis Batch: 547257

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544167

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			11.9	13.64		1.58	1.00	0.522	pCi/L	114	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*98.2*		*40 - 110*
Y Carrier	*79.6*		*40 - 110*

Lab Sample ID: LCSD 160-544167/2-A
Matrix: Water
Analysis Batch: 547257

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544167

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			11.9	12.21		1.44	1.00	0.494	pCi/L	102	75 - 125	0.47	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*104*		*40 - 110*
Y Carrier	*80.4*		*40 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-544884/16-A
Matrix: Water
Analysis Batch: 547239

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544884

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	-0.1328	U	0.444	0.444	3.00	0.811	pCi/L	01/05/22 09:29	01/20/22 15:46	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*84.7*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:46*	*1*
Y Carrier	*78.9*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:46*	*1*

Lab Sample ID: LCS 160-544884/1-A
Matrix: Water
Analysis Batch: 547233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544884

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Strontium-90			15.1	15.49		1.76	3.00	0.788	pCi/L	102	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*77.6*		*40 - 110*
Y Carrier	*85.2*		*40 - 110*

Lab Sample ID: LCSD 160-544884/2-A
Matrix: Water
Analysis Batch: 547233

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544884

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Strontium-90			15.1	16.58		1.84	3.00	0.739	pCi/L	110	75 - 125	0.30	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*79.2*		*40 - 110*
Y Carrier	*84.9*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-543993/1-A
Matrix: Water
Analysis Batch: 544876

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 543993

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	38.74	U	179	179	500	313	pCi/L	12/29/21 14:28	01/04/22 21:35	1

Lab Sample ID: LCS 160-543993/2-A
Matrix: Water
Analysis Batch: 544876

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 543993

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			2250	2264		379	500	299	pCi/L	101	75 - 125		

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 570-80132-U-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 544876 — **Prep Batch: 543993**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium	-130	U	2240	2160		375	500	309	pCi/L	97	60 - 140		

Lab Sample ID: 570-80145-1 DU — **Client Sample ID: Outfall008_20211226_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 544876 — **Prep Batch: 543993**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	-34.7	U		-67.57	U	169	500	314	pCi/L			0.1	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-544715/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 545484 — **Prep Batch: 544715**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.08163	U	0.1210	0.1212	1.00	0.203	pCi/L	01/04/22 12:56	01/09/22 21:41	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*93.4*		*30 - 110*	*01/04/22 12:56*	*01/09/22 21:41*	*1*

Lab Sample ID: LCS 160-544715/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 545486 — **Prep Batch: 544715**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Uranium-234			25.5	25.08		2.81	1.00	0.294	pCi/L	98	75 - 125		
Uranium-238			26.0	24.44		2.75	1.00	0.193	pCi/L	94	75 - 125		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*88.8*		*30 - 110*

Lab Sample ID: LCSD 160-544715/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 545487 — **Prep Batch: 544715**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Uranium-234			25.5	24.55		2.70	1.00	0.231	pCi/L	96	75 - 125	0.1	1
Uranium-238			26.0	25.06		2.74	1.00	0.149	pCi/L	96	75 - 125	0.11	1

Tracer	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Uranium-232	*103*		*30 - 110*

Rad

Prep Batch: 543993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-543993/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-543993/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
570-80132-U-1-B MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	
570-80145-1 DU	Outfall008_20211226_Comp	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 544163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	PrecSep-21	
MB 160-544163/21-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-544163/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-544163/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 544167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	PrecSep_0	
MB 160-544167/21-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-544167/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-544167/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 544496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-544496/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-544496/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-80241-R-1-B DU	Duplicate	Total/NA	Water	Fill_Geo-0	

Prep Batch: 544715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	ExtChrom	
MB 160-544715/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-544715/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
LCSD 160-544715/3-A	Lab Control Sample Dup	Total/NA	Water	ExtChrom	

Prep Batch: 544884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	PrecSep-7	
MB 160-544884/16-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-544884/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-544884/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Prep Batch: 544905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80145-1	Outfall008_20211226_Comp	Total/NA	Water	Evaporation	
MB 160-544905/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-544905/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-544905/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-80145-1 MS	Outfall008_20211226_Comp	Total/NA	Water	Evaporation	
570-80145-1 MSBT	Outfall008_20211226_Comp	Total/NA	Water	Evaporation	
570-80145-1 DU	Outfall008_20211226_Comp	Total/NA	Water	Evaporation	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Client Sample ID: Outfall008_20211226_Comp
Lab Sample ID: 570-80145-1
Date Collected: 12/26/21 09:10
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			200.04 mL	1.0 g	544905	01/05/22 10:40	KG	TAL SL
Total/NA	Analysis	900.0		1			545103	01/06/22 14:25	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	544496	01/03/22 08:33	LTC	TAL SL
Total/NA	Analysis	901.1		1			547455	01/21/22 23:00	CAH	TAL SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			750.07 mL	1.0 g	544163	12/30/21 09:56	LPS	TAL SL
Total/NA	Analysis	903.0		1			547796	01/24/22 09:58	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			750.07 mL	1.0 g	544167	12/30/21 10:34	LPS	TAL SL
Total/NA	Analysis	904.0		1			547257	01/20/22 13:02	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-7			500.56 mL	1.0 g	544884	01/05/22 09:29	LPS	TAL SL
Total/NA	Analysis	905		1			547239	01/20/22 15:44	FLC	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	LSC_Dist_Susp			100.24 mL	1.0 g	543993	12/29/21 14:28	BAL	TAL SL
Total/NA	Analysis	906.0		1			544876	01/04/22 23:28	JLP	TAL SL
	Instrument ID: LSCBROWN									
Total/NA	Prep	ExtChrom			249.81 mL	1.0 mL	544715	01/04/22 12:56	MLO	TAL SL
Total/NA	Analysis	A-01-R		1			545495	01/09/22 21:41	FLC	TAL SL
	Instrument ID: ALPHAVISION									

Laboratory References:
TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80145-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	01-01-22 *
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	TAL SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	TAL SL

Protocol References:

DOE = U.S. Department of Energy
EPA = US Environmental Protection Agency
None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Job ID: 570-80145-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80145-1	Outfall008_20211226_Comp	Water	12/26/21 09:10	12/27/21 17:35

80145

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80145 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [008] Outfall 008 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **EC# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289 8606, 520 904.6944 (cell)
Sampler: Mark Dominick	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/A Total Recoverable Metals: (E200.7): Al, B, Fe, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag Cd, Cu, Pb, Sb, Se, Tl	R TCDD (and all congeners) (E1613B)	R/A Cl- F- SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (300)	R TDS (SM2540C/E160.1)	A TSS (160.2 (SM2540D))	R/A Total Dissolved Metals (E200.7): Al, B, Fe, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901 1)	R Chronic Toxicity Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	R Ammonia-N (350.2)	R Cyanide (SM4500-CN-E / E335.2)	A Priority Pollutants-Pesticides+PCBs (E608)	R Total Recoverable Metals: Mercury (E245.1)	R Total Dissolved Metals: Mercury (E245.1)				Comments
Outfall 008	Outfall008_20211226_Comp	12/26/2021 / 0910	WM	500 mL Poly	1	HNO_3	85	No	X											X					
			WM	1 L Glass Amber	2	None	110	No		X															
			WM	500 mL Poly	2	None	125	No			X														48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	155	No				X													
			WM	500 mL Poly	1	H2SO4	160	No									X								
			WM	1L Poly	1	None	185	No					X												
			WM	500 mL Poly	1	NaOH	220	No										X							
			WM	2.5 Gal Cube	1	None	225	No							X										Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No																	
		*	WM	1 Gal Cube	6	None	235	No								X									Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	1 L Glass Amber	2	None	250	No											X						
	Outfall008_20211226_Comp_F	12/26/2021 / 0910	WM	1L Poly	1	None	195	No						X											Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No													X				Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall008_20211226_Comp_Extra	12/26/2021 / 0910	WM	1 L Glass Amber	2	None	110	No		H															Hold
			WM	500 mL Poly	2	None	125	No			H														Hold
			WM	1 L Glass Amber	2	None	250	No											H						Hold

Legend: R = Routine, A = Annual

Relinquished By	Date/Time:	Company	Received By	Date/Time:	
M Dominick	12-27-2021/1445	H:A	[signature]	ECI 12/27/21 1445	Turn-around time: (Check) 24 Hour ____ 72 Hour ____ 10 Day _X_ 48 Hour ____ 5 Day ____ Normal: ____
[signature]	12/27/21 1735		[signature]	12/27/21 1735	Sample Integrity (Check) Intact: ____ On Ice: ____
					Store samples for 6 months. Data Requirements: (Check) No Level IV ____ All Level IV: _X_

* Hand-delivered to ABC Labs by H:A

1.8/2.7, 2.0/2.9 SCS

1/25/2022

2019-2020 Rainy Season
Version 2

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address.	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Annual Outfall [008] Outfall 008 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **ECI# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599 0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	A Priority Pollutants-SVOCs (E625)	A Cr (VI), Total (E218.6)	A Asbestos (EPA100.2)	A Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights CA	Comments
Outfall 008	Outfall008_20211226_Comp	12/26/2021	WM	1 L Glass Amber	2	None	175	No	X				
			WM	500 mL Poly	1	None	260	No		X			
			WM	1L Poly	1	None	270	No			X		
			WM	1 L Glass Amber	2	None	275	No				X	Extract within 24-Hours of sampling.
	Outfall008_20211226_Comp_Extra	12/26/2021	WM	1 L Glass Amber	2	None	175	No	H				Hold
			WM	1 L Glass Amber	2	None	275	No				H	Hold

Legend: A = Annual

Relinquished By	Date/Time:	Company	Received By	Date/Time:
[signature]	12-27-2021/1445	[signature]	[signature]	ECI 12/27/21 1445
[signature]	12/27/21 1735		[signature]	12/27/21 1735

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV _____ All Level IV: ___X___

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-147895 1
Client Contact: Shipping/Receiving	Phone:	E Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80145-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/25/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B NaOH, C Zn Acetate, D - Nitric Acid, E - NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q - Na2SO3, R Na2S2O3, S - H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09 10 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/28/21 1252				
2						
3						

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

1/25/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147926 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80145-2
Address: 880 Riverside Parkway	Due Date Requested: 1/13/2022			
City: West Sacramento	TAT Requested (days)			
State Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09:10 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, Use Boeing glassware
Outfall008_20211226_Comp_Extra (570-80145-3)	12/26/21	09:10 Pacific		Water				X	2	See QAS Boeing_w/u to zero, Use Boeing glassware

Note Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time.	Method of Shipment:

Relinquished by:	Date/Time: 12/28/21 1500	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

1/25/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147943 1
Client Contact: Shipping/Receiving	Phone	E Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc		Accreditations Required (See note): State Program - California		Job #: 570-80145-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/11/2022			
City: City of Industry	TAT Requested (days):			
State Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck- 625.2 - Diazinon and Chlorpyrifos (ug/L units))	SUB (Weck- 625.2 - Diazinon and Chlorpyrifos (ug/L units)) (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09:10 Pacific		Water			X		2	525.2- 24 hour extraction for Diaznon and Chyloriphrous- level IV package needed
Outfall008_20211226_Comp_Extra (570-80145-3)	12/26/21	09:10 Pacific		Water				X	2	525.2- 24 hour extraction for Diaznon and Chyloriphrous- level IV package needed

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/28/21 1615				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147950 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: EMSL Analytical Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80145-2
Address: 520 Mission Street, ,	Due Date Requested: 1/11/2022			
City: South Pasadena	TAT Requested (days)			
State, Zip: CA, 91030				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E - NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L - EDA, M - Hexane, N None, O AsNaO2, P Na2O4S, Q - Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U - Acetone, V MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Asbestos 100.2)/ Asbestos 100.2 (WASTEWATER)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09 10 Pacific		Water			X X	1	Level IV package needed

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/28/21 1650				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

1/25/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80145-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/5/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 (MOD) Al,As,Be,B,Ca,Cr,Fe,Mg,Ni,V,Zn	200.8/200.2 Ag,Sb,Cd,Cu,Pb,Se,Tl	245.1/245.1_Prep Mercury	SM2340B/Auto_TotalRec (MOD) Local Method	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	200.7/FILTRATION (MOD) Diss Al,As,Be,B,Ca,Cr,Fe,Mg,Ni,V,Z	200.8/FILTRATION Diss Ag,Sb,Cd,Cu,Pb,Se,Tl	245.1/FILTRATION Diss Mercury	SM2340B/FILTRATION Diss hardness			Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09:10 Pacific		Water			X	X	X	X	X	X	X								4	use VOA vials from LL Hg Kit-Clean Hands procedure.
Outfall008_20211226_Comp_F (570-80145-2)	12/26/21	09:10 Pacific		Water										X	X	X	X				3	Filter within 24 hours use VOA vials from LL Hg Kit-Clean Hands procedure Filter

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements IR-89 1.4/1.4

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	12/28/21	GC			
Relinquished by:	Date/Time:	Company	Received by: Olga Omelas	Date/Time: 12/28/21 1752	Company EAT
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-147895.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80145-3
Address: 13715 Rider Trail North,	Due Date Requested: 1/25/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09:10 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/28/21 1252		FED EX		
2	FEDEX			Sierra Worthington	12-29-21 0940	EMSL
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80145-3

Login Number: 80145
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: 570-80145-3

Login Number: 80145
List Number: 3
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 12/29/21 11:32 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	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 America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80145-4
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/8/2022 4:38:42 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Sample Summary 4
Subcontract Data 5
Chain of Custody 9
Receipt Checklists 16

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80145-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80145-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 008 COMP

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80145-1	Outfall008_20211226_Comp	Water	12/26/21 09:10	12/27/21 17:35

WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Work Orders:	1L29089	**Report Date:**	2/04/2022
		Received Date:	12/29/2021
Project:	570-80145-2	**Turnaround Time:**	Normal
		Phones:	(714) 895-5494
		Fax:	(714) 894-7501
Attn:	Virendra Patel	**P.O. #:**	570-80145-2
Client:	Eurofins Calscience - Garden Grove 7440 Lincoln Way Garden Grove, CA 92841-1432	**Billing Code:**	

Dear Virendra Patel,

Enclosed are the results of analyses for samples received 12/29/21 with the Chain-of-Custody document. The samples were received in good condition, at 4.1 °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: Outfall008_20211226_Comp (570-80145-1) — Sampled: 12/26/21 9:10 by Client

1L29089-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 525.2M			**Instr:** GCMS13				
Batch ID: W2A0121 **Preparation:** EPA 525.2/SPE			**Prepared:** 01/04/22 08:12				**Analyst:** EFC
Chlorpyrifos	ND	6.9	10	ng/l	1	01/11/22	
Diazinon	ND	5.2	10	ng/l	1	01/11/22	
Surrogate(s)							
1,3-Dimethyl-2-nitrobenzene	*106%*		*50-141*	*Conc: 529*		*01/11/22*	
Triphenyl phosphate	*140%*		*63-200*	*Conc: 698*		*01/11/22*	

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634

www.wecklabs.com

Quality Control Results

Semivolatile Organics - Low Level by Tandem GC/MS/MS

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Blank (W2A0121-BLK1)					**Prepared: 01/04/22**	**Analyzed: 01/11/22**					
Chlorpyrifos	ND	6.9	10	ng/l							
Diazinon	ND	5.2	10	ng/l							
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*371*			*ng/l*	*500*		*74*	*50-141*			
Triphenyl phosphate	*603*			*ng/l*	*500*		*121*	*63-200*			
LCS (W2A0121-BS1)					**Prepared: 01/04/22**	**Analyzed: 01/11/22**					
Chlorpyrifos	48.7	6.9	10	ng/l	50.0		97	63-145			
Diazinon	37.4	5.2	10	ng/l	50.0		75	25-180			
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*488*			*ng/l*	*500*		*98*	*50-141*			
Triphenyl phosphate	*598*			*ng/l*	*500*		*120*	*63-200*			
Matrix Spike (W2A0121-MS1)	**Source: 1L29089-01**				**Prepared: 01/04/22**	**Analyzed: 01/11/22**					
Chlorpyrifos	60.3	6.9	10	ng/l	50.0	*ND*	121	37-168			
Diazinon	50.5	5.2	10	ng/l	50.0	*ND*	101	36-153			
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*584*			*ng/l*	*500*		*117*	*50-141*			
Triphenyl phosphate	*941*			*ng/l*	*500*		*188*	*63-200*			
Matrix Spike Dup (W2A0121-MSD1)	**Source: 1L29089-01**				**Prepared: 01/04/22**	**Analyzed: 01/11/22**					
Chlorpyrifos	52.6	6.9	10	ng/l	50.0	*ND*	105	37-168	14	30	
Diazinon	46.8	5.2	10	ng/l	50.0	*ND*	94	36-153	8	30	
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*535*			*ng/l*	*500*		*107*	*50-141*			
Triphenyl phosphate	*776*			*ng/l*	*500*		*155*	*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
%REC	Percent Recovery
Dil	Dilution
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

Reviewed by:

Rahul R. Nair
Project Manager

ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • LACSD #10143 • NJ-DEP #CA015 • NV-DEP #NAC 445A • SCAQMD #93LA1006

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-147943.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80145-2
Address: 14859 E. Clark Avenue, ,	Due Date Requested: 1/11/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	SUB (Week- 525.2 - Diazinon and Chlorpyrifos (ug/L units)) (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09:10 Pacific		Water			X		2	525.2- 24 hour extraction for Diaznon and Chyloriphrous- level IV package needed.
Outfall008_20211226_Comp_Extra (570-80145-3)	12/26/21	09:10 Pacific		Water				X	2	525.2- 24 hour extraction for Diaznon and Chyloriphrous- level IV package needed.

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:		Method of Shipment:		
Relinquished by:	Date/Time: 12/28/21 1615	Company	Received by:	Date/Time: 12/29/21 10:38	Company		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 4.1c T-0254

Ver: 06/08/2021

2/8/2022

80145

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80145 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [008] Outfall 008 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **EC# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289 8606, 520 904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033 818.599 0702 (cell)

									ANALYSIS REQUIRED																				
									R/A	R	R/A	R	A	R/A	R	R	R	R	A	R	R							
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): Al, B, Fe, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	Cl- F- SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (300)	TDS (SM2540C/E160.1)	TSS (160.2 (SM2540D))	Total Dissolved Metals (E200.7): Al, B, Fe, Ni, V Zn, Hardness as CaCO3 (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 228 (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	Ammonia-N (350.2)	Cyanide (SM4500-CN-E / E335.2)	Priority Pollutants-Pesticides+PCBs (E608)	Total Recoverable Metals: Mercury (E245.1)	Total Dissolved Metals: Mercury (E245.1)				Comments
Outfall 008	Outfall008_20211226_Comp	12/26/2021 0910	WM	500 mL Poly	1	HNO_3	85	No	X												X							
			WM	1 L Glass Amber	2	None	110	No		X																		
			WM	500 mL Poly	2	None	125	No			X																	48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	155	No				X																
			WM	500 mL Poly	1	H2SO4	160	No										X										
			WM	1L Poly	1	None	185	No					X															
			WM	500 mL Poly	1	NaOH	220	No											X									
			WM	2.5 Gal Cube	1	None	225	No							X													Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No																				
		*	WM	1 Gal Cube	6	None	235	No								X												Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA
			WM	1 L Glass Amber	2	None	250	No												X								
	Outfall008_20211226_Comp_F	12/26/2021 0910	WM	1L Poly	1	None	195	No						X														Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No																X				Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall008_20211226_Comp_Extra	12/26/2021 0910	WM	1 L Glass Amber	2	None	110	No		H																		Hold
			WM	500 mL Poly	2	None	125	No			H																	Hold
			WM	1 L Glass Amber	2	None	250	No												H								Hold

Legend: R = Routine, A = Annual

Relinquished By	Date/Time:	Company	Received By	Date/Time:	Company
	12-27-2021 1445	H:A		12/27/21 1445	ECI
	12/27/21 1735			12/27/21 1735	

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: ___X___

* Hand delivered to ABC Labs by H:A

1.8|2.7, 2.0|2.9 SCS

2/8/2022

2019-2020 Rainy Season
Version 2

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address.	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Annual Outfall [008] Outfall 008 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **ECI# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	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: Priority Pollutants-SVOCs (E625)	Cr (VI), Total (E218.6)	Asbestos (EPA100.2)	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights CA	Comments
									A	A	A	A	
Outfall 008	Outfall008_20211226_Comp	12/26/2021	WM	1 L Glass Amber	2	None	175	No	X				
			WM	500 mL Poly	1	None	260	No		X			
			WM	1L Poly	1	None	270	No			X		
			WM	1 L Glass Amber	2	None	275	No				X	Extract within 24-Hours of sampling.
	Outfall008_20211226_Comp_Extra	12/26/2021	WM	1 L Glass Amber	2	None	175	No	H				Hold
			WM	1 L Glass Amber	2	None	275	No				H	Hold

Legend: A = Annual

Relinquished By	Date/Time:	Company	Received By	Date/Time:
[signature]	12-27-2021/1445	HHA	[signature]	ECI 12/27/21 1445
[signature]	12/27/21 1735		[signature]	12/27/21 1735

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV _____ All Level IV: ___X___

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147895 1
Client Contact: Shipping/Receiving	Phone:	E Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80145-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/25/2022			
City: Earth City	TAT Requested (days)			
State Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B NaOH	N None
C Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F MeOH	R Na2S2O3
G Amchlor	S - H2SO4
H Ascorbic Acid	T TSP Dodecahydrate
I Ice	U Acetone
J DI Water	V MCAA
K EDTA	W pH 4-5
L EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	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:												
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09 10 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/28/21 1252				
2						
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147926 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80145-2
Address: 880 Riverside Parkway	Due Date Requested: 1/13/2022			
City: West Sacramento	TAT Requested (days)			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09:10 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, Use Boeing glassware
Outfall008_20211226_Comp_Extra (570-80145-3)	12/26/21	09:10 Pacific		Water				X	2	See QAS Boeing_w/u to zero, Use Boeing glassware

Note Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time.	Method of Shipment:

Relinquished by:	Date/Time: 12/28/21 1500	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147943 1
Client Contact: Shipping/Receiving	Phone	E Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc		Accreditations Required (See note): State Program - California		Job #: 570-80145-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/11/2022			
City: City of Industry	TAT Requested (days):			
State Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck- 625.2 - Diazinon and Chlorpyrifos (ug/L units))	SUB (Weck- 625.2 - Diazinon and Chlorpyrifos (ug/L units)) (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09:10 Pacific		Water			X		2	525.2- 24 hour extraction for Diaznon and Chyloriphrous- level IV package needed
Outfall008_20211226_Comp_Extra (570-80145-3)	12/26/21	09:10 Pacific		Water				X	2	525.2- 24 hour extraction for Diaznon and Chyloriphrous- level IV package needed

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/28/21 1615				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147950 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: EMSL Analytical Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80145-2
Address: 520 Mission Street, ,	Due Date Requested: 1/11/2022			
City: South Pasadena	TAT Requested (days)			
State, Zip: CA, 91030				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E - NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L - EDA, M - Hexane, N None, O AsNaO2, P Na2O4S, Q - Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U - Acetone, V MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Asbestos 100.2)/ Asbestos 100.2 (WASTEWATER)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09 10 Pacific		Water			X X	1	Level IV package needed

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/28/21 1650				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80145-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/5/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 (MOD) Al,As,Be,B,Ca,Cr,Fe,Mg,Ni,V,Zn	200.8/200.2 Ag,Sb,Cd,Cu,Pb,Se,Tl	245.1/245.1_Prep Mercury	SM2340B/Auto_TotalRec (MOD) Local Method	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	200.7/FILTRATION (MOD) Diss Al,As,Be,B,Ca,Cr,Fe,Mg,Ni,V,Z	200.8/FILTRATION Diss Ag,Sb,Cd,Cu,Pb,Se,Tl	245.1/FILTRATION Diss Mercury	SM2340B/FILTRATION Diss hardness			Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall008_20211226_Comp (570-80145-1)	12/26/21	09:10 Pacific		Water			X	X	X	X	X	X	X								4	use VOA vials from LL Hg Kit-Clean Hands procedure.
Outfall008_20211226_Comp_F (570-80145-2)	12/26/21	09:10 Pacific		Water										X	X	X	X				3	Filter within 24 hours use VOA vials from LL Hg Kit-Clean Hands procedure Filter

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements IR-89 1.4/1.4

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	12/28/21	GC			
Relinquished by:	Date/Time:	Company	Received by: Olga Omelas	Date/Time: 12/28/21 1752	Company EAT
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80145-4

Login Number: 80145
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-78854-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab
Revision: 2

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/11/2022 2:53:18 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Client Sample Results 6
Surrogate Summary 9
QC Sample Results 10
QC Association Summary 15
Lab Chronicle 16
Certification Summary 17
Method Summary 18
Sample Summary 19
Subcontract Data 20
Chain of Custody 32
Receipt Checklists 35

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-78854-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-78854-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Job ID: 570-78854-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-78854-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 1/14/2022. The report (revision 2) is being revised due to: Revised per the cleint requst to remove the e-mail included to screen outside of hold time..

Report revision history
Revision 1 - 1/25/2022 - Reason - The clients office requested the Enthalpy final report to be revised to remove Total Coliform reporting.

Receipt
The samples were received on 12/15/2021 5:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.3º C.

E. Coli was received outside of the recommended holding time. The clients office was contacted for direction on how to proceed. Katherine Miller (Haley&Aldrich) approved analyses outside of holding time on December 16, 2021 at 09:09am.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 1664A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-202914. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 1664.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78854-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Client Sample ID: Outfall009_20211215_Grab
Lab Sample ID: 570-78854-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
HEM (Oil & Grease)	1.1		1.0	0.53	mg/L	1		1664A	Total/NA

Client Sample ID: TB-20211215
Lab Sample ID: 570-78854-3

No Detections.

This Detection Summary does not include radiochemical test results.

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall009_20211215_Grab
Lab Sample ID: 570-78854-1
Date Collected: 12/15/21 09:45
Matrix: Water
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/16/21 17:08	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/16/21 17:08	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/16/21 17:08	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/16/21 17:08	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/16/21 17:08	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/16/21 17:08	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/16/21 17:08	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/16/21 17:08	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/16/21 17:08	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/16/21 17:08	1
2-Chloroethyl vinyl ether	ND		2.0	1.0	ug/L			12/16/21 17:08	1
Acrolein	ND		5.0	2.5	ug/L			12/16/21 17:08	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/16/21 17:08	1
Benzene	ND		0.50	0.25	ug/L			12/16/21 17:08	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/16/21 17:08	1
Bromoform	ND		1.0	0.40	ug/L			12/16/21 17:08	1
Bromomethane	ND		0.50	0.25	ug/L			12/16/21 17:08	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/16/21 17:08	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/16/21 17:08	1
Chloroethane	ND		1.0	0.40	ug/L			12/16/21 17:08	1
Chloroform	ND		0.50	0.25	ug/L			12/16/21 17:08	1
Chloromethane	ND		0.50	0.25	ug/L			12/16/21 17:08	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/16/21 17:08	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/16/21 17:08	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/16/21 17:08	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/16/21 17:08	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/16/21 17:08	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/16/21 17:08	1
Naphthalene	ND		1.0	0.40	ug/L			12/16/21 17:08	1
o-Xylene	ND		0.50	0.25	ug/L			12/16/21 17:08	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/16/21 17:08	1
Toluene	ND		0.50	0.25	ug/L			12/16/21 17:08	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/16/21 17:08	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/16/21 17:08	1
Trichloroethene	ND		0.50	0.25	ug/L			12/16/21 17:08	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/16/21 17:08	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/16/21 17:08	1
Xylenes, Total	ND		1.0	0.50	ug/L			12/16/21 17:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*60 - 140*		*12/16/21 17:08*	*1*
Dibromofluoromethane (Surr)	*99*		*60 - 140*		*12/16/21 17:08*	*1*
Toluene-d8 (Surr)	*105*		*60 - 140*		*12/16/21 17:08*	*1*

Client Sample ID: TB-20211215
Lab Sample ID: 570-78854-3
Date Collected: 12/15/21 09:45
Matrix: Water
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/16/21 19:08	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/16/21 19:08	1

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: TB-20211215 **Lab Sample ID: 570-78854-3**
Date Collected: 12/15/21 09:45 **Matrix: Water**
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/16/21 19:08	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/16/21 19:08	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/16/21 19:08	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/16/21 19:08	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/16/21 19:08	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/16/21 19:08	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/16/21 19:08	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/16/21 19:08	1
2-Chloroethyl vinyl ether	ND		2.0	1.0	ug/L			12/16/21 19:08	1
Acrolein	ND		5.0	2.5	ug/L			12/16/21 19:08	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/16/21 19:08	1
Benzene	ND		0.50	0.25	ug/L			12/16/21 19:08	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/16/21 19:08	1
Bromoform	ND		1.0	0.40	ug/L			12/16/21 19:08	1
Bromomethane	ND		0.50	0.25	ug/L			12/16/21 19:08	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/16/21 19:08	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/16/21 19:08	1
Chloroethane	ND		1.0	0.40	ug/L			12/16/21 19:08	1
Chloroform	ND		0.50	0.25	ug/L			12/16/21 19:08	1
Chloromethane	ND		0.50	0.25	ug/L			12/16/21 19:08	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/16/21 19:08	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/16/21 19:08	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/16/21 19:08	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/16/21 19:08	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/16/21 19:08	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/16/21 19:08	1
Naphthalene	ND		1.0	0.40	ug/L			12/16/21 19:08	1
o-Xylene	ND		0.50	0.25	ug/L			12/16/21 19:08	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/16/21 19:08	1
Toluene	ND		0.50	0.25	ug/L			12/16/21 19:08	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/16/21 19:08	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/16/21 19:08	1
Trichloroethene	ND		0.50	0.25	ug/L			12/16/21 19:08	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/16/21 19:08	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/16/21 19:08	1
Xylenes, Total	ND		1.0	0.50	ug/L			12/16/21 19:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*60 - 140*		*12/16/21 19:08*	*1*
Dibromofluoromethane (Surr)	*99*		*60 - 140*		*12/16/21 19:08*	*1*
Toluene-d8 (Surr)	*105*		*60 - 140*		*12/16/21 19:08*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-78854-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

General Chemistry

Client Sample ID: Outfall009_20211215_Grab
Lab Sample ID: 570-78854-1
Date Collected: 12/15/21 09:45
Matrix: Water
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	1.1		1.0	0.53	mg/L		12/21/21 14:36	12/21/21 14:36	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78854-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
		BFB	DBFM	TOL					
Lab Sample ID	Client Sample ID	(60-140)	(60-140)	(60-140)					
570-78854-1	Outfall009_20211215_Grab	105	99	105					
570-78854-1 MS	Outfall009_20211215_Grab	107	99	103					
570-78854-1 MSD	Outfall009_20211215_Grab	106	99	101					
570-78854-3	TB-20211215	106	99	105					
LCS 440-663072/1002	Lab Control Sample	104	98	101					
MB 440-663072/4	Method Blank	105	100	104					

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-663072/4
Matrix: Water
Analysis Batch: 663072

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			12/16/21 16:37	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/16/21 16:37	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/16/21 16:37	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/16/21 16:37	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/16/21 16:37	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/16/21 16:37	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/16/21 16:37	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/16/21 16:37	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/16/21 16:37	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/16/21 16:37	1
2-Chloroethyl vinyl ether	ND		2.0	1.0	ug/L			12/16/21 16:37	1
Acrolein	ND		5.0	2.5	ug/L			12/16/21 16:37	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/16/21 16:37	1
Benzene	ND		0.50	0.25	ug/L			12/16/21 16:37	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/16/21 16:37	1
Bromoform	ND		1.0	0.40	ug/L			12/16/21 16:37	1
Bromomethane	ND		0.50	0.25	ug/L			12/16/21 16:37	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/16/21 16:37	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/16/21 16:37	1
Chloroethane	ND		1.0	0.40	ug/L			12/16/21 16:37	1
Chloroform	ND		0.50	0.25	ug/L			12/16/21 16:37	1
Chloromethane	ND		0.50	0.25	ug/L			12/16/21 16:37	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/16/21 16:37	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/16/21 16:37	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/16/21 16:37	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/16/21 16:37	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/16/21 16:37	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/16/21 16:37	1
Naphthalene	ND		1.0	0.40	ug/L			12/16/21 16:37	1
o-Xylene	ND		0.50	0.25	ug/L			12/16/21 16:37	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/16/21 16:37	1
Toluene	ND		0.50	0.25	ug/L			12/16/21 16:37	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/16/21 16:37	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/16/21 16:37	1
Trichloroethene	ND		0.50	0.25	ug/L			12/16/21 16:37	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/16/21 16:37	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/16/21 16:37	1
Xylenes, Total	ND		1.0	0.50	ug/L			12/16/21 16:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*60 - 140*		*12/16/21 16:37*	*1*
Dibromofluoromethane (Surr)	*100*		*60 - 140*		*12/16/21 16:37*	*1*
Toluene-d8 (Surr)	*104*		*60 - 140*		*12/16/21 16:37*	*1*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-663072/1002
Matrix: Water
Analysis Batch: 663072

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	27.1		ug/L		108	69 - 151
1,1,2,2-Tetrachloroethane	25.0	25.2		ug/L		101	68 - 136
1,1,2-Trichloroethane	25.0	26.4		ug/L		106	75 - 136
1,1-Dichloroethane	25.0	27.6		ug/L		110	71 - 143
1,1-Dichloroethene	25.0	27.3		ug/L		109	19 - 212
1,2-Dichlorobenzene	25.0	24.9		ug/L		99	59 - 174
1,2-Dichloroethane	25.0	25.2		ug/L		101	72 - 137
1,2-Dichloropropane	25.0	27.1		ug/L		108	19 - 181
1,3-Dichlorobenzene	25.0	24.5		ug/L		98	75 - 144
1,4-Dichlorobenzene	25.0	23.8		ug/L		95	59 - 174
2-Chloroethyl vinyl ether	25.0	34.9		ug/L		140	10 - 252
Acrolein	24.7	34.4		ug/L		139	50 - 150
Acrylonitrile	250	311		ug/L		125	50 - 150
Benzene	25.0	26.6		ug/L		106	75 - 125
Bromodichloromethane	25.0	26.8		ug/L		107	50 - 140
Bromoform	25.0	27.6		ug/L		110	57 - 156
Bromomethane	25.0	24.8		ug/L		99	10 - 206
Carbon tetrachloride	25.0	28.0		ug/L		112	65 - 125
Chlorobenzene	25.0	25.0		ug/L		100	82 - 137
Chloroethane	25.0	28.4		ug/L		114	42 - 202
Chloroform	25.0	25.5		ug/L		102	68 - 121
Chloromethane	25.0	26.0		ug/L		104	10 - 230
cis-1,2-Dichloroethene	25.0	27.1		ug/L		108	60 - 140
cis-1,3-Dichloropropene	25.0	29.0		ug/L		116	5 - 195
Dibromochloromethane	25.0	26.6		ug/L		106	69 - 133
Ethylbenzene	25.0	26.7		ug/L		107	75 - 134
m,p-Xylene	25.0	26.3		ug/L		105	60 - 140
Methylene Chloride	25.0	26.3		ug/L		105	10 - 205
Naphthalene	25.0	26.1		ug/L		105	60 - 140
o-Xylene	25.0	26.5		ug/L		106	60 - 140
Tetrachloroethene	25.0	24.5		ug/L		98	70 - 130
Toluene	25.0	25.8		ug/L		103	75 - 134
trans-1,2-Dichloroethene	25.0	26.9		ug/L		108	70 - 130
trans-1,3-Dichloropropene	25.0	28.8		ug/L		115	38 - 162
Trichloroethene	25.0	25.0		ug/L		100	75 - 138
Trichlorofluoromethane	25.0	27.6		ug/L		111	45 - 158
Vinyl chloride	25.0	27.7		ug/L		111	10 - 218
Xylenes, Total	50.0	52.8		ug/L		106	

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*60 - 140*
Dibromofluoromethane (Surr)	*98*		*60 - 140*
Toluene-d8 (Surr)	*101*		*60 - 140*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-78854-1 MS
Matrix: Water
Analysis Batch: 663072

Client Sample ID: Outfall009_20211215_Grab
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		25.0	29.4		ug/L		118	52 - 162
1,1,2,2-Tetrachloroethane	ND		25.0	26.4		ug/L		106	46 - 157
1,1,2-Trichloroethane	ND		25.0	27.1		ug/L		108	52 - 150
1,1-Dichloroethane	ND		25.0	28.3		ug/L		113	59 - 155
1,1-Dichloroethene	ND		25.0	31.0		ug/L		124	10 - 234
1,2-Dichlorobenzene	ND		25.0	25.5		ug/L		102	18 - 190
1,2-Dichloroethane	ND		25.0	25.2		ug/L		101	49 - 155
1,2-Dichloropropane	ND		25.0	27.1		ug/L		108	10 - 210
1,3-Dichlorobenzene	ND		25.0	25.2		ug/L		101	59 - 156
1,4-Dichlorobenzene	ND		25.0	24.8		ug/L		99	18 - 190
2-Chloroethyl vinyl ether	ND		25.0	30.8		ug/L		123	10 - 305
Acrolein	ND		24.7	28.4		ug/L		115	40 - 160
Acrylonitrile	ND		250	323		ug/L		129	40 - 160
Benzene	ND		25.0	27.4		ug/L		110	37 - 151
Bromodichloromethane	ND		25.0	27.4		ug/L		110	35 - 155
Bromoform	ND		25.0	27.8		ug/L		111	45 - 169
Bromomethane	ND		25.0	26.4		ug/L		106	10 - 242
Carbon tetrachloride	ND		25.0	30.0		ug/L		120	70 - 140
Chlorobenzene	ND		25.0	25.8		ug/L		103	37 - 160
Chloroethane	ND		25.0	30.5		ug/L		122	14 - 230
Chloroform	ND		25.0	26.1		ug/L		104	51 - 138
Chloromethane	ND		25.0	27.3		ug/L		109	10 - 273
cis-1,2-Dichloroethene	ND		25.0	28.0		ug/L		112	60 - 140
cis-1,3-Dichloropropene	ND		25.0	29.6		ug/L		118	10 - 227
Dibromochloromethane	ND		25.0	27.4		ug/L		109	53 - 149
Ethylbenzene	ND		25.0	28.0		ug/L		112	37 - 162
m,p-Xylene	ND		25.0	28.0		ug/L		112	60 - 140
Methylene Chloride	ND		25.0	27.0		ug/L		108	10 - 221
Naphthalene	ND		25.0	26.6		ug/L		107	60 - 140
o-Xylene	ND		25.0	27.4		ug/L		109	60 - 140
Tetrachloroethene	ND		25.0	27.8		ug/L		111	64 - 148
Toluene	ND		25.0	27.2		ug/L		109	47 - 150
trans-1,2-Dichloroethene	ND		25.0	28.7		ug/L		115	54 - 156
trans-1,3-Dichloropropene	ND		25.0	29.4		ug/L		118	17 - 183
Trichloroethene	ND		25.0	26.5		ug/L		106	70 - 157
Trichlorofluoromethane	ND		25.0	27.8		ug/L		111	17 - 181
Vinyl chloride	ND		25.0	30.4		ug/L		122	10 - 251
Xylenes, Total	ND		50.0	55.4		ug/L		111	

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*60 - 140*
Dibromofluoromethane (Surr)	*99*		*60 - 140*
Toluene-d8 (Surr)	*103*		*60 - 140*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-78854-1 MSD
Client Sample ID: Outfall009_20211215_Grab
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 663072

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		25.0	29.8		ug/L		119	52 - 162	1	36
1,1,2,2-Tetrachloroethane	ND		25.0	26.5		ug/L		106	46 - 157	0	61
1,1,2-Trichloroethane	ND		25.0	26.1		ug/L		105	52 - 150	4	45
1,1-Dichloroethane	ND		25.0	28.4		ug/L		114	59 - 155	0	40
1,1-Dichloroethene	ND		25.0	30.8		ug/L		123	10 - 234	1	32
1,2-Dichlorobenzene	ND		25.0	25.7		ug/L		103	18 - 190	1	57
1,2-Dichloroethane	ND		25.0	25.4		ug/L		101	49 - 155	1	49
1,2-Dichloropropane	ND		25.0	27.5		ug/L		110	10 - 210	2	55
1,3-Dichlorobenzene	ND		25.0	25.7		ug/L		103	59 - 156	2	43
1,4-Dichlorobenzene	ND		25.0	25.2		ug/L		101	18 - 190	2	57
2-Chloroethyl vinyl ether	ND		25.0	31.4		ug/L		126	10 - 305	2	71
Acrolein	ND		24.7	29.4		ug/L		119	40 - 160	3	60
Acrylonitrile	ND		250	314		ug/L		126	40 - 160	3	60
Benzene	ND		25.0	27.4		ug/L		110	37 - 151	0	61
Bromodichloromethane	ND		25.0	27.4		ug/L		110	35 - 155	0	56
Bromoform	ND		25.0	27.4		ug/L		109	45 - 169	2	42
Bromomethane	ND		25.0	27.2		ug/L		109	10 - 242	3	61
Carbon tetrachloride	ND		25.0	30.2		ug/L		121	70 - 140	1	41
Chlorobenzene	ND		25.0	25.4		ug/L		102	37 - 160	1	53
Chloroethane	ND		25.0	30.9		ug/L		124	14 - 230	1	78
Chloroform	ND		25.0	26.2		ug/L		105	51 - 138	1	54
Chloromethane	ND		25.0	27.7		ug/L		111	10 - 273	2	60
cis-1,2-Dichloroethene	ND		25.0	27.9		ug/L		112	60 - 140	0	35
cis-1,3-Dichloropropene	ND		25.0	28.8		ug/L		115	10 - 227	3	58
Dibromochloromethane	ND		25.0	26.9		ug/L		107	53 - 149	2	50
Ethylbenzene	ND		25.0	27.7		ug/L		111	37 - 162	1	63
m,p-Xylene	ND		25.0	27.6		ug/L		110	60 - 140	1	35
Methylene Chloride	ND		25.0	27.6		ug/L		110	10 - 221	2	28
Naphthalene	ND		25.0	26.9		ug/L		108	60 - 140	1	35
o-Xylene	ND		25.0	27.0		ug/L		108	60 - 140	1	35
Tetrachloroethene	ND		25.0	27.2		ug/L		109	64 - 148	2	39
Toluene	ND		25.0	26.8		ug/L		107	47 - 150	2	41
trans-1,2-Dichloroethene	ND		25.0	29.1		ug/L		116	54 - 156	1	45
trans-1,3-Dichloropropene	ND		25.0	29.0		ug/L		116	17 - 183	1	86
Trichloroethene	ND		25.0	26.4		ug/L		106	70 - 157	0	48
Trichlorofluoromethane	ND		25.0	27.8		ug/L		111	17 - 181	0	84
Vinyl chloride	ND		25.0	30.6		ug/L		123	10 - 251	1	66
Xylenes, Total	ND		50.0	54.6		ug/L		109		1	

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*60 - 140*
Dibromofluoromethane (Surr)	*99*		*60 - 140*
Toluene-d8 (Surr)	*101*		*60 - 140*

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-202914/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 203025
Prep Batch: 202914

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		12/21/21 14:35	12/21/21 14:35	1

Lab Sample ID: LCS 570-202914/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 203025
Prep Batch: 202914

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
HEM (Oil & Grease)			40.0	34.9		mg/L		87	78 - 114		

Lab Sample ID: LCSD 570-202914/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 203025
Prep Batch: 202914

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM (Oil & Grease)			40.0	38.7		mg/L		97	78 - 114	10	18

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78854-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

GC/MS VOA

Analysis Batch: 663072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78854-1	Outfall009_20211215_Grab	Total/NA	Water	624.1	
570-78854-3	TB-20211215	Total/NA	Water	624.1	
MB 440-663072/4	Method Blank	Total/NA	Water	624.1	
LCS 440-663072/1002	Lab Control Sample	Total/NA	Water	624.1	
570-78854-1 MS	Outfall009_20211215_Grab	Total/NA	Water	624.1	
570-78854-1 MSD	Outfall009_20211215_Grab	Total/NA	Water	624.1	

General Chemistry

Prep Batch: 202914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78854-1	Outfall009_20211215_Grab	Total/NA	Water	1664A	
MB 570-202914/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-202914/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-202914/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

Analysis Batch: 203025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78854-1	Outfall009_20211215_Grab	Total/NA	Water	1664A	202914
MB 570-202914/1-A	Method Blank	Total/NA	Water	1664A	202914
LCS 570-202914/2-A	Lab Control Sample	Total/NA	Water	1664A	202914
LCSD 570-202914/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	202914

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-78854-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Client Sample ID: Outfall009_20211215_Grab
Lab Sample ID: 570-78854-1
Date Collected: 12/15/21 09:45
Matrix: Water
Date Received: 12/15/21 17:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	663072	12/16/21 17:08	A1W	IRV
	Instrument ID: GCMS13									
Total/NA	Prep	1664A			962 mL	1000 mL	202914	12/21/21 14:36	L6IE	ECL 1
Total/NA	Analysis	1664A		1			203025	12/21/21 14:36	L6IE	ECL 1
	Instrument ID: NO EQUIQ									

Client Sample ID: TB-20211215
Lab Sample ID: 570-78854-3
Date Collected: 12/15/21 09:45
Matrix: Water
Date Received: 12/15/21 17:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	663072	12/16/21 19:08	A1W	IRV
	Instrument ID: GCMS13									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

IRV = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-78854-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
624.1		Water	cis-1,2-Dichloroethene
624.1		Water	Naphthalene
624.1		Water	Xylenes, Total

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78854-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	IRV
1664A	HEM and SGT-HEM	1664A	ECL 1
Subcontract	9221F- E. Coli	None	Enthalpy
1664A	HEM and SGT-HEM (Aqueous)	1664A	ECL 1

Protocol References:

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

None = None

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

IRV = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78854-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-78854-1	Outfall009_20211215_Grab	Water	12/15/21 09:45	12/15/21 17:20
570-78854-3	TB-20211215	Water	12/15/21 09:45	12/15/21 17:20

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 455369
Report Level: IV
Report Date: 01/25/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDES SSFL Outfalls #44024446

Authorized for release by:

Quynhgiao Le

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	Lab Job #: Project No: Location: Date Received:	455369 BOEING NPDES SSFL Boeing NPDES SSFL Outfalls #44024446 12/15/21

Sample ID	Lab ID	Collected	Matrix
OUTFALL009_20211215_GRAB (570-78854-1)	455369-001	12/15/21 07:00	Water

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience, Inc.	Lab Job Number: 455369
7440 Lincoln Way	Location: Boeing NPDES SSFL Outfalls, #44024446
Garden Grove, CA 92841-1427	Date Received: 12/15/21
Virendra Patel	

This data package contains sample and QC results for one water sample, requested for the above referenced project on 12/15/21. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

455369

Chain of Custody Record

C570-78854

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-145363.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-78854-1
Address: 931 W. Barkley Ave, ,	Due Date Requested: Standard TAT			
City: Orange	TAT Requested (days):			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #: ECI Login# 570-78854			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (9221F- E. Coli) 9221F- E. Coli	Level 2 and Level 4 required	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall009_20211215_Grab (570-78854-1)	12/15/21	07:00 Pacific		Water			X	X	3	Run and report 1x, 10x, and 100x dilutions

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	12/15/21 1634	ECI	EA	12/15/21 1634	EA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

3.3 | 0.4

Ver: 06/08/2021

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Eurofins Calscience | Project: 570-78854

Date Received: 12/15/21 | Sampler's Name Present: ☐ Yes ☑ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2) Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 3.3 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 0.4 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓		
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	✓		
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?	✓		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✓
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____ ☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 12/15/21

Enthalpy Analytical, a subsidiary of Montrose Environmental Group ,Inc.
931 W. Barkley Ave, Orange, CA 92868 • T: (714) 771-6900 • F: (714) 538-1209
www.enthalpy.com/socal

Quynhgiao Le

From: Quynhgiao Le
Sent: Thursday, December 16, 2021 9:18 AM
To: 'Patel, Virendra'
Cc: 'Lea Leatherman'
Subject: RE: [EXTERNAL] Eurofins Calscience GG (455369) - Incoming E. Coli -- ECI #570-78854 -- 12/15/2021

Will do!

Happy Holidays from Enthalpy Analytical. We will be closed on Dec 24th, Dec 25th , Jan 1st and Jan 3rd. Sample Receiving will be closed at 3PM on Dec 31st. Please contact your project manager in advance for sample submittals with short hold time and please submit them by Tuesday Dec. 21st for the week of Dec. 20 and by Wednesday, Dec 29th for the week of Dec. 27. Microbiological samples submitted after Dec 17th may incur holiday surcharges.

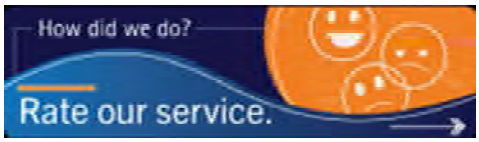
Quynh Le
714-771-9929

From: Patel, Virendra <Virendra.Patel@eurofinset.com>
Sent: Thursday, December 16, 2021 8:59 AM
To: Quynhgiao Le <quynhgiao.le@enthalpy.com>
Subject: RE: [EXTERNAL] Incoming E. Coli -- ECI #570-78854 -- 12/15/2021

Please proceed. Thank you.

Best Regards,

Virendra Patel
Project Manager



Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
P: +1 714 895 5494
F: +1 714 894 7501

Email: Virendra.Patel@eurofinsET.com
Website: www.eurofinsUS.com/Calscience

For up-to-date business information, visit our website and follow us on Facebook and LinkedIn.

From: Quynhgiao Le <quynhgiao.le@enthalpy.com>
Sent: Thursday, December 16, 2021 8:53 AM
To: Patel, Virendra <Virendra.Patel@eurofinset.com>
Subject: RE: [EXTERNAL] Incoming E. Coli -- ECI #570-78854 -- 12/15/2021

EXTERNAL EMAIL*

Hi Patel,

This is to inform you that the sample received 1 ½ hour out of hold time @ 16:34 hrs. Please let us know if you'd still like to proceed with the analyses.

Regards,

Happy Holidays from Enthalpy Analytical. We will be closed on Dec 24th, Dec 25th , Jan 1st and Jan 3rd. Sample Receiving will be closed at 3PM on Dec 31st. Please contact your project manager in advance for sample submittals with short hold time and please submit them by Tuesday Dec. 21st for the week of Dec. 20 and by Wednesday, Dec 29th for the week of Dec. 27. Microbiological samples submitted after Dec 17th may incur holiday surcharges.

Quynh Le
714-771-9929

From: Patel, Virendra <Virendra.Patel@eurofinset.com>
Sent: Wednesday, December 15, 2021 2:18 PM
To: Quynhgiao Le <quynhgiao.le@enthalpy.com>
Subject: [EXTERNAL] Incoming E. Coli -- ECI #570-78854 -- 12/15/2021
Importance: High

Quynhgiao,

Good afternoon. We have one E. Coli coming your way, can you please kindly give this COC to your sample receiving team? Our courier will need this COC copy to relinquish the sample to you.

Thank you!

Best Regards,

Virendra Patel
Project Manager

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
P: +1 714 895 5494
F: +1 714 894 7501

Email: Virendra.Patel@eurofinsET.com
Website: www.eurofinsUS.com/Calscience

Links to use:
Facebook: https://www.facebook.com/EurofinsEnvTesting
LinkedIn: https://www.linkedin.com/company/eurofins-env-testing-america/

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 455369 **Project#:** BOEING NPDES SSFL

Client: Eurofins Calscience Tustin **Location:** Boeing NPDES SSFL Outfalls #44024446

Field ID:	OUTFALL009_20211215_GRAB (570-78854-1)	**Batch#:**	280049	**Analyzed:**	12/17/21 09:13
Lab ID:	455369-001	**Sampled:**	12/15/21 07:00	**Prep:**	
Matrix:	Water	**Received:**	12/15/21	**Analysis:**	SM 9223Bb
Dil'n Fac:	1.000	**Prepared:**	12/16/21 12:40	**Analyst:**	SZL

Analyte	Result	RL	Units	Qual
Coliform, E. Coli	**280**	1.0	MPN/100ml	H

Legend

H: Holding time was exceeded

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

rep Analyst: SL Prep Date/Time: 12/16/21 1240 QC Batch ID: 280049 Batch Page 1 of 1

ead Analyst: SL Read Date/Time 12/17/21 0913

ledia Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: FT850 Pipette Lot #: A103931 + A103665 + A103909

lonthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 12/1/21 * Quanti-Tray Sealer Check must be performed monthly

otal and E. coli: Incubator ID: D Incubator In, Temp/Time: 35.0 1250 Incubator Out, Temp/Time: 34.9 0913 ~~1500~~ SL 12/16/21

ecal Coliform: Water Bath ID: N/A Water Bath In, Temp/Time: N/A Water Bath Out, Temp/Time:

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts Large Wells	Total Coliform Counts Small Wells	MPN Table Value	Final Result, MPN	E. coli Counts Large Wells	E. coli Counts Small Wells	MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only) Large Wells	Fecal Coliform Counts (Colilert 18 only) Small Wells	MPN Table Value	Final Result, MPN	Comments
ECL GG		455369-001	1X	49	48	>2419.6	>2400	49	16	275.5	280					CL-01
↓		-001	10X	49	45	1732.9	17,000	16	2	21.3	210					CL-01
		-001	100X	47	17	206.4	21,000	0	0	<1	<100					CL-01
Quality Control		**Culture ID**														
Positive +/+ (E. Coli)		12/12/21		49	48	>2419.6	>2400	49	48	>2419.6	>2400					
Positive +/- (K. Pneumonia)		↓		49	48	>2419.6	>2400	0	0	<1	<1					
Negative -/- (P. Aeruginosa)				0	0	<1	<1	0	0	<1	<1					

SL 12/22/21 SL 12/22/21

ata Entered By: M 12/27/21 Data Reviewed By:

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570 78854 COC

A A R A A EDBPJOUA

Client Name/Address.	Project:	ANALYSIS REQUIRED	Field Readings	Meter serial #
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Annual Outfall [003-007 009 010] Outfall 009 Grab	MST-Bacteriodates, Human (SAM348-357) Source Molecular in Miami Lakes, F E. coli (SM9221) Enthalpy Analytical Orange, A Oil & Grease (E1664A-HEM) VOCs PP + xylenes, Freon 11 (E624) VOCs only A+A+2CVE (E624)	Field Readings (Include units) Time of Readings: 0915 pH 6.58 pH unit Temp 42.8 °C/°F	
Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218			Field readings QC Checked by: MDominick Date/Time: 0915	
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:	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)			

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD										Comments
Outfall 009	Outfall009_20211215_Grab	12/15/2021 0945	WM	125 mL Sterile Poly	1	NaOH	4	No	X									Deliver to lab ASAP 8 hr hold time
			WM	125 mL Sterile Poly	3	Na2S2O3	10	No		X								Deliver to lab ASAP 8 hr hold time. Need x 0x, 100x dilution
			WM	1 L Glass Amber	2	HCl	15	No			X							
			WM	40 mL VOA	3	HCl	40	No				X						
			WM	40 mL VOA	3	None	55	No					X					
	Outfall009_20211215_Grab_Extra	12/15/2021 0945	WM	1 L Glass Amber	2	HCl	15	No			H							Hold
			WM	40 mL VOA	3	HCl	40	No				H						Hold
			WM	40 mL VOA	3	None	55	No					H					Hold
Trip Blanks	TB-20211215	12/15/2021 0945	WQ	40 mL VOA	2	HCl	40	No				X						
			WQ	40 mL VOA	2	None	55	No					X					

Legend: R = Routine, A = Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
MDominick	12.15.2021/1510	H&A		12/15/21 1510
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	12/15/21 1720	EOI		12/15/21 17:20
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__

~~Shipped separately to Soco Molecular by H&A~~ NO

1-4/2-3 SCO

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-78854 COC

EDBPJOUL

Client Name/Address.	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Annual Outfall [003-007, 009 010] Outfall 009 Grab
Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler:	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Field Readings | Meter serial #

Field Readings: (Include units)

Time of Readings. 0915

pH 6.58 pH unit

Temp 42.8 °C/°F

Field readings QC

Checked by: M Dominick

Date/Time: 0915

ANALYSIS REQUIRED

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	A: MST-Bacteriodales, Human (SAM348-357) Source Molecular in Miami Lakes, FL	A: E. coli (SM9221) Enthalpy Analytical Orange, CA	R: Oil & Grease (E1664A-HEM)	A: VOCs PP + xylenes, Freon 11 (E624)	A: VOCs only A+A+2CVE (E624)					Comments
Outfall 009	Outfall009_20211215_Grab	12/15/2021 / 0945	~~WM~~	~~125 mL Sterile Poly~~	~~1~~	~~None~~	~~1~~	~~No~~	~~X~~									~~Deliver to lab ASAP 8 hr hold time~~ MD
			WM	125 mL Sterile Poly	3	Na2S2O3	10	No		X								Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions
			WM	1 L Glass Amber	2	HCl	15	No			X							
			WM	40 mL VOA	3	HCl	40	No				X						
			WM	40 mL VOA	3	None	55	No					X					
	Outfall009_20211215_Grab_Extra	12/15/2021 / 0945	WM	1 L Glass Amber	2	HCl	15	No			H							Hold
			WM	40 mL VOA	3	HCl	40	No				H						Hold
			WM	40 mL VOA	3	None	55	No					H					Hold
Trip Blanks	TB-20211215	12/15/2021 / 0945	WQ	40 mL VOA	2	HCl	40	No				X						
			WQ	40 mL VOA	2	None	55	No					X					

Legend: R = Routine, A = Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
M Dominick	12.15.2021/1510	H&A	[signature]	12/15/21 1510
[signature]	12/15/21 1730	ECI	[signature]	12/15/21 17:20

Turn-around time: (Check)
24 Hour: ______ 72 Hour: ______ 10 Day: X
48 Hour: ______ 5 Day: ______ Normal: ______

Sample Integrity: (Check)
Intact: ______ On Ice: ______

Store samples for 6 months.

Data Requirements. (Check)
No Level IV: ______ All Level IV: X

~~* Shipped separately to Source Molecular by H&A~~ MD

1.4/2.3 SCO

Rainy Season 2019-2020
Version 2

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-145573 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program California		Job #: 570-78854-1
Address: 17461 Derian Ave, Suite 100	Due Date Requested: 12/29/2021			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261 1022(Tel) 949-260-3297(Fax)	PO #:			
Emai	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	624.1_LL/624_Prep_3D PP+xyl+tr113,11,123A+cyclohex+A+A+2CVE	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall009_20211215_Grab (570-78854-1)	12/15/21	07:00 Pacific		Water			X	3	GCMS13 or GCMS34 only
TB-20211215 (570-78854-3)	12/15/21	07:00 Pacific		Water			X	2	GCMS13 or GCMS34 only

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin isted above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I II III, IV Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/16/21	EC1		12/16/21 0645	EC1
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 11/1 / IR 8?

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-78854-1

Login Number: 78854
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-78864-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp
Revision: 6

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/15/2022 2:30:07 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 6
Client Sample Results 7
Surrogate Summary 24
QC Sample Results 25
QC Association Summary 42
Lab Chronicle 47
Certification Summary 49
Method Summary 50
Sample Summary 51
Chain of Custody 52
Receipt Checklists 62

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
EY	Result exceeds normal dynamic range; reported as a min. est.
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

Metals

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

General Chemistry

Qualifier	Qualifier Description
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-78864-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-78864-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 1/14/2022. The report (revision 5) is being revised due to: Reissued PDF report without e-mail request for EPA 200.8 metals review per Katherine Miller on 02/15/2022.

Report revision history
Revision 1 - 1/28/2022 - Reason - The clients office requested As/Be to be added to the analyte lists for EPA 200.7 Tota/Dissolved reporting.

Revision 2 - 2/1/2022 - Reason - The client requeseted Calcium/Magnesium to be removed from the Level 2 report..

Revision 3 - 2/14/2022 - Reason - The results were revised for EPA 200.8 metals confrimation. The confirmation results are being reported along with the original results released.

Receipt
The samples were received on 12/15/2021 5:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice.

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
Method 608.3: The continuing calibration verification (CCV) associated with 570-201817 recovered high and outside the control limits for 4,4'-DDT on one column. Results are confirmed on both columns and reported from the passing column. The associated sample is: (CCV 570-201817/79).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.2: The reference method requires samples to be preserved to a pH of <2. The following samples were received with insufficient preservation at a pH of >2: Outfall009_20211215_Comp (570-78864-1) and LXBMP001_20211224 (570-80272-1). The sample was preserved to the appropriate pH in the laboratory.

01/07/22 @ 08:36 hours
1.0 mL 1:1 HNO3
1:1 HNO3 # 6803471

Method 200.7 Rev 4.4: The method blank for preparation batch 440-664133 and analytical batch 440-664169 contained Chromium above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.(MB 440-664133/1-A)

Methods 245.1, 7470A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Mercurypreparation batch 440-664059 and analytical batch 440-664187 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 245.1: The calibration plot for analytical batch 440-664158 can not be provided due to instrument software limitations. The calibration plot must be printed out immediately after the calibration has been analyzed; it cannot be regenerated once a second

Job ID: 570-78864-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

calibration is analyzed. However, the concentration and instrument responses for the ICAL points are listed in the raw data provided and results reported are based on these data.

(MB 440-663653/1-B)

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall009_20211215_Comp_F (570-78864-2). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to Tustin relocation.

12/29/21 @ 09:45 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall009_20211215_Comp_F (570-78864-2). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with insufficient time to filter within the HT.

12/30/21 @ 14:53 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-201449. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.
608.3 LL

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-201771. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 625.1 Sim

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20211215_Comp
Lab Sample ID: 570-78864-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium, hexavalent	0.043	J,DX	0.40	0.039	ug/L	2		218.6	Total/NA
Chloride	3.5		1.0	0.36	mg/L	1		300.0	Total/NA
Nitrite as N	0.036	J,DX	0.10	0.018	mg/L	1		300.0	Total/NA
Fluoride	0.19		0.10	0.046	mg/L	1		300.0	Total/NA
Nitrate as N	2.2		0.10	0.024	mg/L	1		300.0	Total/NA
Sulfate	4.7		1.0	0.24	mg/L	1		300.0	Total/NA
Nitrate Nitrite as N	2.2		0.15	0.055	mg/L	1		NO3NO2 Calc	Total/NA
Boron	61		50	25	ug/L	1		200.7 Rev 4.4	Total Recoverable
Iron	310		100	50	ug/L	1		200.7 Rev 4.4	Total Recoverable
Vanadium	2.1	J,DX	10	2.1	ug/L	1		200.7 Rev 4.4	Total Recoverable
Aluminum	280		100	50	ug/L	1		200.7 Rev 4.4	Total Recoverable
Copper	15		2.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	6.5		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	0.81	J,DX	1.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	0.87	J,DX	1.0	0.50	ug/L	1		200.8	Total Recoverable
Antimony	0.91	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Antimony	2.2		2.0	0.50	ug/L	1		200.8	Total Recoverable
Selenium	0.54	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Mercury	0.11	J,DX	0.20	0.10	ug/L	1		245.1	Total/NA
Hardness, as CaCO3	33		0.91	0.17	mg/L	1		SM 2340B	Total Recoverable
Total Dissolved Solids	100		10	5.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	3.2		1.0	0.50	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Outfall009_20211215_Comp_F
Lab Sample ID: 570-78864-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	55		50	25	ug/L	1		200.7 Rev 4.4	Dissolved
Iron	200		100	50	ug/L	1		200.7 Rev 4.4	Dissolved
Vanadium	2.4	J,DX	10	2.1	ug/L	1		200.7 Rev 4.4	Dissolved
Aluminum	260		100	50	ug/L	1		200.7 Rev 4.4	Dissolved
Copper	5.9		2.0	0.50	ug/L	1		200.8	Dissolved
Antimony	0.81	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Hardness, as CaCO3	29		0.91	0.17	mg/L	1		SM 2340B	Dissolved

This Detection Summary does not include radiochemical test results.

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: Outfall009_20211215_Comp
Lab Sample ID: 570-78864-1
Date Collected: 12/15/21 11:30
Matrix: Water
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.21	0.14	ug/L		12/17/21 07:56	12/20/21 19:39	1
1,2-Dichlorobenzene	ND		0.21	0.14	ug/L		12/17/21 07:56	12/20/21 19:39	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.21	0.073	ug/L		12/17/21 07:56	12/20/21 19:39	1
1,3-Dichlorobenzene	ND		0.21	0.13	ug/L		12/17/21 07:56	12/20/21 19:39	1
1,4-Dichlorobenzene	ND		0.21	0.13	ug/L		12/17/21 07:56	12/20/21 19:39	1
2,4,6-Trichlorophenol	ND		1.1	0.071	ug/L		12/17/21 07:56	12/20/21 19:39	1
2,4-Dichlorophenol	ND		1.1	0.10	ug/L		12/17/21 07:56	12/20/21 19:39	1
2,4-Dimethylphenol	ND		0.21	0.14	ug/L		12/17/21 07:56	12/20/21 19:39	1
2,4-Dinitrophenol	ND		5.3	1.0	ug/L		12/17/21 07:56	12/20/21 19:39	1
2,4-Dinitrotoluene	ND		0.21	0.11	ug/L		12/17/21 07:56	12/20/21 19:39	1
2,6-Dinitrotoluene	ND		0.21	0.14	ug/L		12/17/21 07:56	12/20/21 19:39	1
2-Chloronaphthalene	ND		0.21	0.14	ug/L		12/17/21 07:56	12/20/21 19:39	1
2-Chlorophenol	ND		0.21	0.087	ug/L		12/17/21 07:56	12/20/21 19:39	1
2-Nitrophenol	ND		5.3	1.5	ug/L		12/17/21 07:56	12/20/21 19:39	1
3,3'-Dichlorobenzidine	ND		5.3	1.7	ug/L		12/17/21 07:56	12/20/21 19:39	1
4,6-Dinitro-2-methylphenol	ND		5.3	4.2	ug/L		12/17/21 07:56	12/20/21 19:39	1
4-Bromophenyl phenyl ether	ND		0.21	0.082	ug/L		12/17/21 07:56	12/20/21 19:39	1
4-Chloro-3-methylphenol	ND		1.1	0.12	ug/L		12/17/21 07:56	12/20/21 19:39	1
4-Chlorophenyl phenyl ether	ND		0.21	0.095	ug/L		12/17/21 07:56	12/20/21 19:39	1
4-Nitrophenol	ND		5.3	1.2	ug/L		12/17/21 07:56	12/20/21 19:39	1
Acenaphthene	ND		0.21	0.091	ug/L		12/17/21 07:56	12/20/21 19:39	1
Acenaphthylene	ND		0.21	0.089	ug/L		12/17/21 07:56	12/20/21 19:39	1
Anthracene	ND		0.21	0.076	ug/L		12/17/21 07:56	12/20/21 19:39	1
Benzidine	ND		5.3	2.4	ug/L		12/17/21 07:56	12/20/21 19:39	1
Benzo[a]anthracene	ND		0.21	0.074	ug/L		12/17/21 07:56	12/20/21 19:39	1
Benzo[a]pyrene	ND		0.21	0.076	ug/L		12/17/21 07:56	12/20/21 19:39	1
Benzo[b]fluoranthene	ND		0.21	0.11	ug/L		12/17/21 07:56	12/20/21 19:39	1
Benzo[g,h,i]perylene	ND		0.21	0.13	ug/L		12/17/21 07:56	12/20/21 19:39	1
Benzo[k]fluoranthene	ND		0.21	0.081	ug/L		12/17/21 07:56	12/20/21 19:39	1
bis (2-chloroisopropyl) ether	ND		0.21	0.097	ug/L		12/17/21 07:56	12/20/21 19:39	1
Bis(2-chloroethoxy)methane	ND		0.21	0.15	ug/L		12/17/21 07:56	12/20/21 19:39	1
Bis(2-chloroethyl)ether	ND		0.21	0.10	ug/L		12/17/21 07:56	12/20/21 19:39	1
Bis(2-ethylhexyl) phthalate	ND		5.3	1.9	ug/L		12/17/21 07:56	12/20/21 19:39	1
Butyl benzyl phthalate	ND		5.3	0.60	ug/L		12/17/21 07:56	12/20/21 19:39	1
Chrysene	ND		0.21	0.061	ug/L		12/17/21 07:56	12/20/21 19:39	1
Dibenz(a,h)anthracene	ND		0.21	0.15	ug/L		12/17/21 07:56	12/20/21 19:39	1
Diethyl phthalate	ND		2.1	0.14	ug/L		12/17/21 07:56	12/20/21 19:39	1
Dimethyl phthalate	ND		2.1	0.076	ug/L		12/17/21 07:56	12/20/21 19:39	1
Di-n-butyl phthalate	ND		2.1	0.73	ug/L		12/17/21 07:56	12/20/21 19:39	1
Di-n-octyl phthalate	ND		5.3	0.68	ug/L		12/17/21 07:56	12/20/21 19:39	1
Fluoranthene	ND		0.21	0.10	ug/L		12/17/21 07:56	12/20/21 19:39	1
Fluorene	ND		0.21	0.085	ug/L		12/17/21 07:56	12/20/21 19:39	1
Hexachlorobenzene	ND		0.21	0.099	ug/L		12/17/21 07:56	12/20/21 19:39	1
Hexachlorobutadiene	ND		0.21	0.18	ug/L		12/17/21 07:56	12/20/21 19:39	1
Hexachlorocyclopentadiene	ND		0.21	0.10	ug/L		12/17/21 07:56	12/20/21 19:39	1
Hexachloroethane	ND		0.21	0.16	ug/L		12/17/21 07:56	12/20/21 19:39	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.13	ug/L		12/17/21 07:56	12/20/21 19:39	1
Isophorone	ND		0.21	0.093	ug/L		12/17/21 07:56	12/20/21 19:39	1
Naphthalene	ND		0.21	0.10	ug/L		12/17/21 07:56	12/20/21 19:39	1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Client Sample ID: Outfall009_20211215_Comp **Lab Sample ID: 570-78864-1**
Date Collected: 12/15/21 11:30 **Matrix: Water**
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		0.21	0.10	ug/L		12/17/21 07:56	12/20/21 19:39	1
N-Nitrosodimethylamine	ND		0.21	0.15	ug/L		12/17/21 07:56	12/20/21 19:39	1
N-Nitrosodi-n-propylamine	ND		0.21	0.066	ug/L		12/17/21 07:56	12/20/21 19:39	1
N-Nitrosodiphenylamine	ND		0.21	0.10	ug/L		12/17/21 07:56	12/20/21 19:39	1
Pentachlorophenol	ND		1.1	0.11	ug/L		12/17/21 07:56	12/20/21 19:39	1
Phenanthrene	ND		0.21	0.078	ug/L		12/17/21 07:56	12/20/21 19:39	1
Phenol	ND		0.21	0.080	ug/L		12/17/21 07:56	12/20/21 19:39	1
Pyrene	ND		0.21	0.084	ug/L		12/17/21 07:56	12/20/21 19:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*70*		*28 - 127*	*12/17/21 07:56*	*12/20/21 19:39*	*1*
2-Fluorobiphenyl (Surr)	*56*		*31 - 120*	*12/17/21 07:56*	*12/20/21 19:39*	*1*
2-Fluorophenol	*42*		*17 - 120*	*12/17/21 07:56*	*12/20/21 19:39*	*1*
Nitrobenzene-d5	*63*		*27 - 120*	*12/17/21 07:56*	*12/20/21 19:39*	*1*
Phenol-d6 (Surr)	*29*		*10 - 120*	*12/17/21 07:56*	*12/20/21 19:39*	*1*
p-Terphenyl-d14 (Surr)	*56*		*45 - 120*	*12/17/21 07:56*	*12/20/21 19:39*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall009_20211215_Comp
Date Collected: 12/15/21 11:30
Date Received: 12/15/21 17:20

Lab Sample ID: 570-78864-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00070	ug/L		12/16/21 08:39	12/17/21 18:19	1
alpha-BHC	ND		0.0013	0.00080	ug/L		12/16/21 08:39	12/17/21 18:19	1
beta-BHC	ND		0.0020	0.0017	ug/L		12/16/21 08:39	12/17/21 18:19	1
delta-BHC	ND		0.0013	0.0011	ug/L		12/16/21 08:39	12/17/21 18:19	1
gamma-BHC (Lindane)	ND		0.0013	0.00090	ug/L		12/16/21 08:39	12/17/21 18:19	1
Chlordane (technical)	ND		0.010	0.0065	ug/L		12/16/21 08:39	12/17/21 18:19	1
4,4'-DDD	ND		0.0013	0.00080	ug/L		12/16/21 08:39	12/17/21 18:19	1
4,4'-DDE	ND		0.0013	0.00050	ug/L		12/16/21 08:39	12/17/21 18:19	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		12/16/21 08:39	12/17/21 18:19	1
Dieldrin	ND		0.0013	0.00050	ug/L		12/16/21 08:39	12/17/21 18:19	1
Endosulfan I	ND		0.0013	0.00070	ug/L		12/16/21 08:39	12/17/21 18:19	1
Endosulfan II	ND		0.0013	0.00050	ug/L		12/16/21 08:39	12/17/21 18:19	1
Endosulfan sulfate	ND		0.0013	0.00060	ug/L		12/16/21 08:39	12/17/21 18:19	1
Endrin	ND		0.0013	0.00070	ug/L		12/16/21 08:39	12/17/21 18:19	1
Endrin aldehyde	ND		0.010	0.0051	ug/L		12/16/21 08:39	12/17/21 18:19	1
Heptachlor	ND		0.0013	0.00070	ug/L		12/16/21 08:39	12/17/21 18:19	1
Heptachlor epoxide	ND		0.0013	0.00040	ug/L		12/16/21 08:39	12/17/21 18:19	1
Toxaphene	ND		0.10	0.013	ug/L		12/16/21 08:39	12/17/21 18:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*33*		*20 - 139*	*12/16/21 08:39*	*12/17/21 18:19*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: Outfall009_20211215_Comp
Lab Sample ID: 570-78864-1
Date Collected: 12/15/21 11:30
Matrix: Water
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		12/16/21 08:39	12/17/21 10:56	1
Aroclor 1221	ND		0.10	0.044	ug/L		12/16/21 08:39	12/17/21 10:56	1
Aroclor 1232	ND		0.10	0.044	ug/L		12/16/21 08:39	12/17/21 10:56	1
Aroclor 1242	ND		0.10	0.044	ug/L		12/16/21 08:39	12/17/21 10:56	1
Aroclor 1248	ND		0.10	0.044	ug/L		12/16/21 08:39	12/17/21 10:56	1
Aroclor 1254	ND		0.10	0.052	ug/L		12/16/21 08:39	12/17/21 10:56	1
Aroclor 1260	ND		0.10	0.052	ug/L		12/16/21 08:39	12/17/21 10:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*99*		*20 - 154*	*12/16/21 08:39*	*12/17/21 10:56*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Client Sample ID: Outfall009_20211215_Comp
Lab Sample ID: 570-78864-1
Date Collected: 12/15/21 11:30
Matrix: Water
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	0.043	J,DX	0.40	0.039	ug/L			12/16/21 01:48	2

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall009_20211215_Comp
Lab Sample ID: 570-78864-1
Date Collected: 12/15/21 11:30
Matrix: Water
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.5		1.0	0.36	mg/L			12/16/21 03:48	1
Nitrite as N	0.036	J,DX	0.10	0.018	mg/L			12/16/21 03:48	1
Fluoride	0.19		0.10	0.046	mg/L			12/16/21 03:48	1
Nitrate as N	2.2		0.10	0.024	mg/L			12/16/21 03:48	1
Sulfate	4.7		1.0	0.24	mg/L			12/16/21 03:48	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 314.0 - Perchlorate (IC)

Client Sample ID: Outfall009_20211215_Comp
Lab Sample ID: 570-78864-1
Date Collected: 12/15/21 11:30
Matrix: Water
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			12/22/21 07:26	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: NO3NO2 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall009_20211215_Comp
Lab Sample ID: 570-78864-1
Date Collected: 12/15/21 11:30
Matrix: Water
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	2.2		0.15	0.055	mg/L			02/01/22 12:09	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: Outfall009_20211215_Comp
Lab Sample ID: 570-78864-1
Date Collected: 12/15/21 11:30
Matrix: Water
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**61**		50	25	ug/L		01/10/22 11:54	01/11/22 07:05	1
Iron	**310**		100	50	ug/L		01/10/22 11:54	01/11/22 07:05	1
Nickel	ND		10	5.0	ug/L		01/10/22 11:54	01/11/22 07:05	1
Vanadium	**2.1**	**J,DX**	10	2.1	ug/L		01/10/22 11:54	01/11/22 07:05	1
Zinc	ND		20	12	ug/L		01/10/22 11:54	01/11/22 07:05	1
Aluminum	**280**		100	50	ug/L		01/10/22 11:54	01/11/22 07:05	1
Chromium	ND		5.0	2.5	ug/L		01/10/22 11:54	01/11/22 07:05	1
Beryllium	ND		2.0	0.44	ug/L		01/10/22 11:54	01/11/22 07:05	1
Arsenic	ND		20	8.9	ug/L		01/10/22 11:54	01/11/22 07:05	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: Outfall009_20211215_Comp_F
Lab Sample ID: 570-78864-2
Date Collected: 12/15/21 11:30
Matrix: Water
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**55**		50	25	ug/L		12/30/21 13:47	12/30/21 16:44	1
Iron	**200**		100	50	ug/L		12/30/21 13:47	12/30/21 16:44	1
Nickel	ND		10	5.0	ug/L		12/30/21 13:47	12/30/21 16:44	1
Vanadium	**2.4**	**J,DX**	10	2.1	ug/L		12/30/21 13:47	12/30/21 16:44	1
Zinc	ND		20	12	ug/L		12/30/21 13:47	12/30/21 16:44	1
Aluminum	**260**		100	50	ug/L		12/30/21 13:47	12/30/21 16:44	1
Chromium	ND		5.0	2.5	ug/L		12/30/21 13:47	12/30/21 16:44	1
Beryllium	ND		2.0	0.44	ug/L		12/30/21 13:47	12/30/21 16:44	1
Arsenic	ND		20	8.9	ug/L		12/30/21 13:47	12/30/21 16:44	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall009_20211215_Comp
Lab Sample ID: 570-78864-1
Date Collected: 12/15/21 11:30
Matrix: Water
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:30	1
Silver	ND		1.0	0.50	ug/L		02/14/22 05:13	02/14/22 10:32	1
Cadmium	ND		1.0	0.25	ug/L		01/10/22 16:20	01/11/22 12:30	1
Cadmium	ND		1.0	0.25	ug/L		02/14/22 05:13	02/14/22 10:32	1
Copper	**15**		2.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:30	1
Copper	**6.5**		2.0	0.50	ug/L		02/14/22 05:13	02/14/22 10:32	1
Lead	**0.81**	**J,DX**	1.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:30	1
Lead	**0.87**	**J,DX**	1.0	0.50	ug/L		02/14/22 05:13	02/14/22 10:32	1
Antimony	**0.91**	**J,DX**	2.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:30	1
Antimony	**2.2**		2.0	0.50	ug/L		02/14/22 05:13	02/14/22 10:32	1
Selenium	**0.54**	**J,DX**	2.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:30	1
Selenium	ND		2.0	0.50	ug/L		02/14/22 05:13	02/14/22 10:32	1
Thallium	ND		1.0	0.20	ug/L		01/10/22 16:20	01/11/22 12:30	1
Thallium	ND		1.0	0.20	ug/L		02/14/22 05:13	02/14/22 10:32	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall009_20211215_Comp_F
Lab Sample ID: 570-78864-2
Date Collected: 12/15/21 11:30
Matrix: Water
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:32	1
Cadmium	ND		1.0	0.25	ug/L		12/29/21 11:03	12/29/21 18:32	1
Copper	**5.9**		2.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:32	1
Lead	ND		1.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:32	1
Antimony	**0.81**	**J,DX**	2.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:32	1
Selenium	ND		2.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:32	1
Thallium	ND		1.0	0.20	ug/L		12/29/21 11:03	12/29/21 18:32	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 245.1 - Mercury (CVAA)

Client Sample ID: Outfall009_20211215_Comp
Lab Sample ID: 570-78864-1
Date Collected: 12/15/21 11:30
Matrix: Water
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.11	J,DX	0.20	0.10	ug/L		01/10/22 10:10	01/10/22 19:16	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall009_20211215_Comp_F
Lab Sample ID: 570-78864-2
Date Collected: 12/15/21 11:30
Matrix: Water
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:15	01/10/22 15:56	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Client Sample ID: Outfall009_20211215_Comp
Lab Sample ID: 570-78864-1
Date Collected: 12/15/21 11:30
Matrix: Water
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	33		0.91	0.17	mg/L			01/12/22 17:56	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Client Sample ID: Outfall009_20211215_Comp_F
Lab Sample ID: 570-78864-2
Date Collected: 12/15/21 11:30
Matrix: Water
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	29		0.91	0.17	mg/L			01/12/22 17:51	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

General Chemistry

Client Sample ID: Outfall009_20211215_Comp
Lab Sample ID: 570-78864-1
Date Collected: 12/15/21 11:30
Matrix: Water
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	ND		0.050	0.0069	mg/L			01/12/22 16:06	1
Total Dissolved Solids	**100**		10	5.0	mg/L			12/16/21 15:00	1
Total Suspended Solids	**3.2**		1.0	0.50	mg/L			12/16/21 14:31	1
Cyanide, Total	ND		0.0030	0.0014	mg/L		12/20/21 20:00	12/20/21 22:50	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Job ID: 570-78864-1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL6	TPHd14
Lab Sample ID	Client Sample ID	(28-127)	(31-120)	(17-120)	(27-120)	(10-120)	(45-120)
570-78864-1	Outfall009_20211215_Comp	70	56	42	63	29	56
LCS 570-201771/2-A	Lab Control Sample	88	70	57	71	37	80
LCSD 570-201771/3-A	Lab Control Sample Dup	81	70	54	72	37	81
MB 570-201771/1-A	Method Blank	70	64	45	69	30	71

Surrogate Legend

TBP = 2,4,6-Tribromophenol
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL6 = Phenol-d6 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		TCX1
Lab Sample ID	Client Sample ID	(20-139)
570-78864-1	Outfall009_20211215_Comp	33
LCS 570-201449/2-A	Lab Control Sample	66
LCS 570-201449/6-A	Lab Control Sample	52
LCSD 570-201449/3-A	Lab Control Sample Dup	67
MB 570-201449/1-A	Method Blank	35

Surrogate Legend

TCX = Tetrachloro-m-xylene

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		DCB1
Lab Sample ID	Client Sample ID	(20-154)
570-78864-1	Outfall009_20211215_Comp	99
LCS 570-201449/4-A	Lab Control Sample	56
LCSD 570-201449/5-A	Lab Control Sample Dup	68
MB 570-201449/1-A	Method Blank	70

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-201771/1-A
Matrix: Water
Analysis Batch: 202506

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 201771

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.20	0.13	ug/L		12/17/21 07:55	12/20/21 13:54	1
1,2-Dichlorobenzene	ND		0.20	0.13	ug/L		12/17/21 07:55	12/20/21 13:54	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.20	0.069	ug/L		12/17/21 07:55	12/20/21 13:54	1
1,3-Dichlorobenzene	ND		0.20	0.13	ug/L		12/17/21 07:55	12/20/21 13:54	1
1,4-Dichlorobenzene	ND		0.20	0.13	ug/L		12/17/21 07:55	12/20/21 13:54	1
2,4,6-Trichlorophenol	ND		1.0	0.067	ug/L		12/17/21 07:55	12/20/21 13:54	1
2,4-Dichlorophenol	ND		1.0	0.097	ug/L		12/17/21 07:55	12/20/21 13:54	1
2,4-Dimethylphenol	ND		0.20	0.13	ug/L		12/17/21 07:55	12/20/21 13:54	1
2,4-Dinitrophenol	ND		5.0	0.99	ug/L		12/17/21 07:55	12/20/21 13:54	1
2,4-Dinitrotoluene	ND		0.20	0.11	ug/L		12/17/21 07:55	12/20/21 13:54	1
2,6-Dinitrotoluene	ND		0.20	0.13	ug/L		12/17/21 07:55	12/20/21 13:54	1
2-Chloronaphthalene	ND		0.20	0.14	ug/L		12/17/21 07:55	12/20/21 13:54	1
2-Chlorophenol	ND		0.20	0.082	ug/L		12/17/21 07:55	12/20/21 13:54	1
2-Nitrophenol	ND		5.0	1.4	ug/L		12/17/21 07:55	12/20/21 13:54	1
3,3'-Dichlorobenzidine	ND		5.0	1.6	ug/L		12/17/21 07:55	12/20/21 13:54	1
4,6-Dinitro-2-methylphenol	ND		5.0	4.0	ug/L		12/17/21 07:55	12/20/21 13:54	1
4-Bromophenyl phenyl ether	ND		0.20	0.077	ug/L		12/17/21 07:55	12/20/21 13:54	1
4-Chloro-3-methylphenol	ND		1.0	0.12	ug/L		12/17/21 07:55	12/20/21 13:54	1
4-Chlorophenyl phenyl ether	ND		0.20	0.090	ug/L		12/17/21 07:55	12/20/21 13:54	1
4-Nitrophenol	ND		5.0	1.1	ug/L		12/17/21 07:55	12/20/21 13:54	1
Acenaphthene	ND		0.20	0.086	ug/L		12/17/21 07:55	12/20/21 13:54	1
Acenaphthylene	ND		0.20	0.084	ug/L		12/17/21 07:55	12/20/21 13:54	1
Anthracene	ND		0.20	0.072	ug/L		12/17/21 07:55	12/20/21 13:54	1
Benzidine	ND		5.0	2.3	ug/L		12/17/21 07:55	12/20/21 13:54	1
Benzo[a]anthracene	ND		0.20	0.070	ug/L		12/17/21 07:55	12/20/21 13:54	1
Benzo[a]pyrene	ND		0.20	0.072	ug/L		12/17/21 07:55	12/20/21 13:54	1
Benzo[b]fluoranthene	ND		0.20	0.10	ug/L		12/17/21 07:55	12/20/21 13:54	1
Benzo[g,h,i]perylene	ND		0.20	0.13	ug/L		12/17/21 07:55	12/20/21 13:54	1
Benzo[k]fluoranthene	ND		0.20	0.077	ug/L		12/17/21 07:55	12/20/21 13:54	1
bis (2-chloroisopropyl) ether	ND		0.20	0.092	ug/L		12/17/21 07:55	12/20/21 13:54	1
Bis(2-chloroethoxy)methane	ND		0.20	0.15	ug/L		12/17/21 07:55	12/20/21 13:54	1
Bis(2-chloroethyl)ether	ND		0.20	0.098	ug/L		12/17/21 07:55	12/20/21 13:54	1
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		12/17/21 07:55	12/20/21 13:54	1
Butyl benzyl phthalate	ND		5.0	0.56	ug/L		12/17/21 07:55	12/20/21 13:54	1
Chrysene	ND		0.20	0.058	ug/L		12/17/21 07:55	12/20/21 13:54	1
Dibenz(a,h)anthracene	ND		0.20	0.14	ug/L		12/17/21 07:55	12/20/21 13:54	1
Diethyl phthalate	ND		2.0	0.13	ug/L		12/17/21 07:55	12/20/21 13:54	1
Dimethyl phthalate	ND		2.0	0.072	ug/L		12/17/21 07:55	12/20/21 13:54	1
Di-n-butyl phthalate	ND		2.0	0.69	ug/L		12/17/21 07:55	12/20/21 13:54	1
Di-n-octyl phthalate	ND		5.0	0.64	ug/L		12/17/21 07:55	12/20/21 13:54	1
Fluoranthene	ND		0.20	0.096	ug/L		12/17/21 07:55	12/20/21 13:54	1
Fluorene	ND		0.20	0.080	ug/L		12/17/21 07:55	12/20/21 13:54	1
Hexachlorobenzene	ND		0.20	0.094	ug/L		12/17/21 07:55	12/20/21 13:54	1
Hexachlorobutadiene	ND		0.20	0.17	ug/L		12/17/21 07:55	12/20/21 13:54	1
Hexachlorocyclopentadiene	ND		0.20	0.098	ug/L		12/17/21 07:55	12/20/21 13:54	1
Hexachloroethane	ND		0.20	0.15	ug/L		12/17/21 07:55	12/20/21 13:54	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.12	ug/L		12/17/21 07:55	12/20/21 13:54	1
Isophorone	ND		0.20	0.088	ug/L		12/17/21 07:55	12/20/21 13:54	1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: MB 570-201771/1-A
Matrix: Water
Analysis Batch: 202506

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 201771

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.20	0.098	ug/L		12/17/21 07:55	12/20/21 13:54	1
Nitrobenzene	ND		0.20	0.097	ug/L		12/17/21 07:55	12/20/21 13:54	1
N-Nitrosodimethylamine	ND		0.20	0.14	ug/L		12/17/21 07:55	12/20/21 13:54	1
N-Nitrosodi-n-propylamine	ND		0.20	0.062	ug/L		12/17/21 07:55	12/20/21 13:54	1
N-Nitrosodiphenylamine	ND		0.20	0.096	ug/L		12/17/21 07:55	12/20/21 13:54	1
Pentachlorophenol	ND		1.0	0.11	ug/L		12/17/21 07:55	12/20/21 13:54	1
Phenanthrene	ND		0.20	0.074	ug/L		12/17/21 07:55	12/20/21 13:54	1
Phenol	ND		0.20	0.076	ug/L		12/17/21 07:55	12/20/21 13:54	1
Pyrene	ND		0.20	0.080	ug/L		12/17/21 07:55	12/20/21 13:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*70*		*28 - 127*	*12/17/21 07:55*	*12/20/21 13:54*	*1*
2-Fluorobiphenyl (Surr)	*64*		*31 - 120*	*12/17/21 07:55*	*12/20/21 13:54*	*1*
2-Fluorophenol	*45*		*17 - 120*	*12/17/21 07:55*	*12/20/21 13:54*	*1*
Nitrobenzene-d5	*69*		*27 - 120*	*12/17/21 07:55*	*12/20/21 13:54*	*1*
Phenol-d6 (Surr)	*30*		*10 - 120*	*12/17/21 07:55*	*12/20/21 13:54*	*1*
p-Terphenyl-d14 (Surr)	*71*		*45 - 120*	*12/17/21 07:55*	*12/20/21 13:54*	*1*

Lab Sample ID: LCS 570-201771/2-A
Matrix: Water
Analysis Batch: 202769

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 201771

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	20.0	13.0		ug/L		65	57 - 130
1,2-Dichlorobenzene	20.0	13.8		ug/L		69	41 - 100
1,2-Diphenylhydrazine(as Azobenzene)	20.0	15.5		ug/L		77	60 - 115
1,3-Dichlorobenzene	20.0	13.5		ug/L		67	39 - 100
1,4-Dichlorobenzene	20.0	13.8		ug/L		69	40 - 100
2,4,6-Trichlorophenol	20.0	17.3		ug/L		86	52 - 129
2,4-Dichlorophenol	20.0	15.1		ug/L		75	53 - 122
2,4-Dimethylphenol	20.0	13.8		ug/L		69	42 - 120
2,4-Dinitrophenol	20.0	15.6		ug/L		78	1 - 173
2,4-Dinitrotoluene	20.0	17.3		ug/L		86	48 - 127
2,6-Dinitrotoluene	20.0	18.8		ug/L		94	68 - 137
2-Chloronaphthalene	20.0	15.4		ug/L		77	65 - 120
2-Chlorophenol	20.0	16.9		ug/L		84	36 - 120
2-Nitrophenol	20.0	16.7		ug/L		84	45 - 167
3,3'-Dichlorobenzidine	20.0	18.0		ug/L		90	8 - 213
4,6-Dinitro-2-methylphenol	20.0	14.1		ug/L		71	53 - 130
4-Bromophenyl phenyl ether	20.0	16.1		ug/L		80	65 - 120
4-Chloro-3-methylphenol	20.0	13.9		ug/L		69	41 - 128
4-Chlorophenyl phenyl ether	20.0	15.4		ug/L		77	38 - 145
4-Nitrophenol	20.0	9.42		ug/L		47	13 - 129
Acenaphthene	20.0	14.9		ug/L		74	60 - 132
Acenaphthylene	20.0	18.2		ug/L		91	54 - 126
Anthracene	20.0	17.3		ug/L		87	43 - 120
Benzidine	20.0	7.68		ug/L		38	10 - 124
Benzo[a]anthracene	20.0	18.1		ug/L		91	42 - 133

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCS 570-201771/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 202769 **Prep Batch: 201771**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]pyrene	20.0	19.0		ug/L		95	32 - 148
Benzo[b]fluoranthene	20.0	17.7		ug/L		88	42 - 140
Benzo[g,h,i]perylene	20.0	16.5		ug/L		82	1 - 195
Benzo[k]fluoranthene	20.0	17.7		ug/L		88	25 - 146
bis (2-chloroisopropyl) ether	20.0	18.7		ug/L		93	63 - 139
Bis(2-chloroethoxy)methane	20.0	14.3		ug/L		72	49 - 165
Bis(2-chloroethyl)ether	20.0	17.0		ug/L		85	43 - 126
Bis(2-ethylhexyl) phthalate	20.0	19.9		ug/L		100	29 - 137
Butyl benzyl phthalate	20.0	19.2		ug/L		96	1 - 140
Chrysene	20.0	15.7		ug/L		79	44 - 140
Dibenz(a,h)anthracene	20.0	15.7		ug/L		79	1 - 200
Diethyl phthalate	20.0	15.9		ug/L		80	1 - 120
Dimethyl phthalate	20.0	16.0		ug/L		80	1 - 120
Di-n-butyl phthalate	20.0	18.1		ug/L		90	8 - 120
Di-n-octyl phthalate	20.0	21.8		ug/L		109	19 - 132
Fluoranthene	20.0	17.1		ug/L		86	43 - 121
Fluorene	20.0	15.6		ug/L		78	70 - 120
Hexachlorobenzene	20.0	16.3		ug/L		82	8 - 142
Hexachlorobutadiene	20.0	12.4		ug/L		62	38 - 120
Hexachlorocyclopentadiene	20.0	18.3		ug/L		92	20 - 137
Hexachloroethane	20.0	13.7		ug/L		68	55 - 120
Indeno[1,2,3-cd]pyrene	20.0	15.6		ug/L		78	1 - 151
Isophorone	20.0	15.7		ug/L		79	47 - 180
Naphthalene	20.0	12.8		ug/L		64	36 - 120
Nitrobenzene	20.0	13.7		ug/L		69	54 - 158
N-Nitrosodimethylamine	20.0	11.3		ug/L		57	30 - 100
N-Nitrosodi-n-propylamine	20.0	17.9		ug/L		89	14 - 198
N-Nitrosodiphenylamine	20.0	20.9		ug/L		104	75 - 135
Pentachlorophenol	20.0	14.1		ug/L		71	38 - 152
Phenanthrene	20.0	15.4		ug/L		77	65 - 120
Phenol	20.0	7.64		ug/L		38	17 - 120
Pyrene	20.0	16.4		ug/L		82	70 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*88*		*28 - 127*
2-Fluorobiphenyl (Surr)	*70*		*31 - 120*
2-Fluorophenol	*57*		*17 - 120*
Nitrobenzene-d5	*71*		*27 - 120*
Phenol-d6 (Surr)	*37*		*10 - 120*
p-Terphenyl-d14 (Surr)	*80*		*45 - 120*

Lab Sample ID: LCSD 570-201771/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 202506 **Prep Batch: 201771**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	20.0	12.8		ug/L		64	57 - 130	1	30
1,2-Dichlorobenzene	20.0	14.1		ug/L		70	41 - 100	2	20

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-201771/3-A
Matrix: Water
Analysis Batch: 202506

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 201771

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Diphenylhydrazine(as Azobenzene)	20.0	14.6		ug/L		73	60 - 115	6	30
1,3-Dichlorobenzene	20.0	13.4		ug/L		67	39 - 100	0	20
1,4-Dichlorobenzene	20.0	13.8		ug/L		69	40 - 100	0	20
2,4,6-Trichlorophenol	20.0	17.1		ug/L		86	52 - 129	1	35
2,4-Dichlorophenol	20.0	15.1		ug/L		75	53 - 122	0	30
2,4-Dimethylphenol	20.0	15.0		ug/L		75	42 - 120	8	35
2,4-Dinitrophenol	20.0	23.0		ug/L		115	1 - 173	38	79
2,4-Dinitrotoluene	20.0	17.7		ug/L		88	48 - 127	2	25
2,6-Dinitrotoluene	20.0	18.7		ug/L		94	68 - 137	0	29
2-Chloronaphthalene	20.0	14.8		ug/L		74	65 - 120	4	15
2-Chlorophenol	20.0	17.0		ug/L		85	36 - 120	1	37
2-Nitrophenol	20.0	16.6		ug/L		83	45 - 167	1	33
3,3'-Dichlorobenzidine	20.0	17.4		ug/L		87	8 - 213	4	65
4,6-Dinitro-2-methylphenol	20.0	17.2		ug/L		86	53 - 130	20	122
4-Bromophenyl phenyl ether	20.0	15.2		ug/L		76	65 - 120	6	26
4-Chloro-3-methylphenol	20.0	14.2		ug/L		71	41 - 128	3	44
4-Chlorophenyl phenyl ether	20.0	15.8		ug/L		79	38 - 145	3	36
4-Nitrophenol	20.0	8.71		ug/L		44	13 - 129	8	79
Acenaphthene	20.0	15.2		ug/L		76	60 - 132	2	29
Acenaphthylene	20.0	18.1		ug/L		91	54 - 126	0	45
Anthracene	20.0	16.4		ug/L		82	43 - 120	5	40
Benzidine	20.0	6.99		ug/L		35	10 - 124	9	40
Benzo[a]anthracene	20.0	16.9		ug/L		84	42 - 133	7	32
Benzo[a]pyrene	20.0	18.6		ug/L		93	32 - 148	3	43
Benzo[b]fluoranthene	20.0	17.1		ug/L		85	42 - 140	3	43
Benzo[g,h,i]perylene	20.0	16.3		ug/L		82	1 - 195	1	61
Benzo[k]fluoranthene	20.0	17.2		ug/L		86	25 - 146	3	38
bis (2-chloroisopropyl) ether	20.0	18.9		ug/L		95	63 - 139	1	46
Bis(2-chloroethoxy)methane	20.0	14.2		ug/L		71	49 - 165	1	32
Bis(2-chloroethyl)ether	20.0	17.4		ug/L		87	43 - 126	2	65
Bis(2-ethylhexyl) phthalate	20.0	19.5		ug/L		97	29 - 137	2	50
Butyl benzyl phthalate	20.0	18.9		ug/L		95	1 - 140	1	36
Chrysene	20.0	15.7		ug/L		78	44 - 140	0	53
Dibenz(a,h)anthracene	20.0	15.9		ug/L		80	1 - 200	1	75
Diethyl phthalate	20.0	16.7		ug/L		83	1 - 120	5	60
Dimethyl phthalate	20.0	15.9		ug/L		79	1 - 120	1	110
Di-n-butyl phthalate	20.0	17.1		ug/L		86	8 - 120	5	28
Di-n-octyl phthalate	20.0	20.8		ug/L		104	19 - 132	5	42
Fluoranthene	20.0	16.2		ug/L		81	43 - 121	6	40
Fluorene	20.0	16.0		ug/L		80	70 - 120	2	23
Hexachlorobenzene	20.0	15.5		ug/L		78	8 - 142	5	33
Hexachlorobutadiene	20.0	12.3		ug/L		62	38 - 120	1	38
Hexachlorocyclopentadiene	20.0	19.4		ug/L		97	20 - 137	6	20
Hexachloroethane	20.0	13.7		ug/L		69	55 - 120	0	32
Indeno[1,2,3-cd]pyrene	20.0	15.6		ug/L		78	1 - 151	0	60
Isophorone	20.0	15.3		ug/L		76	47 - 180	3	56
Naphthalene	20.0	12.8		ug/L		64	36 - 120	0	39
Nitrobenzene	20.0	14.3		ug/L		71	54 - 158	4	37

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-201771/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 202506 **Prep Batch: 201771**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Nitrosodimethylamine			20.0	11.2		ug/L		56	30 - 100	2	20
N-Nitrosodi-n-propylamine			20.0	18.3		ug/L		91	14 - 198	2	52
N-Nitrosodiphenylamine			20.0	19.9		ug/L		99	75 - 135	5	20
Pentachlorophenol			20.0	14.6		ug/L		73	38 - 152	3	52
Phenanthrene			20.0	15.0		ug/L		75	65 - 120	3	24
Phenol			20.0	7.54		ug/L		38	17 - 120	1	39
Pyrene			20.0	16.2		ug/L		81	70 - 120	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol	*81*		*28 - 127*
2-Fluorobiphenyl (Surr)	*70*		*31 - 120*
2-Fluorophenol	*54*		*17 - 120*
Nitrobenzene-d5	*72*		*27 - 120*
Phenol-d6 (Surr)	*37*		*10 - 120*
p-Terphenyl-d14 (Surr)	*81*		*45 - 120*

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-201449/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 201817 **Prep Batch: 201449**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00070	ug/L		12/16/21 08:39	12/17/21 10:58	1
alpha-BHC	ND		0.0013	0.00080	ug/L		12/16/21 08:39	12/17/21 10:58	1
beta-BHC	ND		0.0020	0.0017	ug/L		12/16/21 08:39	12/17/21 10:58	1
delta-BHC	ND		0.0013	0.0011	ug/L		12/16/21 08:39	12/17/21 10:58	1
gamma-BHC (Lindane)	ND		0.0013	0.00090	ug/L		12/16/21 08:39	12/17/21 10:58	1
Chlordane (technical)	ND		0.010	0.0065	ug/L		12/16/21 08:39	12/17/21 10:58	1
4,4'-DDD	ND		0.0013	0.00080	ug/L		12/16/21 08:39	12/17/21 10:58	1
4,4'-DDE	ND		0.0013	0.00050	ug/L		12/16/21 08:39	12/17/21 10:58	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		12/16/21 08:39	12/17/21 10:58	1
Dieldrin	ND		0.0013	0.00050	ug/L		12/16/21 08:39	12/17/21 10:58	1
Endosulfan I	ND		0.0013	0.00070	ug/L		12/16/21 08:39	12/17/21 10:58	1
Endosulfan II	ND		0.0013	0.00050	ug/L		12/16/21 08:39	12/17/21 10:58	1
Endosulfan sulfate	ND		0.0013	0.00060	ug/L		12/16/21 08:39	12/17/21 10:58	1
Endrin	ND		0.0013	0.00070	ug/L		12/16/21 08:39	12/17/21 10:58	1
Endrin aldehyde	ND		0.010	0.0051	ug/L		12/16/21 08:39	12/17/21 10:58	1
Heptachlor	ND		0.0013	0.00070	ug/L		12/16/21 08:39	12/17/21 10:58	1
Heptachlor epoxide	ND		0.0013	0.00040	ug/L		12/16/21 08:39	12/17/21 10:58	1
Toxaphene	ND		0.10	0.013	ug/L		12/16/21 08:39	12/17/21 10:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*35*		*20 - 139*	*12/16/21 08:39*	*12/17/21 10:58*	*1*

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: LCS 570-201449/2-A
Matrix: Water
Analysis Batch: 201817

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 201449

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aldrin			0.0333	0.0264		ug/L		79	42 - 140		
alpha-BHC			0.0333	0.0252		ug/L		76	37 - 140		
beta-BHC			0.0333	0.0235		ug/L		70	17 - 147		
delta-BHC			0.0333	0.0238		ug/L		71	19 - 140		
gamma-BHC (Lindane)			0.0333	0.0258		ug/L		77	32 - 140		
4,4'-DDD			0.0333	0.0260		ug/L		78	31 - 141		
4,4'-DDE			0.0333	0.0246		ug/L		74	30 - 145		
4,4'-DDT			0.0333	0.0327		ug/L		98	25 - 160		
Dieldrin			0.0333	0.0258		ug/L		78	36 - 146		
Endosulfan I			0.0333	0.0230		ug/L		69	45 - 153		
Endosulfan II			0.0333	0.0273		ug/L		82	1 - 202		
Endosulfan sulfate			0.0333	0.0253		ug/L		76	26 - 144		
Endrin			0.0333	0.0274		ug/L		82	30 - 147		
Endrin aldehyde			0.0333	0.0273		ug/L		82	60 - 140		
Heptachlor			0.0333	0.0228		ug/L		68	34 - 140		
Heptachlor epoxide			0.0333	0.0246		ug/L		74	37 - 142		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*66*		*20 - 139*

Lab Sample ID: LCS 570-201449/6-A
Matrix: Water
Analysis Batch: 201817

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 201449

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*52*		*20 - 139*

Lab Sample ID: LCSD 570-201449/3-A
Matrix: Water
Analysis Batch: 201817

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 201449

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin			0.0333	0.0270		ug/L		81	42 - 140	2	35
alpha-BHC			0.0333	0.0251		ug/L		75	37 - 140	1	36
beta-BHC			0.0333	0.0234		ug/L		70	17 - 147	1	44
delta-BHC			0.0333	0.0238		ug/L		71	19 - 140	0	52
gamma-BHC (Lindane)			0.0333	0.0257		ug/L		77	32 - 140	0	39
4,4'-DDD			0.0333	0.0250		ug/L		75	31 - 141	4	39
4,4'-DDE			0.0333	0.0242		ug/L		73	30 - 145	2	35
4,4'-DDT			0.0333	0.0279		ug/L		84	25 - 160	16	42
Dieldrin			0.0333	0.0255		ug/L		77	36 - 146	1	49
Endosulfan I			0.0333	0.0228		ug/L		68	45 - 153	1	28
Endosulfan II			0.0333	0.0267		ug/L		80	1 - 202	2	53
Endosulfan sulfate			0.0333	0.0248		ug/L		74	26 - 144	2	38
Endrin			0.0333	0.0263		ug/L		79	30 - 147	4	48
Endrin aldehyde			0.0333	0.0268		ug/L		80	60 - 140	2	30
Heptachlor			0.0333	0.0227		ug/L		68	34 - 140	1	43
Heptachlor epoxide			0.0333	0.0243		ug/L		73	37 - 142	1	26

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Tetrachloro-m-xylene	67		20 - 139

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 570-201449/1-A
Matrix: Water
Analysis Batch: 201459

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 201449

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		12/16/21 08:39	12/17/21 09:40	1
Aroclor 1221	ND		0.10	0.044	ug/L		12/16/21 08:39	12/17/21 09:40	1
Aroclor 1232	ND		0.10	0.044	ug/L		12/16/21 08:39	12/17/21 09:40	1
Aroclor 1242	ND		0.10	0.044	ug/L		12/16/21 08:39	12/17/21 09:40	1
Aroclor 1248	ND		0.10	0.044	ug/L		12/16/21 08:39	12/17/21 09:40	1
Aroclor 1254	ND		0.10	0.052	ug/L		12/16/21 08:39	12/17/21 09:40	1
Aroclor 1260	ND		0.10	0.052	ug/L		12/16/21 08:39	12/17/21 09:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	70		20 - 154	12/16/21 08:39	12/17/21 09:40	1

Lab Sample ID: LCS 570-201449/4-A
Matrix: Water
Analysis Batch: 201459

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 201449

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor 1016			0.133	0.147		ug/L		110	50 - 140		
Aroclor 1260			0.133	0.119		ug/L		89	8 - 140		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	56		20 - 154

Lab Sample ID: LCSD 570-201449/5-A
Matrix: Water
Analysis Batch: 201459

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 201449

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016			0.133	0.143		ug/L		107	50 - 140	3	36
Aroclor 1260			0.133	0.124		ug/L		93	8 - 140	4	38

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	68		20 - 154

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 570-201124/35
Matrix: Water
Analysis Batch: 201124

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.20	0.019	ug/L			12/15/21 22:48	1

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

Lab Sample ID: LCS 570-201124/36 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 201124

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	51.2		ug/L		102	95 - 107

Lab Sample ID: LCSD 570-201124/37 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 201124

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	50.0	51.2		ug/L		102	95 - 107	0	20

Lab Sample ID: 440-293039-G-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 201124

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND		50.0	45.3		ug/L		91	85 - 121

Lab Sample ID: 440-293039-G-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 201124

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND		50.0	46.5		ug/L		93	85 - 121	3	25

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-201165/36 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 201165

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			12/15/21 20:29	1
Nitrate as N	ND		0.10	0.024	mg/L			12/15/21 20:29	1

Lab Sample ID: LCS 570-201165/37 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 201165

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	2.50	2.50		mg/L		100	90 - 110
Nitrate as N	5.00	4.74		mg/L		95	90 - 110

Lab Sample ID: LCSD 570-201165/38 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 201165

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	2.50	2.57		mg/L		103	90 - 110	3	15
Nitrate as N	5.00	4.79		mg/L		96	90 - 110	1	15

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-292913-D-6 MS
Matrix: Water
Analysis Batch: 201165

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N	ND		2.50	2.61		mg/L		104	80 - 120		
Nitrate as N	0.030	J,DX	5.00	4.93		mg/L		98	80 - 120		

Lab Sample ID: 440-292913-D-6 MSD
Matrix: Water
Analysis Batch: 201165

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	ND		2.50	2.68		mg/L		107	80 - 120	3	20
Nitrate as N	0.030	J,DX	5.00	5.01		mg/L		99	80 - 120	2	20

Lab Sample ID: MB 570-201166/36
Matrix: Water
Analysis Batch: 201166

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			12/15/21 20:29	1
Fluoride	ND		0.10	0.046	mg/L			12/15/21 20:29	1
Sulfate	ND		1.0	0.24	mg/L			12/15/21 20:29	1

Lab Sample ID: LCS 570-201166/37
Matrix: Water
Analysis Batch: 201166

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			50.0	48.4		mg/L		97	90 - 110		
Fluoride			2.50	2.71		mg/L		108	90 - 110		
Sulfate			50.0	47.9		mg/L		96	90 - 110		

Lab Sample ID: LCSD 570-201166/38
Matrix: Water
Analysis Batch: 201166

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			50.0	48.6		mg/L		97	90 - 110	0	15
Fluoride			2.50	2.71		mg/L		109	90 - 110	0	15
Sulfate			50.0	47.8		mg/L		96	90 - 110	0	15

Lab Sample ID: 440-292913-D-6 MS
Matrix: Water
Analysis Batch: 201166

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	78		50.0	136	EY	mg/L		116	80 - 120		
Fluoride	0.56		2.50	3.53		mg/L		119	80 - 120		
Sulfate	400	EY	50.0	451	EY BB	mg/L		109	80 - 120		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-292913-D-6 MSD
Matrix: Water
Analysis Batch: 201166

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	78		50.0	137	EY	mg/L		118	80 - 120	1	20
Fluoride	0.56		2.50	3.62	LM	mg/L		122	80 - 120	2	20
Sulfate	400	EY	50.0	451	EY BB	mg/L		110	80 - 120	0	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-663342/6
Matrix: Water
Analysis Batch: 663342

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			12/22/21 05:56	1

Lab Sample ID: LCS 440-663342/5
Matrix: Water
Analysis Batch: 663342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	24.0		ug/L		96	85 - 115

Lab Sample ID: MRL 440-663342/4
Matrix: Water
Analysis Batch: 663342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	2.00	2.09	J,DX	ug/L		105	75 - 125

Lab Sample ID: MRL 440-663342/9
Matrix: Water
Analysis Batch: 663342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.84	J,DX	ug/L		96	75 - 125

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-664133/1-A
Matrix: Water
Analysis Batch: 664169

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664133

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		50	25	ug/L		01/10/22 11:32	01/11/22 06:00	1
Iron	ND		100	50	ug/L		01/10/22 11:32	01/11/22 06:00	1
Nickel	ND		10	5.0	ug/L		01/10/22 11:32	01/11/22 06:00	1
Vanadium	ND		10	2.1	ug/L		01/10/22 11:32	01/11/22 06:00	1
Zinc	ND		20	12	ug/L		01/10/22 11:32	01/11/22 06:00	1
Aluminum	ND		100	50	ug/L		01/10/22 11:32	01/11/22 06:00	1
Chromium	2.80	J,DX	5.0	2.5	ug/L		01/10/22 11:32	01/11/22 06:00	1
Beryllium	ND		2.0	0.44	ug/L		01/10/22 11:32	01/11/22 06:00	1
Arsenic	ND		20	8.9	ug/L		01/10/22 11:32	01/11/22 06:00	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-664133/2-A
Matrix: Water
Analysis Batch: 664169

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664133

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Boron			500	501		ug/L		100	85 - 115		
Iron			500	563		ug/L		113	85 - 115		
Nickel			500	512		ug/L		102	85 - 115		
Vanadium			500	508		ug/L		102	85 - 115		
Zinc			500	521		ug/L		104	85 - 115		
Aluminum			500	505		ug/L		101	85 - 115		
Chromium			500	516		ug/L		103	85 - 115		
Beryllium			500	512		ug/L		102	85 - 115		
Arsenic			500	504		ug/L		101	85 - 115		

Lab Sample ID: 440-293983-A-3-B MS
Matrix: Water
Analysis Batch: 664169

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664133

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Boron	240		500	769		ug/L		106	70 - 130		
Iron	780		500	1310		ug/L		107	70 - 130		
Nickel	ND		500	508		ug/L		102	70 - 130		
Vanadium	6.7	J,DX	500	545		ug/L		108	70 - 130		
Zinc	300		500	816		ug/L		104	70 - 130		
Aluminum	150		500	793		ug/L		128	70 - 130		
Chromium	ND		500	519		ug/L		104	70 - 130		
Beryllium	ND		500	532		ug/L		106	70 - 130		
Arsenic	13	J,DX	500	556		ug/L		108	70 - 130		

Lab Sample ID: 440-293983-A-3-C MSD
Matrix: Water
Analysis Batch: 664169

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664133

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	240		500	755		ug/L		103	70 - 130	2	20
Iron	780		500	1290		ug/L		102	70 - 130	2	20
Nickel	ND		500	498		ug/L		100	70 - 130	2	20
Vanadium	6.7	J,DX	500	536		ug/L		106	70 - 130	2	20
Zinc	300		500	806		ug/L		102	70 - 130	1	20
Aluminum	150		500	781		ug/L		126	70 - 130	1	20
Chromium	ND		500	507		ug/L		101	70 - 130	2	20
Beryllium	ND		500	523		ug/L		105	70 - 130	2	20
Arsenic	13	J,DX	500	543		ug/L		106	70 - 130	2	20

Lab Sample ID: MB 440-663560/1-E
Matrix: Water
Analysis Batch: 663805

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663656

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		50	25	ug/L		12/30/21 13:47	12/30/21 16:38	1
Iron	ND		100	50	ug/L		12/30/21 13:47	12/30/21 16:38	1
Nickel	ND		10	5.0	ug/L		12/30/21 13:47	12/30/21 16:38	1
Vanadium	ND		10	2.1	ug/L		12/30/21 13:47	12/30/21 16:38	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 440-663560/1-E
Matrix: Water
Analysis Batch: 663805

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663656

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	ND		20	12	ug/L		12/30/21 13:47	12/30/21 16:38	1
Aluminum	ND		100	50	ug/L		12/30/21 13:47	12/30/21 16:38	1
Chromium	ND		5.0	2.5	ug/L		12/30/21 13:47	12/30/21 16:38	1
Beryllium	ND		2.0	0.44	ug/L		12/30/21 13:47	12/30/21 16:38	1
Arsenic	ND		20	8.9	ug/L		12/30/21 13:47	12/30/21 16:38	1

Lab Sample ID: LCS 440-663560/2-E
Matrix: Water
Analysis Batch: 663805

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663656

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	500	451		ug/L		90	85 - 115
Iron	500	462		ug/L		92	85 - 115
Nickel	500	469		ug/L		94	85 - 115
Vanadium	500	466		ug/L		93	85 - 115
Zinc	500	468		ug/L		94	85 - 115
Aluminum	500	467		ug/L		93	85 - 115
Chromium	500	470		ug/L		94	85 - 115
Beryllium	500	469		ug/L		94	85 - 115
Arsenic	500	470		ug/L		94	85 - 115

Lab Sample ID: 570-78864-2 MS
Matrix: Water
Analysis Batch: 663805

Client Sample ID: Outfall009_20211215_Comp_F
Prep Type: Dissolved
Prep Batch: 663656

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	55		500	507		ug/L		90	70 - 130
Iron	200		500	653		ug/L		91	70 - 130
Nickel	ND		500	464		ug/L		93	70 - 130
Vanadium	2.4	J,DX	500	468		ug/L		93	70 - 130
Zinc	ND		500	469		ug/L		94	70 - 130
Aluminum	260		500	728		ug/L		94	70 - 130
Chromium	ND		500	471		ug/L		94	70 - 130
Beryllium	ND		500	471		ug/L		94	70 - 130
Arsenic	ND		500	466		ug/L		93	70 - 130

Lab Sample ID: 570-78864-2 MSD
Matrix: Water
Analysis Batch: 663805

Client Sample ID: Outfall009_20211215_Comp_F
Prep Type: Dissolved
Prep Batch: 663656

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	55		500	506		ug/L		90	70 - 130	0	20
Iron	200		500	662		ug/L		93	70 - 130	1	20
Nickel	ND		500	460		ug/L		92	70 - 130	1	20
Vanadium	2.4	J,DX	500	466		ug/L		93	70 - 130	1	20
Zinc	ND		500	466		ug/L		93	70 - 130	1	20
Aluminum	260		500	724		ug/L		93	70 - 130	0	20
Chromium	ND		500	467		ug/L		93	70 - 130	1	20
Beryllium	ND		500	468		ug/L		94	70 - 130	1	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 570-78864-2 MSD **Client Sample ID: Outfall009_20211215_Comp_F**
Matrix: Water **Prep Type: Dissolved**
Analysis Batch: 663805 **Prep Batch: 663656**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	469		ug/L		94	70 - 130	1	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-667013/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total Recoverable**
Analysis Batch: 667027 **Prep Batch: 667013**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		02/14/22 05:13	02/14/22 10:28	1
Cadmium	ND		1.0	0.25	ug/L		02/14/22 05:13	02/14/22 10:28	1
Copper	ND		2.0	0.50	ug/L		02/14/22 05:13	02/14/22 10:28	1
Lead	ND		1.0	0.50	ug/L		02/14/22 05:13	02/14/22 10:28	1
Antimony	ND		2.0	0.50	ug/L		02/14/22 05:13	02/14/22 10:28	1
Selenium	ND		2.0	0.50	ug/L		02/14/22 05:13	02/14/22 10:28	1
Thallium	ND		1.0	0.20	ug/L		02/14/22 05:13	02/14/22 10:28	1

Lab Sample ID: LCS 440-667013/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total Recoverable**
Analysis Batch: 667027 **Prep Batch: 667013**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	80.8		ug/L		101	85 - 115
Cadmium	80.0	81.0		ug/L		101	85 - 115
Copper	80.0	81.8		ug/L		102	85 - 115
Lead	80.0	82.7		ug/L		103	85 - 115
Antimony	80.0	85.4		ug/L		107	85 - 115
Selenium	80.0	78.0		ug/L		98	85 - 115
Thallium	80.0	82.0		ug/L		102	85 - 115

Lab Sample ID: 570-78864-1 MS **Client Sample ID: Outfall009_20211215_Comp**
Matrix: Water **Prep Type: Total Recoverable**
Analysis Batch: 667027 **Prep Batch: 667013**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	84.9		ug/L		106	70 - 130
Cadmium	ND		80.0	85.9		ug/L		107	70 - 130
Copper	6.5		80.0	93.5		ug/L		109	70 - 130
Lead	0.87	J,DX	80.0	88.0		ug/L		109	70 - 130
Antimony	2.2		80.0	93.5		ug/L		114	70 - 130
Selenium	ND		80.0	82.3		ug/L		103	70 - 130
Thallium	ND		80.0	85.9		ug/L		107	70 - 130

Lab Sample ID: 570-78864-1 MSD **Client Sample ID: Outfall009_20211215_Comp**
Matrix: Water **Prep Type: Total Recoverable**
Analysis Batch: 667027 **Prep Batch: 667013**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	84.3		ug/L		105	70 - 130	1	20
Cadmium	ND		80.0	86.5		ug/L		108	70 - 130	1	20

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-78864-1 MSD
Client Sample ID: Outfall009_20211215_Comp
Matrix: Water
Prep Type: Total Recoverable
Analysis Batch: 667027
Prep Batch: 667013

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Copper	6.5		80.0	93.8		ug/L		109	70 - 130	0	20
Lead	0.87	J,DX	80.0	87.8		ug/L		109	70 - 130	0	20
Antimony	2.2		80.0	95.3		ug/L		116	70 - 130	2	20
Selenium	ND		80.0	82.4		ug/L		103	70 - 130	0	20
Thallium	ND		80.0	86.7		ug/L		108	70 - 130	1	20

Lab Sample ID: MB 440-663560/1-B
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 663615
Prep Batch: 663570

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:28	1
Cadmium	ND		1.0	0.25	ug/L		12/29/21 11:03	12/29/21 18:28	1
Copper	ND		2.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:28	1
Lead	ND		1.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:28	1
Antimony	ND		2.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:28	1
Selenium	ND		2.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:28	1
Thallium	ND		1.0	0.20	ug/L		12/29/21 11:03	12/29/21 18:28	1

Lab Sample ID: LCS 440-663560/2-B
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 663615
Prep Batch: 663570

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	76.6		ug/L		96	85 - 115
Cadmium	80.0	74.6		ug/L		93	85 - 115
Copper	80.0	71.0		ug/L		89	85 - 115
Lead	80.0	74.6		ug/L		93	85 - 115
Antimony	80.0	84.7		ug/L		106	85 - 115
Selenium	80.0	77.5		ug/L		97	85 - 115
Thallium	80.0	74.7		ug/L		93	85 - 115

Lab Sample ID: 570-78864-2 MS
Client Sample ID: Outfall009_20211215_Comp_F
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 663615
Prep Batch: 663570

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	76.9		ug/L		96	70 - 130
Cadmium	ND		80.0	75.6		ug/L		95	70 - 130
Copper	5.9		80.0	78.5		ug/L		91	70 - 130
Lead	ND		80.0	75.4		ug/L		94	70 - 130
Antimony	0.81	J,DX	80.0	85.7		ug/L		106	70 - 130
Selenium	ND		80.0	78.9		ug/L		99	70 - 130
Thallium	ND		80.0	74.9		ug/L		94	70 - 130

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-78864-2 MSD — **Client Sample ID: Outfall009_20211215_Comp_F**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 663615 — **Prep Batch: 663570**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	77.6		ug/L		97	70 - 130	1	20
Cadmium	ND		80.0	76.0		ug/L		95	70 - 130	1	20
Copper	5.9		80.0	78.9		ug/L		91	70 - 130	0	20
Lead	ND		80.0	75.5		ug/L		94	70 - 130	0	20
Antimony	0.81	J,DX	80.0	86.5		ug/L		107	70 - 130	1	20
Selenium	ND		80.0	78.5		ug/L		98	70 - 130	1	20
Thallium	ND		80.0	75.8		ug/L		95	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-664059/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664187 — **Prep Batch: 664059**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:10	01/10/22 18:21	1

Lab Sample ID: LCS 440-664059/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664187 — **Prep Batch: 664059**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.00	5.96		ug/L		99	85 - 115

Lab Sample ID: 570-80132-F-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664187 — **Prep Batch: 664059**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		6.00	9.28	LM	ug/L		155	75 - 125

Lab Sample ID: 570-80132-F-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664187 — **Prep Batch: 664059**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		6.00	9.04	LM	ug/L		151	75 - 125	3	20

Lab Sample ID: MB 440-663653/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 664158 — **Prep Batch: 664071**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.127	J,DX	0.20	0.10	ug/L		01/10/22 10:15	01/10/22 15:50	1

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 440-663653/2-B
Matrix: Water
Analysis Batch: 664158

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 664071

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.00	5.49		ug/L		91	85 - 115

Lab Sample ID: LCSD 440-663653/3-B
Matrix: Water
Analysis Batch: 664158

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 664071

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	6.00	5.57		ug/L		93	85 - 115	2	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-662884/1
Matrix: Water
Analysis Batch: 662884

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	5.0	mg/L			12/16/21 15:00	1

Lab Sample ID: LCS 440-662884/2
Matrix: Water
Analysis Batch: 662884

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	950		mg/L		95	90 - 110

Lab Sample ID: 570-78864-1 DU
Matrix: Water
Analysis Batch: 662884

Client Sample ID: Outfall009_20211215_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	100		101		mg/L		1	5

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-663051/1
Matrix: Water
Analysis Batch: 663051

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			12/16/21 12:54	1

Lab Sample ID: LCS 440-663051/2
Matrix: Water
Analysis Batch: 663051

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	1000	941		mg/L		94	85 - 115

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: 570-78818-H-1 DU
Matrix: Water
Analysis Batch: 663051

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	5900			6090		mg/L				4	5

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 570-203070/1-A
Matrix: Water
Analysis Batch: 203060

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 203070

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0030	0.0014	mg/L		12/20/21 20:00	12/20/21 22:39	1

Lab Sample ID: LCS 570-203070/2-A
Matrix: Water
Analysis Batch: 203060

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 203070

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			0.0100	0.0102		mg/L		102	80 - 120		

Lab Sample ID: LCSD 570-203070/3-A
Matrix: Water
Analysis Batch: 203060

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 203070

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total			0.0100	0.0113		mg/L		113	80 - 120	11	20

Lab Sample ID: 440-293034-B-2-A MS
Matrix: Water
Analysis Batch: 203060

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 203070

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total	0.0025	J,DX	0.0100	0.0142	LM	mg/L		117	74 - 115		

Lab Sample ID: 440-293034-B-2-B MSD
Matrix: Water
Analysis Batch: 203060

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 203070

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.0025	J,DX	0.0100	0.0174	LM	mg/L		148	74 - 115	20	20

GC/MS Semi VOA

Prep Batch: 201771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	625	
MB 570-201771/1-A	Method Blank	Total/NA	Water	625	
LCS 570-201771/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-201771/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 202506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	625.1 SIM	201771
MB 570-201771/1-A	Method Blank	Total/NA	Water	625.1 SIM	201771
LCSD 570-201771/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	201771

Analysis Batch: 202769

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-201771/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	201771

GC Semi VOA

Prep Batch: 201449

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	608	
MB 570-201449/1-A	Method Blank	Total/NA	Water	608	
LCS 570-201449/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 570-201449/4-A	Lab Control Sample	Total/NA	Water	608	
LCS 570-201449/6-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-201449/3-A	Lab Control Sample Dup	Total/NA	Water	608	
LCSD 570-201449/5-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 201459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	608.3	201449
MB 570-201449/1-A	Method Blank	Total/NA	Water	608.3	201449
LCS 570-201449/4-A	Lab Control Sample	Total/NA	Water	608.3	201449
LCSD 570-201449/5-A	Lab Control Sample Dup	Total/NA	Water	608.3	201449

Analysis Batch: 201817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	608.3	201449
MB 570-201449/1-A	Method Blank	Total/NA	Water	608.3	201449
LCS 570-201449/2-A	Lab Control Sample	Total/NA	Water	608.3	201449
LCS 570-201449/6-A	Lab Control Sample	Total/NA	Water	608.3	201449
LCSD 570-201449/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	201449

HPLC/IC

Analysis Batch: 201124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	218.6	
MB 570-201124/35	Method Blank	Total/NA	Water	218.6	
LCS 570-201124/36	Lab Control Sample	Total/NA	Water	218.6	
LCSD 570-201124/37	Lab Control Sample Dup	Total/NA	Water	218.6	
440-293039-G-1 MS	Matrix Spike	Total/NA	Water	218.6	
440-293039-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	218.6	

HPLC/IC

Analysis Batch: 201165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	300.0	
MB 570-201165/36	Method Blank	Total/NA	Water	300.0	
LCS 570-201165/37	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-201165/38	Lab Control Sample Dup	Total/NA	Water	300.0	
440-292913-D-6 MS	Matrix Spike	Total/NA	Water	300.0	
440-292913-D-6 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 201166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	300.0	
MB 570-201166/36	Method Blank	Total/NA	Water	300.0	
LCS 570-201166/37	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-201166/38	Lab Control Sample Dup	Total/NA	Water	300.0	
440-292913-D-6 MS	Matrix Spike	Total/NA	Water	300.0	
440-292913-D-6 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 663342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	314.0	
MB 440-663342/6	Method Blank	Total/NA	Water	314.0	
LCS 440-663342/5	Lab Control Sample	Total/NA	Water	314.0	
MRL 440-663342/4	Lab Control Sample	Total/NA	Water	314.0	
MRL 440-663342/9	Lab Control Sample	Total/NA	Water	314.0	

Analysis Batch: 666054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	NO3NO2 Calc	

Metals

Analysis Batch: 663025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total Recoverable	Water	SM 2340B	
570-78864-2	Outfall009_20211215_Comp_F	Dissolved	Water	SM 2340B	

Filtration Batch: 663560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-2	Outfall009_20211215_Comp_F	Dissolved	Water	FILTRATION	
MB 440-663560/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-663560/1-E	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663560/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-663560/2-E	Lab Control Sample	Dissolved	Water	FILTRATION	
570-78864-2 MS	Outfall009_20211215_Comp_F	Dissolved	Water	FILTRATION	
570-78864-2 MSD	Outfall009_20211215_Comp_F	Dissolved	Water	FILTRATION	

Prep Batch: 663570

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-2	Outfall009_20211215_Comp_F	Dissolved	Water	200.2	663560
MB 440-663560/1-B	Method Blank	Dissolved	Water	200.2	663560
LCS 440-663560/2-B	Lab Control Sample	Dissolved	Water	200.2	663560
570-78864-2 MS	Outfall009_20211215_Comp_F	Dissolved	Water	200.2	663560

Metals (Continued)

Prep Batch: 663570 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-2 MSD	Outfall009_20211215_Comp_F	Dissolved	Water	200.2	663560

Analysis Batch: 663615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-2	Outfall009_20211215_Comp_F	Dissolved	Water	200.8	663570
MB 440-663560/1-B	Method Blank	Dissolved	Water	200.8	663570
LCS 440-663560/2-B	Lab Control Sample	Dissolved	Water	200.8	663570
570-78864-2 MS	Outfall009_20211215_Comp_F	Dissolved	Water	200.8	663570
570-78864-2 MSD	Outfall009_20211215_Comp_F	Dissolved	Water	200.8	663570

Filtration Batch: 663653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-2	Outfall009_20211215_Comp_F	Dissolved	Water	FILTRATION	
MB 440-663653/1-B	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663653/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCSD 440-663653/3-B	Lab Control Sample Dup	Dissolved	Water	FILTRATION	

Prep Batch: 663656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-2	Outfall009_20211215_Comp_F	Dissolved	Water	200.2	663560
MB 440-663560/1-E	Method Blank	Dissolved	Water	200.2	663560
LCS 440-663560/2-E	Lab Control Sample	Dissolved	Water	200.2	663560
570-78864-2 MS	Outfall009_20211215_Comp_F	Dissolved	Water	200.2	663560
570-78864-2 MSD	Outfall009_20211215_Comp_F	Dissolved	Water	200.2	663560

Analysis Batch: 663805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-2	Outfall009_20211215_Comp_F	Dissolved	Water	200.7 Rev 4.4	663656
MB 440-663560/1-E	Method Blank	Dissolved	Water	200.7 Rev 4.4	663656
LCS 440-663560/2-E	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	663656
570-78864-2 MS	Outfall009_20211215_Comp_F	Dissolved	Water	200.7 Rev 4.4	663656
570-78864-2 MSD	Outfall009_20211215_Comp_F	Dissolved	Water	200.7 Rev 4.4	663656

Prep Batch: 664059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	245.1	
MB 440-664059/1-A	Method Blank	Total/NA	Water	245.1	
LCS 440-664059/2-A	Lab Control Sample	Total/NA	Water	245.1	
570-80132-F-1-D MS	Matrix Spike	Total/NA	Water	245.1	
570-80132-F-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Prep Batch: 664071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-2	Outfall009_20211215_Comp_F	Dissolved	Water	245.1	663653
MB 440-663653/1-B	Method Blank	Dissolved	Water	245.1	663653
LCS 440-663653/2-B	Lab Control Sample	Dissolved	Water	245.1	663653
LCSD 440-663653/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	663653

Prep Batch: 664133

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total Recoverable	Water	200.2	

Metals (Continued)

Prep Batch: 664133 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-664133/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664133/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
440-293983-A-3-B MS	Matrix Spike	Total Recoverable	Water	200.2	
440-293983-A-3-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Prep Batch: 664156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total Recoverable	Water	200.2	

Analysis Batch: 664158

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-2	Outfall009_20211215_Comp_F	Dissolved	Water	245.1	664071
MB 440-663653/1-B	Method Blank	Dissolved	Water	245.1	664071
LCS 440-663653/2-B	Lab Control Sample	Dissolved	Water	245.1	664071
LCSD 440-663653/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	664071

Analysis Batch: 664169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total Recoverable	Water	200.7 Rev 4.4	664133
MB 440-664133/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	664133
LCS 440-664133/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	664133
440-293983-A-3-B MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	664133
440-293983-A-3-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	664133

Analysis Batch: 664187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	245.1	664059
MB 440-664059/1-A	Method Blank	Total/NA	Water	245.1	664059
LCS 440-664059/2-A	Lab Control Sample	Total/NA	Water	245.1	664059
570-80132-F-1-D MS	Matrix Spike	Total/NA	Water	245.1	664059
570-80132-F-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	664059

Analysis Batch: 664217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total Recoverable	Water	200.8	664156

Prep Batch: 667013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total Recoverable	Water	200.2	
MB 440-667013/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-667013/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-78864-1 MS	Outfall009_20211215_Comp	Total Recoverable	Water	200.2	
570-78864-1 MSD	Outfall009_20211215_Comp	Total Recoverable	Water	200.2	

Analysis Batch: 667027

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total Recoverable	Water	200.8	667013
MB 440-667013/1-A	Method Blank	Total Recoverable	Water	200.8	667013
LCS 440-667013/2-A	Lab Control Sample	Total Recoverable	Water	200.8	667013
570-78864-1 MS	Outfall009_20211215_Comp	Total Recoverable	Water	200.8	667013
570-78864-1 MSD	Outfall009_20211215_Comp	Total Recoverable	Water	200.8	667013

General Chemistry

Analysis Batch: 203060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	SM 4500 CN E	203070
MB 570-203070/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	203070
LCS 570-203070/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	203070
LCSD 570-203070/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	203070
440-293034-B-2-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	203070
440-293034-B-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	203070

Prep Batch: 203070

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	SM 4500 CN C	
MB 570-203070/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-203070/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-203070/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
440-293034-B-2-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN C	
440-293034-B-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN C	

Analysis Batch: 207078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	218.6 CR3	

Analysis Batch: 662884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	SM 2540C	
MB 440-662884/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-662884/2	Lab Control Sample	Total/NA	Water	SM 2540C	
570-78864-1 DU	Outfall009_20211215_Comp	Total/NA	Water	SM 2540C	

Analysis Batch: 663051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	SM 2540D	
MB 440-663051/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-663051/2	Lab Control Sample	Total/NA	Water	SM 2540D	
570-78818-H-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20211215_Comp
Lab Sample ID: 570-78864-1
Date Collected: 12/15/21 11:30
Matrix: Water
Date Received: 12/15/21 17:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			945.8 mL	2 mL	201771	12/17/21 07:56	OAJ3	ECL 1
Total/NA	Analysis	625.1 SIM		1			202506	12/20/21 19:39	ULLI	ECL 1
	Instrument ID:	GCMSJJJ								
Total/NA	Prep	608			1500 mL	1 mL	201449	12/16/21 08:39	OAJ3	ECL 1
Total/NA	Analysis	608.3		1			201459	12/17/21 10:56	UHHN	ECL 1
	Instrument ID:	GC31								
Total/NA	Prep	608			1500 mL	1 mL	201449	12/16/21 08:39	OAJ3	ECL 1
Total/NA	Analysis	608.3		1			201817	12/17/21 18:19	UHHN	ECL 1
	Instrument ID:	GC51								
Total/NA	Analysis	218.6		2			201124	12/16/21 01:48	URMH	ECL 1
	Instrument ID:	IC16								
Total/NA	Analysis	300.0		1			201165	12/16/21 03:48	URMH	ECL 1
	Instrument ID:	IC10								
Total/NA	Analysis	300.0		1			201166	12/16/21 03:48	URMH	ECL 1
	Instrument ID:	IC10								
Total/NA	Analysis	314.0		1			663342	12/22/21 07:26	YO8L	IRV 2
	Instrument ID:	IC-25								
Total/NA	Analysis	NO3NO2 Calc		1			666054	02/01/22 12:09	PN8W	IRV 2
	Instrument ID:	NOEQUIP								
Total Recoverable	Prep	200.2			25 mL	25 mL	664133	01/10/22 11:54	LZY7	IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664169	01/11/22 07:05	P1R	IRV 2
	Instrument ID:	ICP8								
Total Recoverable	Prep	200.2			25 mL	25 mL	667013	02/14/22 05:13		IRV 2
Total Recoverable	Analysis	200.8		1			667027	02/14/22 10:32	Y2WS	IRV 2
	Instrument ID:	ICPMS5								
Total Recoverable	Prep	200.2			25 mL	25 mL	664156	01/10/22 16:20	LZY7	IRV 2
Total Recoverable	Analysis	200.8		1			664217	01/11/22 12:30	Y2WS	IRV 2
	Instrument ID:	ICPMS6								
Total/NA	Prep	245.1			20 mL	30 mL	664059	01/10/22 10:10	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664187	01/10/22 19:16	C0YH	IRV 2
	Instrument ID:	CV-HG4								
Total Recoverable	Analysis	SM 2340B		1			663025	01/12/22 17:56	P1R	IRV 1
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	218.6 CR3		1			207078	01/12/22 16:06	URMH	ECL 1
	Instrument ID:	IC16								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	662884	12/16/21 15:00	VY3D	IRV 1
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	663051	12/16/21 14:31	ZL7L	IRV 1
	Instrument ID:	NOEQUIP								
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	203070	12/20/21 20:00	CY2M	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	5.0 mL	5.0 mL	203060	12/20/21 22:50	UAPD	ECL 1
	Instrument ID:	UV8								

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20211215_Comp_F
Lab Sample ID: 570-78864-2

Date Collected: 12/15/21 11:30
Matrix: Water
Date Received: 12/15/21 17:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			200 mL	200 mL	663560	12/29/21 09:25	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663656	12/30/21 13:47	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			663805	12/30/21 16:44	P1R	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			200 mL	200 mL	663560	12/29/21 09:25	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663570	12/29/21 11:03	LZY7	IRV 2
Dissolved	Analysis	200.8		1			663615	12/29/21 18:32	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	FILTRATION			40 mL	40 mL	663653	12/30/21 13:27	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664071	01/10/22 10:15	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664158	01/10/22 15:56	C0YH	IRV 2
	Instrument ID: CV-HG5									
Dissolved	Analysis	SM 2340B		1			663025	01/12/22 17:51	P1R	IRV 1
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

IRV 1 = Eurofins Calscience Tustin Irvine, 17461 Derian Ave, Irvine, CA 92614, TEL (949)261-1022

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
314.0		Water	Perchlorate

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method	Method Description	Protocol	Laboratory
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	40CFR136A	ECL 1
608.3	Organochlorine Pesticides in Water	40CFR136A	ECL 1
608.3	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	ECL 1
218.6	Chromium, Hexavalent (Ion Chromatography)	EPA	ECL 1
300.0	Anions, Ion Chromatography	MCAWW	ECL 1
314.0	Perchlorate (IC)	EPA	IRV 2
NO3NO2 Calc	Nitrogen, Nitrate-Nitrite	EPA	IRV 2
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	IRV 2
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	IRV 1
218.6 CR3	Chromium, Trivalent (Calculation)	EPA	ECL 1
SM 2540C	Solids, Total Dissolved (TDS)	SM	IRV 1
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 1
SM 4500 CN E	Cyanide, Total (Low Level)	SM	ECL 1
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	IRV 2
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	ECL 1
625	Liquid-Liquid Extraction	40CFR136A	ECL 1
FILTRATION	Sample Filtration	None	IRV 2
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
IRV 1 = Eurofins Calscience Tustin Irvine, 17461 Derian Ave, Irvine, CA 92614, TEL (949)261-1022
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-78864-1	Outfall009_20211215_Comp	Water	12/15/21 11:30	12/15/21 17:20
570-78864-2	Outfall009_20211215_Comp_F	Water	12/15/21 11:30	12/15/21 17:20

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-78864 COC

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [003-007 009, 010] Outfall 009 Comp
Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)
Sampler:	

ANALYSIS REQUIRED

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): Al, B, Fe, Ni, V Zn, Hardness as CaCO3 Add 200.7 As and Be (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl (R/A)	TCDD (and all congeners) (E1613B) (R)	Cl-, F-, SO4, NO3+NO2-N, Perchlorate (E300) (R/A)	TDS (SM2540C/E160.1) (R)	TSS (160.2 (SM2540D)) (A)	Total Dissolved Metals (E200.7): Al, B, Fe, Ni, V Zn, Hardness as CaCO3 Add 200.7 As and Be (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl (R/A)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1) (R)	Chronic Toxicity Selenastrum (EPA-821-R-02-013) ABC Labs emti ra CA (R)	Cyanide (SM4500-CN-E / E335.2) (A)	Priority Pollutants-Pesticides+PCBs (E608) (A)	Total Recoverable Metals: Mercury (E245.1) (R)	Total Dissolved Metals: Mercury (E245.1) (R)		Comments
Outfall 009	Outfall009_20211215_Comp	12/15/2021 1130	WM	500 mL Poly	1	HNO_3	85	No	X										X			
			WM	1 L Glass Amber	2	None	110	No		X												
			WM	500 mL Poly	2	None	135	No			X											48 hours Holding Time NO3 & NO2
			WM	500 mL Poly	1	None	155	No				X										
			WM	1 L Poly	1	None	185	No					X									
			WM	500 mL Poly	1	NaOH	220	No									X					
			WM	1 L Poly	6	HNO3	325	No							X							Separate RAD onto another workorder Analyze duplicate, not MS/MSD
			WM	1 Gal Cube	6	None	235	No								X						Only test if first or second rain events of the year Deliver to ARC Labs in Ventura, CA
			WM	1 L Glass Amber	2	None	250	No											X			
	Outfall009_20211215_Comp_F	12/15/2021 1130	WM	1 L Poly	1	None	195	No						X								Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No													X	Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall009_20211215_Comp_Extra	12/15/2021 1130	WM	1 L Glass Amber	2	None	110	No		H												Hold
			WM	500 mL Poly	2	None	135	No			H											Hold
			WM	1 L Glass Amber	2	None	250	No											H			Hold

COC Revised on 1/28/2022 at 1:30pm by Michelle Dallalah (H&A).

Legend A = Annual, R = Routine.

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
[illegible]	12-15-21/1510	M;A	[illegible]	12/15/21	1510
Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
[illegible]	12/15/21 1920	ECI	[illegible]	12/15/21	1720
Relinquished By	Date/Time:	Company:	Received By	Date/Time:	

Turn-around time: (Check)
24 Hour: ____ 72 Hour: ____ 10 Day: ___X___
48 Hour: ____ 5 Day: ____ Normal: ____

Sample Integrity: (Check)
Intact: ____ On Ice: ____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: ____ All Level IV: ___X___

*Hand-delivered seperately by H:A

2.0/2.9, 2.6/3.5 SCG

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-78864 COC

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [003-007 009, 010] Outfall 009 Comp
Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)
Sampler:	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): Al, B, Fe, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	Cl-, F-, SO4, NO3+NO2-N, Perchlorate (E300)	TDS (SM2540C/E160.1)	TSS (160.2 (SM2540D))	Total Dissolved Metals (E200.7): Al, B, Fe, Ni, V Zn, Hardness as CaCO3 (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)	Chronic Toxicity Selenastrum (EPA-821-R-02-013) ABC Labs emti ra CA	Cyanide (SM4500-CN-E / E335.2)	Priority Pollutants-Pesticides+PCBs (E608)	Total Recoverable Metals: Mercury (E245.1)	Total Dissolved Metals: Mercury (E245.1)		Comments
									R/A	R	R/A	R	A	R/A			A	A	R	R		
Outfall 009	Outfall009_20211215_Comp	12/15/2021 1130	WM	500 mL Poly	1	HNO_3	85	No	X											X			
			WM	1 L Glass Amber	2	None	110	No		X													
			WM	500 mL Poly	2	None	135	No			X												48 hours Holding Time NO3 & NO2
			WM	500 mL Poly	1	None	155	No				X											
			WM	1 L Poly	1	None	185	No					X										
			WM	500 mL Poly	1	NaOH	220	No										X					
			WM	1 L Poly	6	HNO3	325	No							X								Separate RAD onto another workorder Analyze duplicate, not MS/MSD
			WM	1 Gal Cube	6	None	235	No								X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	1 L Glass Amber	2	None	250	No											X				
	Outfall009_20211215_Comp_F	12/15/2021 1130	WM	1 L Poly	1	None	195	No						X									Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No													X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall009_20211215_Comp_Extra	12/15/2021 1130	WM	1 L Glass Amber	2	None	110	No		H													Hold
			WM	500 mL Poly	2	None	135	No			H												Hold
			WM	1 L Glass Amber	2	None	250	No											H				Hold

Legend A = Annual, R = Routine.

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12.15.21/1510 M;A		[signature]	12/15/21 1510
[signature]	12/15/21 1920	ECI	[signature]	12/15/21 1720
Relinquished By	Date/Time:	Company:	Received By	Date/Time:

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements: (Check)
No Level IV: _____ All Level IV: ___X___

* Hand-delivered seperately by H;A

2.0/2.9, 2.6/3.5 SCG

CHAIN OF CUSTODY FORM

Client Name/Address.	Project:	Project Manager: Katherine Miller
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Annual Outfall [003-007, 009, 010] Outfall 009 Comp	520.289.8606, 520.904.6944 (cell)
Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218		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:		

									ANALYSIS REQUIRED																	
									A	A	A	A	A													
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Priority Pollutants-SVOCs (E625)	Asbestos (EPA100.2) OF009 only	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Cr (VI), Total (E218.6)	LL Mercury total recoverable + dissolved(E1631)													Comments
Outfall 009	Outfall009_20211215_Comp	12/15/2021 1130	WM	1 L Glass Amber	2	None	175	No	X																	
			WM	1L Poly	1	None	270	No		X																Only at Outfall 009
			WM	1 L Glass Amber	2	None	275	No			X															extract within 24-Hours of sampling.
			WM	500 mL Poly	1	None	260	No				X														
	Outfall009_20211215_Comp	12/15/2021 1130	WM	250 Glass	1	HCl	330	No					X													
	Outfall009_20211215_Comp_Extra	12/15/2021 1130	WM	1 L Glass Amber	2	None	175	No	H																	Hold
			WM	1 L Glass Amber	2	None	275	No			H															Hold

Legend: A = Annual

Relinquished By	Date/Time:	Company	Received By	Date/Time:
	12.15.21/1510	H&A		12/15/21 1510
Relinquished By	Date/Time:	Company	Received By	Date/Time:
	12/15/21 1720	ECI		12/15/21 17:20
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 LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-145790 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78864-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 12/29/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfalls	SSOW#:			
Site				

Analysis Requested

Preservation Codes

A - HCL	M Hexane		
B - NaOH	N None		
C - Zn Acetate	O AsNaO2		
D - Nitric Acid	P Na2O4S		
E - NaHSO4	Q Na2SO3		
F - MeOH	R Na2S2O3		
G - Amchlor	S H2SO4		
H - Ascorbic Acid	T TSP Dodecahydrate		
I - Ice	U Acetone		
J - DI Water	V MCAA		
K - EDTA	W pH 4-5		
L - EDA	Z other (specify)		

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11 30 Pacific		Water			X	X	X	X	X	X	X	6	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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Relinquished by:	Date/Time: 12/16/21 1509	Company	Received by:	Date/Time:	Company
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-145795 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: EMSL Analytical Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78864-2
Address: 520 Mission Street,	Due Date Requested: 1/10/2022			
City: South Pasadena	TAT Requested (days):			
State Zip: CA, 91030				
Phone:	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: ~~44024446~~ 570-78864			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M Hexane
N None
O - AsNaO2
P - Na2O4S
Q Na2SO3
R - Na2S2O3
S - H2SO4
T TSP Dodecahydrate
U Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Asbestos 100.2)/ Asbestos 100.2	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11 30 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
VP Patel	12/16/21 1529				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-145800 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Frontier Global Sciences LLC		Accreditations Required (See note): State Program - California		Job #: 570-78864-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/10/2022			
City: Tacoma	TAT Requested (days)			
State, Zip: WA, 98424				
Phone	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: ~~44024446~~ 570-78864			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11 30 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	12/16/21 1555				
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-145828 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78864-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/5/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11 30 Pacific		Water			X	2	See QAS, Boeing_w/u to zero. Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/16/21 1717				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-145790.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78864-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 12/29/2021			
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 Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	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_20211215_Comp (570-78864-1)	12/15/21	11:30 Pacific		Water			X	X	X	X	X	X	X	6	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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	FED EX	12/16/21 1509		FED EX		
2	FED EX				DEC 1 2021 0940	ETA STL
3				Autumn R. Johnson		

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-146870 1
Client Contact: Shipping/Receiving	Phone	E Mail: Virendra Patel@eurofinset com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-78864-1
Address: 2841 Dow Avenue	Due Date Requested: 12/29/2021			
City: Tustin	TAT Requested (days):			
State, Zip: CA 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 (MOD) 200.7 Outfall 007/002/011 Totals +	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	245.1/245.1_Prep Mercury	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	200.8/200.2 (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Least Method	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	314.0/ Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:														
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11 30 Pacific		Water			X	X	X	X	X	X	X	X	X	1	, use VOA vials from LL Hg Kit-Clean Hands procedure , Filter within 24 hours,

Note. Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/21/21	ECI	Jenny Magaña	12/21/21 1150	ECI
2	Jenny Magaña	12/21/21 12 32	ECI	Nicole McCloff	12/21/21 1233	ECI
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-145753 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program California		Job #: 570-78864-1
Address: 17461 Derian Ave, Suite 100	Due Date Requested: 12/29/2021			
City: Irvine	TAT Requested (days):			
State, Zip: CA 92614-5817				
Phone: 949-261 1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 (MOD) 200.7 Outfall 001/002/011 Totals L	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	245.1/245.1_Prep Mercury	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	314.0/ Perchlorate	200.7/FILTRATION (MOD) 200.7 Outfall 001/002/011 Diss Lis	245.1/FILTRATION Diss Mercury				Total Number of containers	Special Instructions/Note.
			Preservation Code:																		
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11.30 Pacific		Water			X	X	X	X	X	X	X	X							2	use VOA vials from LL Hg Kit-Clean Hands procedure , Filter within 24 hours,
Outfall009_20211215_Comp_F (570-78864-2)	12/15/21	11 30 Pacific		Water											X	X					1	Filter w/in 24 hours, use VOA vials from LL Hg Kit-Clean Hands procedure.Filter within

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested: I II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time: 12/16/21 1340	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 12/16/21 1340	Company EC IRV

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: IR 89 35/35

Ver: 06/08/20_1

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-78864-1

Login Number: 78864
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: 570-78864-1

Login Number: 78864
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 12/16/21 02:03 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-78864-2
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/9/2022 9:02:05 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Client Sample Results 6
Surrogate Summary 8
Isotope Dilution Summary 9
QC Sample Results 11
QC Association Summary 15
Lab Chronicle 16
Certification Summary 17
Method Summary 18
Sample Summary 19
Chain of Custody 20
Receipt Checklists 27

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-78864-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-78864-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Job ID: 570-78864-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-78864-2

Comments
No additional comments.

Receipt
The samples were received on 12/15/2021 5:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice.

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_20211215_Comp (570-78864-1), (CCV 320-555655/1), (LCS 320-554373/2-A), (LCSD 320-554373/3-A) and (MB 320-554373/1-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.

Metals
The reference method requires samples to be preserved to a pH of <2. The following samples were received with insufficient preservation at a pH of >2: Outfall009_20211215_Comp (570-78864-1) and LXBMP001_20211224 (570-80272-1). The sample was preserved to the appropriate pH in the laboratory.

01/07/22 @ 08:36 hours
1.0 mL 1:1 HNO3
1:1 HNO3 # 6803471

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: 570-78864-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20211215_Comp
Lab Sample ID: 570-78864-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,4,7,8-PeCDF	0.0000011	J,DX q	0.000052	0.00000039	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000031	J,DX q MB	0.000052	0.00000043	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000019	J,DX	0.000052	0.00000043	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000026	J,DX	0.000052	0.00000040	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000019	J,DX	0.000052	0.00000038	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000015	J,DX q	0.000052	0.00000038	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000024	J,DX MB	0.000052	0.00000036	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000016	J,DX MB	0.000052	0.00000036	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000014	J,DX MB	0.000052	0.00000038	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000044	J,DX q MB	0.000052	0.00000046	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000012	J,DX q	0.000052	0.00000045	ug/L	1		1613B	Total/NA
OCDD	0.000099	J,DX MB	0.00010	0.00000082	ug/L	1		1613B	Total/NA
OCDF	0.0000096	J,DX q MB	0.00010	0.00000062	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000011	J,DX q	0.000052	0.00000038	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000093	J,DX q MB	0.000052	0.00000040	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000075	J,DX q	0.000052	0.00000036	ug/L	1		1613B	Total/NA
Total HpCDD	0.000026	J,DX MB	0.000052	0.00000038	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000082	J,DX q MB	0.000052	0.00000045	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall009_20211215_Comp **Lab Sample ID: 570-78864-1**
Date Collected: 12/15/21 11:30 **Matrix: Water**
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000092	ug/L		12/28/21 10:26	01/03/22 18:53	1
2,3,7,8-TCDF	ND		0.000010	0.00000038	ug/L		12/28/21 10:26	01/03/22 18:53	1
1,2,3,7,8-PeCDD	ND		0.000052	0.00000058	ug/L		12/28/21 10:26	01/03/22 18:53	1
1,2,3,7,8-PeCDF	ND		0.000052	0.00000038	ug/L		12/28/21 10:26	01/03/22 18:53	1
2,3,4,7,8-PeCDF	**0.0000011**	**J,DX q**	0.000052	0.00000039	ug/L		12/28/21 10:26	01/03/22 18:53	1
1,2,3,4,7,8-HxCDD	**0.0000031**	**J,DX q MB**	0.000052	0.00000043	ug/L		12/28/21 10:26	01/03/22 18:53	1
1,2,3,6,7,8-HxCDD	**0.0000019**	**J,DX**	0.000052	0.00000043	ug/L		12/28/21 10:26	01/03/22 18:53	1
1,2,3,7,8,9-HxCDD	**0.0000026**	**J,DX**	0.000052	0.00000040	ug/L		12/28/21 10:26	01/03/22 18:53	1
1,2,3,4,7,8-HxCDF	**0.0000019**	**J,DX**	0.000052	0.00000038	ug/L		12/28/21 10:26	01/03/22 18:53	1
1,2,3,6,7,8-HxCDF	**0.0000015**	**J,DX q**	0.000052	0.00000038	ug/L		12/28/21 10:26	01/03/22 18:53	1
1,2,3,7,8,9-HxCDF	**0.0000024**	**J,DX MB**	0.000052	0.00000036	ug/L		12/28/21 10:26	01/03/22 18:53	1
2,3,4,6,7,8-HxCDF	**0.0000016**	**J,DX MB**	0.000052	0.00000036	ug/L		12/28/21 10:26	01/03/22 18:53	1
1,2,3,4,6,7,8-HpCDD	**0.000014**	**J,DX MB**	0.000052	0.00000038	ug/L		12/28/21 10:26	01/03/22 18:53	1
1,2,3,4,6,7,8-HpCDF	**0.0000044**	**J,DX q MB**	0.000052	0.00000046	ug/L		12/28/21 10:26	01/03/22 18:53	1
1,2,3,4,7,8,9-HpCDF	**0.0000012**	**J,DX q**	0.000052	0.00000045	ug/L		12/28/21 10:26	01/03/22 18:53	1
OCDD	**0.000099**	**J,DX MB**	0.00010	0.00000082	ug/L		12/28/21 10:26	01/03/22 18:53	1
OCDF	**0.0000096**	**J,DX q MB**	0.00010	0.00000062	ug/L		12/28/21 10:26	01/03/22 18:53	1
Total TCDD	ND		0.000010	0.00000092	ug/L		12/28/21 10:26	01/03/22 18:53	1
Total TCDF	ND		0.000010	0.00000038	ug/L		12/28/21 10:26	01/03/22 18:53	1
Total PeCDD	ND		0.000052	0.00000058	ug/L		12/28/21 10:26	01/03/22 18:53	1
Total PeCDF	**0.0000011**	**J,DX q**	0.000052	0.00000038	ug/L		12/28/21 10:26	01/03/22 18:53	1
Total HxCDD	**0.0000093**	**J,DX q MB**	0.000052	0.00000040	ug/L		12/28/21 10:26	01/03/22 18:53	1
Total HxCDF	**0.0000075**	**J,DX q**	0.000052	0.00000036	ug/L		12/28/21 10:26	01/03/22 18:53	1
Total HpCDD	**0.000026**	**J,DX MB**	0.000052	0.00000038	ug/L		12/28/21 10:26	01/03/22 18:53	1
Total HpCDF	**0.0000082**	**J,DX q MB**	0.000052	0.00000045	ug/L		12/28/21 10:26	01/03/22 18:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*79*		*25 - 164*	*12/28/21 10:26*	*01/03/22 18:53*	*1*
13C-2,3,7,8-TCDF	*86*		*24 - 169*	*12/28/21 10:26*	*01/03/22 18:53*	*1*
13C-1,2,3,7,8-PeCDD	*75*		*25 - 181*	*12/28/21 10:26*	*01/03/22 18:53*	*1*
13C-1,2,3,7,8-PeCDF	*82*		*24 - 185*	*12/28/21 10:26*	*01/03/22 18:53*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall009_20211215_Comp **Lab Sample ID: 570-78864-1**
Date Collected: 12/15/21 11:30 **Matrix: Water**
Date Received: 12/15/21 17:20

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	89		21 - 178	12/28/21 10:26	01/03/22 18:53	1
13C-1,2,3,4,7,8-HxCDD	85		32 - 141	12/28/21 10:26	01/03/22 18:53	1
13C-1,2,3,6,7,8-HxCDD	92		28 - 130	12/28/21 10:26	01/03/22 18:53	1
13C-1,2,3,4,7,8-HxCDF	90		26 - 152	12/28/21 10:26	01/03/22 18:53	1
13C-1,2,3,6,7,8-HxCDF	95		26 - 123	12/28/21 10:26	01/03/22 18:53	1
13C-1,2,3,7,8,9-HxCDF	96		29 - 147	12/28/21 10:26	01/03/22 18:53	1
13C-2,3,4,6,7,8-HxCDF	95		28 - 136	12/28/21 10:26	01/03/22 18:53	1
13C-1,2,3,4,6,7,8-HpCDD	82		23 - 140	12/28/21 10:26	01/03/22 18:53	1
13C-1,2,3,4,6,7,8-HpCDF	87		28 - 143	12/28/21 10:26	01/03/22 18:53	1
13C-1,2,3,4,7,8,9-HpCDF	97		26 - 138	12/28/21 10:26	01/03/22 18:53	1
13C-OCDD	93		17 - 157	12/28/21 10:26	01/03/22 18:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	88		35 - 197	12/28/21 10:26	01/03/22 18:53	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	37TCDD (35-197)								
570-78864-1	Outfall009_20211215_Comp	88								
MB 320-554373/1-A	Method Blank	87								

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 320-554373/2-A	Lab Control Sample	88								
LCSD 320-554373/3-A	Lab Control Sample Dup	84								

Surrogate Legend
37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc. Job ID: 570-78864-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-78864-1	Outfall009_20211215_Comp	79	86	75	82	89	85	92	90
MB 320-554373/1-A	Method Blank	63	68	62	65	75	74	83	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)
570-78864-1	Outfall009_20211215_Comp	95	96	95	82	87	97	93
MB 320-554373/1-A	Method Blank	86	86	89	73	78	87	79

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-554373/2-A	Lab Control Sample	69	76	66	70	79	78	83	80
LCSD 320-554373/3-A	Lab Control Sample Dup	70	77	67	71	79	78	83	81

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-554373/2-A	Lab Control Sample	86	88	87	71	77	86	79
LCSD 320-554373/3-A	Lab Control Sample Dup	85	87	87	73	78	89	81

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

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-554373/1-A
Matrix: Water
Analysis Batch: 555655

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 554373

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000012	ug/L		12/28/21 10:26	01/03/22 16:30	1
2,3,7,8-TCDF	ND		0.000010	0.00000040	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000080	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000052	ug/L		12/28/21 10:26	01/03/22 16:30	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000050	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,4,7,8-HxCDD	0.00000320	J,DX	0.000050	0.00000047	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.00000048	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.00000044	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.00000033	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.00000034	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,7,8,9-HxCDF	0.000000939	J,DX	0.000050	0.00000032	ug/L		12/28/21 10:26	01/03/22 16:30	1
2,3,4,6,7,8-HxCDF	0.000000570	J,DX	0.000050	0.00000029	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,4,6,7,8-HpCDD	0.00000293	J,DX	0.000050	0.00000023	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,4,6,7,8-HpCDF	0.00000160	J,DX	0.000050	0.00000043	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.00000044	ug/L		12/28/21 10:26	01/03/22 16:30	1
OCDD	0.00000683	J,DX	0.00010	0.00000038	ug/L		12/28/21 10:26	01/03/22 16:30	1
OCDF	0.00000233	J,DX	0.00010	0.00000080	ug/L		12/28/21 10:26	01/03/22 16:30	1
Total TCDD	0.00000534	J,DX	0.000010	0.0000012	ug/L		12/28/21 10:26	01/03/22 16:30	1
Total TCDF	ND		0.000010	0.00000040	ug/L		12/28/21 10:26	01/03/22 16:30	1
Total PeCDD	ND		0.000050	0.00000080	ug/L		12/28/21 10:26	01/03/22 16:30	1
Total PeCDF	ND		0.000050	0.00000050	ug/L		12/28/21 10:26	01/03/22 16:30	1
Total HxCDD	0.00000320	J,DX	0.000050	0.00000044	ug/L		12/28/21 10:26	01/03/22 16:30	1
Total HxCDF	0.00000151	J,DX	0.000050	0.00000029	ug/L		12/28/21 10:26	01/03/22 16:30	1
Total HpCDD	0.00000565	J,DX	0.000050	0.00000023	ug/L		12/28/21 10:26	01/03/22 16:30	1
Total HpCDF	0.00000160	J,DX	0.000050	0.00000043	ug/L		12/28/21 10:26	01/03/22 16:30	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*63*		*25 - 164*	*12/28/21 10:26*	*01/03/22 16:30*	*1*
13C-2,3,7,8-TCDF	*68*		*24 - 169*	*12/28/21 10:26*	*01/03/22 16:30*	*1*
13C-1,2,3,7,8-PeCDD	*62*		*25 - 181*	*12/28/21 10:26*	*01/03/22 16:30*	*1*
13C-1,2,3,7,8-PeCDF	*65*		*24 - 185*	*12/28/21 10:26*	*01/03/22 16:30*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-554373/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 555655 **Prep Batch: 554373**

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	75		21 - 178	12/28/21 10:26	01/03/22 16:30	1
13C-1,2,3,4,7,8-HxCDD	74		32 - 141	12/28/21 10:26	01/03/22 16:30	1
13C-1,2,3,6,7,8-HxCDD	83		28 - 130	12/28/21 10:26	01/03/22 16:30	1
13C-1,2,3,4,7,8-HxCDF	80		26 - 152	12/28/21 10:26	01/03/22 16:30	1
13C-1,2,3,6,7,8-HxCDF	86		26 - 123	12/28/21 10:26	01/03/22 16:30	1
13C-1,2,3,7,8,9-HxCDF	86		29 - 147	12/28/21 10:26	01/03/22 16:30	1
13C-2,3,4,6,7,8-HxCDF	89		28 - 136	12/28/21 10:26	01/03/22 16:30	1
13C-1,2,3,4,6,7,8-HpCDD	73		23 - 140	12/28/21 10:26	01/03/22 16:30	1
13C-1,2,3,4,6,7,8-HpCDF	78		28 - 143	12/28/21 10:26	01/03/22 16:30	1
13C-1,2,3,4,7,8,9-HpCDF	87		26 - 138	12/28/21 10:26	01/03/22 16:30	1
13C-OCDD	79		17 - 157	12/28/21 10:26	01/03/22 16:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	87		35 - 197	12/28/21 10:26	01/03/22 16:30	1

Lab Sample ID: LCS 320-554373/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 555655 **Prep Batch: 554373**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000224		ug/L		112	67 - 158
2,3,7,8-TCDF	0.000200	0.000235		ug/L		117	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.00116		ug/L		116	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.00118		ug/L		118	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	0.00106		ug/L		106	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.00115		ug/L		115	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.00109		ug/L		109	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.00104		ug/L		104	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.00116		ug/L		116	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.00116		ug/L		116	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.00121		ug/L		121	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.00110		ug/L		110	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.00108		ug/L		108	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000981		ug/L		98	78 - 138
OCDD	0.00200	0.00209		ug/L		104	78 - 144
OCDF	0.00200	0.00231		ug/L		116	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	69		20 - 175
13C-2,3,7,8-TCDF	76		22 - 152
13C-1,2,3,7,8-PeCDD	66		21 - 227
13C-1,2,3,7,8-PeCDF	70		21 - 192
13C-2,3,4,7,8-PeCDF	79		13 - 328
13C-1,2,3,4,7,8-HxCDD	78		21 - 193
13C-1,2,3,6,7,8-HxCDD	83		25 - 163
13C-1,2,3,4,7,8-HxCDF	80		19 - 202
13C-1,2,3,6,7,8-HxCDF	86		21 - 159

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-554373/2-A
Matrix: Water
Analysis Batch: 555655

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 554373

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,7,8,9-HxCDF	88		17 - 205
13C-2,3,4,6,7,8-HxCDF	87		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	71		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	77		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	86		20 - 186
13C-OCDD	79		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	88		31 - 191

Lab Sample ID: LCSD 320-554373/3-A
Matrix: Water
Analysis Batch: 555655

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 554373

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000223		ug/L		112	67 - 158	0	50
2,3,7,8-TCDF			0.000200	0.000230		ug/L		115	75 - 158	2	50
1,2,3,7,8-PeCDD			0.00100	0.00113		ug/L		113	70 - 142	3	50
1,2,3,7,8-PeCDF			0.00100	0.00116		ug/L		116	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	0.00106		ug/L		106	70 - 164	0	50
1,2,3,6,7,8-HxCDD			0.00100	0.00113		ug/L		113	76 - 134	2	50
1,2,3,7,8,9-HxCDD			0.00100	0.00107		ug/L		107	64 - 162	1	50
1,2,3,4,7,8-HxCDF			0.00100	0.00103		ug/L		103	72 - 134	0	50
1,2,3,6,7,8-HxCDF			0.00100	0.00120		ug/L		120	84 - 130	3	50
1,2,3,7,8,9-HxCDF			0.00100	0.00116		ug/L		116	78 - 130	0	50
2,3,4,6,7,8-HxCDF			0.00100	0.00123		ug/L		123	70 - 156	2	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.00109		ug/L		109	70 - 140	1	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.00110		ug/L		110	82 - 122	1	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000988		ug/L		99	78 - 138	1	50
OCDD			0.00200	0.00222		ug/L		111	78 - 144	6	50
OCDF			0.00200	0.00241		ug/L		120	63 - 170	4	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	70		20 - 175
13C-2,3,7,8-TCDF	77		22 - 152
13C-1,2,3,7,8-PeCDD	67		21 - 227
13C-1,2,3,7,8-PeCDF	71		21 - 192
13C-2,3,4,7,8-PeCDF	79		13 - 328
13C-1,2,3,4,7,8-HxCDD	78		21 - 193
13C-1,2,3,6,7,8-HxCDD	83		25 - 163
13C-1,2,3,4,7,8-HxCDF	81		19 - 202
13C-1,2,3,6,7,8-HxCDF	85		21 - 159
13C-1,2,3,7,8,9-HxCDF	87		17 - 205
13C-2,3,4,6,7,8-HxCDF	87		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	73		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	78		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	89		20 - 186

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-554373/3-A
Matrix: Water
Analysis Batch: 555655

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 554373

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-OCDD	81		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	84		31 - 191

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Specialty Organics

Prep Batch: 554373

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	1613B	
MB 320-554373/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-554373/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-554373/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 555655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	1613B	554373
MB 320-554373/1-A	Method Blank	Total/NA	Water	1613B	554373
LCS 320-554373/2-A	Lab Control Sample	Total/NA	Water	1613B	554373
LCSD 320-554373/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	554373

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20211215_Comp
Lab Sample ID: 570-78864-1

Date Collected: 12/15/21 11:30
Matrix: Water
Date Received: 12/15/21 17:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			961.9 mL	20.0 uL	554373	12/28/21 10:26	CGB	TAL SAC
Total/NA	Analysis	1613B		1			555655	01/03/22 18:53	GRB	TAL SAC
	Instrument ID: DFS 1									

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-78864-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-29-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-22
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-78864-1	Outfall009_20211215_Comp	Water	12/15/21 11:30	12/15/21 17:20

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-78864 COC

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [003-007 009, 010] Outfall 009 Comp
Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)
Sampler:	

ANALYSIS REQUIRED

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): Al, B, Fe, Ni, V, Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl (R/A)	TCDD (and all congeners) (E1613B) (R)	Cl-, F-, SO4, NO3+NO2-N, Perchlorate (E300) (R/A)	TDS (SM2540C/E160.1) (R)	TSS (160.2 (SM2540D)) (A)	Total Dissolved Metals (E200.7): Al, B, Fe, Ni, V, Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl (R/A)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1) (R)	Chronic Toxicity Selenastrum (EPA-821-R-02-013) ABC Labs emti ra CA (R)	Cyanide (SM4500-CN-E / E335.2) (A)	Priority Pollutants-Pesticides+PCBs (E608) (R)	Total Recoverable Metals: Mercury (E245.1) (R)	Total Dissolved Metals: Mercury (E245.1) (R)		Comments
Outfall 009	Outfall009_20211215_Comp	12/15/2021 1130	WM	500 mL Poly	1	HNO_3	85	No	X													
			WM	1 L Glass Amber	2	None	110	No		X												
			WM	500 mL Poly	2	None	135	No			X											48 hours Holding Time NO3 & NO2
			WM	500 mL Poly	1	None	155	No				X										
			WM	1 L Poly	1	None	185	No					X									
			WM	500 mL Poly	1	NaOH	220	No									X					
			WM	1 L Poly	6	HNO3	325	No							X							Separate RAD onto another workorder Analyze duplicate, not MS/MSD
			WM	1 Gal Cube	6	None	235	No								X						Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	1 L Glass Amber	2	None	250	No											X			
	Outfall009_20211215_Comp_F	12/15/2021 1130	WM	1 L Poly	1	None	195	No						X								Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No													X	Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall009_20211215_Comp_Extra	12/15/2021 1130	WM	1 L Glass Amber	2	None	110	No		H												Hold
			WM	500 mL Poly	2	None	135	No			H											Hold
			WM	1 L Glass Amber	2	None	250	No											H			Hold

Legend A = Annual, R = Routine.

Relinquished By: [signature]	Date/Time: 12-15-21/1510 M;A	Company:
Relinquished By: [signature]	Date/Time: 12/15/21 1920	Company: ECI
Relinquished By:	Date/Time:	Company:

Received By: [signature]	Date/Time: 12/15/21 1510
Received By: [signature]	Date/Time: 12/15/21 1720
Received By:	Date/Time:

Turn-around time: (Check)
24 Hour: ____ 72 Hour: ____ 10 Day: X
48 Hour: ____ 5 Day: ____ Normal: ____

Sample Integrity: (Check)
Intact: ____ On Ice: ____
Store samples for 6 months.

Data Requirements: (Check)
No Level IV: ____ All Level IV: X

* Hand-delivered separately by H;A

2.0/29, 2.6/35 SCG

Page 20 of 28

1/9/2022

Rainy Season 2019-2020
Version 2

CHAIN OF CUSTODY FORM

Client Name/Address.	Project:	Project Manager: Katherine Miller
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Annual Outfall [003-007, 009, 010] Outfall 009 Comp	520.289.8606, 520.904.6944 (cell)
Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218		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:		

									A	A	A	A	A	ANALYSIS REQUIRED														
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Priority Pollutants-SVOCs (E625)	Asbestos (EPA100.2) OF009 only	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Cr (VI), Total (E218.6)	LL Mercury total recoverable + dissolved(E1631)														Comments
Outfall 009	Outfall009_20211215_Comp	12/15/2021 1130	WM	1 L Glass Amber	2	None	175	No	X																		
			WM	1L Poly	1	None	270	No		X																	Only at Outfall 009
			WM	1 L Glass Amber	2	None	275	No			X																extract within 24-Hours of sampling.
			WM	500 mL Poly	1	None	260	No				X															
	Outfall009_20211215_Comp	12/15/2021 1130	WM	250 Glass	1	HCl	330	No					X														
	Outfall009_20211215_Comp_Extra	12/15/2021 1130	WM	1 L Glass Amber	2	None	175	No	H																		Hold
			WM	1 L Glass Amber	2	None	275	No			H																Hold

Legend: A = Annual

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	12.15.21/1510	H&A		12/15/21 1510
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	12/15/21 1720	ECI		12/15/21 17:20
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 LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-145790 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78864-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 12/29/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:				
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane		
B - NaOH	N None		
C - Zn Acetate	O AsNaO2		
D - Nitric Acid	P Na2O4S		
E - NaHSO4	Q Na2SO3		
F - MeOH	R Na2S2O3		
G - Amchlor	S H2SO4		
H - Ascorbic Acid	T TSP Dodecahydrate		
I - Ice	U Acetone		
J - DI Water	V MCAA		
K - EDTA	W pH 4-5		
L - EDA	Z other (specify)		

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	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_20211215_Comp (570-78864-1)	12/15/21	11 30 Pacific		Water			X	X	X	X	X	X	X	6	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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Relinquished by:	Date/Time: 12/16/21 1509	Company	Received by:	Date/Time:	Company
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-145795 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: EMSL Analytical Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78864-2
Address: 520 Mission Street,	Due Date Requested: 1/10/2022			
City: South Pasadena	TAT Requested (days):			
State Zip: CA, 91030				
Phone:	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: ~~44024446~~ 570-78864			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M Hexane
N None
O - AsNaO2
P - Na2O4S
Q Na2SO3
R - Na2S2O3
S - H2SO4
T TSP Dodecahydrate
U Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Asbestos 100.2)/ Asbestos 100.2	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11 30 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
	12/16/21 1529				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

1/9/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-145800 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Frontier Global Sciences LLC		Accreditations Required (See note): State Program - California		Job #: 570-78864-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/10/2022			
City: Tacoma	TAT Requested (days)			
State, Zip: WA, 98424				
Phone	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: ~~44024446~~ 570-78864			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V - MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11 30 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I, II, III IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	12/16/21 1555				
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-145828 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78864-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/5/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11 30 Pacific		Water			X	2	See QAS, Boeing_w/u to zero. Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/16/21 1717				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/9/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-145828.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78864-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/5/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11:30 Pacific		Water			X	2	See QAS, Boeing_w/u to zero; Use Boeing glassware.

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/16/21 1717			12/17/21 1100	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 1.3c

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-78864-2

Login Number: 78864
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: 570-78864-2

Login Number: 78864
List Number: 4
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 12/17/21 05:27 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.3c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-78864-3
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/28/2022 4:24:57 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Method Summary 5
Sample Summary 6
Subcontract Data 7
Chain of Custody 25
Receipt Checklists 31

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: 570-78864-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Job ID: 570-78864-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-78864-3

Comments
No additional comments.

Receipt
The samples were received on 12/15/2021 5:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice.

Metals
Method 200.2: The reference method requires samples to be preserved to a pH of <2. The following samples were received with insufficient preservation at a pH of >2: Outfall009_20211215_Comp (570-78864-1) and LXBMP001_20211224 (570-80272-1). The sample was preserved to the appropriate pH in the laboratory.

01/07/22 @ 08:36 hours
1.0 mL 1:1 HNO3
1:1 HNO3 # 6803471

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method Chronic-Selenestrum: This method was subcontracted to Aquatic Bioassay & Consulting. The subcontract laboratory certification is different from that of the facility issuing the final report.

Method Asbestos 100.2: This method was subcontracted to EMSL Analytical Inc - LA Testing - Pasadena. The subcontract laboratory certification is different from that of the facility issuing the final report.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method	Method Description	Protocol	Laboratory
100.2	EPA 100.2 Asbestos in Drinking Water	EPA	EMSL-LA
EPA	Bioassay	EPA	Aquatic

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

Aquatic = Aquatic Bioassay & Consulting, 29 North Olive Street, Ventura, CA 93001

EMSL-LA = EMSL Analytical Inc - LA Testing - Pasadena, 520 Mission Street, South Pasadena, CA 91030

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-78864-1	Outfall009_20211215_Comp	Water	12/15/21 11:30	12/15/21 17:20

aquatic bioassay & consulting laboratories, inc

January 20, 2022

Mr. Virendra Patel
Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841-1432

Dear Mr. Patel:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013.* Results were as follows:

CLIENT:	Eurofins Calscience
SAMPLE I.D.:	Outfall 009 (570-78864)
DATE RECEIVED:	16 Dec - 2021
ABC LAB. NO.:	CSE1221.190

CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY

IWC = 100.00 %

TST RESULT

GROWTH = PASS % EFFECT = 21.37 %

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 18 Jan-22 14:58 (p 1 of 1)
Test Code/ID: CSE1221.190 / 01-5702-7768

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	07-5004-1596	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	16 Dec-21 15:40	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	20 Dec-21 13:40	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	94h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	7d
Sample ID:	15-0596-1928	**Code:**	CSE1221.190	**Project:**	Boeing-SSFL NPDES		
Sample Date:	15 Dec-21 11:30	**Material:**	Sample Water	**Source:**	Bioassay Report		
Receipt Date:	16 Dec-21 13:35	**CAS (PC):**		**Station:**	Outfall 009		
Sample Age:	28h (3 °C)	**Client:**	Eurofins Calscience				

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result	S
08-9000-2804	Cell Density	TST-Welch's t Test	0.1185	100% passed cell density	1

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
08-9000-2804	Cell Density	Control CV	0.03684	<<	0.2	Yes	Passes Criteria
08-9000-2804	Cell Density	Control Resp	1.46E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	8	1.462E+6	1.417E+6	1.507E+6	1.393E+6	1.535E+6	1.904E+4	5.385E+4	3.68%	0.00%
100		8	1.149E+6	1.057E+6	1.242E+6	1.027E+6	1.313E+6	3.897E+4	1.102E+5	9.59%	21.37%

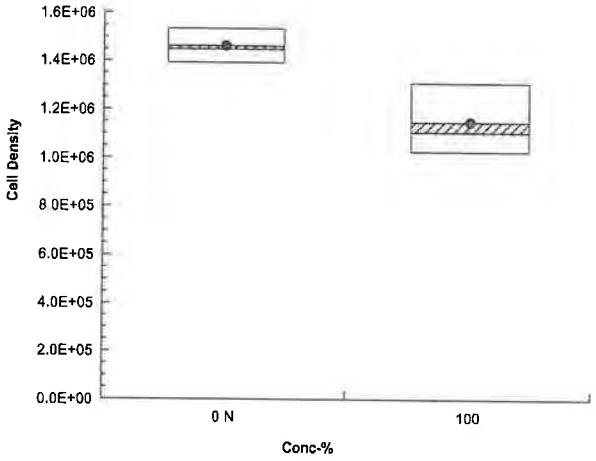
Cell Density Detail — MD5: 3C9E085BC095D2EB0865A736956F77CF

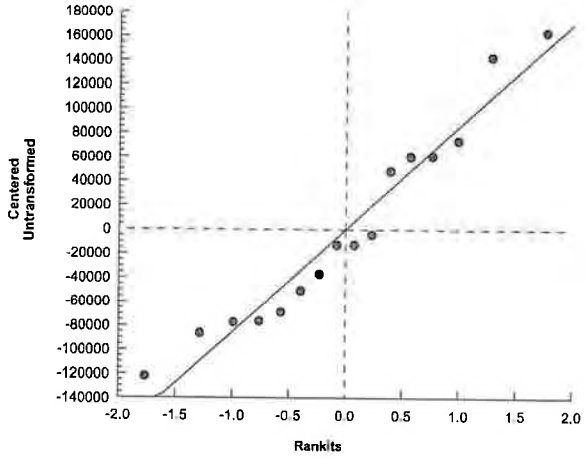
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.393E+6	1.510E+6	1.449E+6	1.449E+6	1.411E+6	1.425E+6	1.535E+6	1.522E+6
100		1.073E+6	1.210E+6	1.072E+6	1.292E+6	1.063E+6	1.027E+6	1.313E+6	1.145E+6

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	08-9000-2804	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	18 Jan-22 14:57	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:	18 Jan-22 14:55	**MD5 Hash:**	15C13331AD2177408EFD8C33274131D3	**Editor ID:**	000-189-126-0

Graphics





CETIS Measurement Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	07-5004-1596	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	16 Dec-21 15:40	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	20 Dec-21 13:40	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	94h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 7d

Sample ID:	15-0596-1928	**Code:**	CSE1221.190	**Project:**	Boeing-SSFL NPDES
Sample Date:	15 Dec-21 11:30	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	16 Dec-21 13:35	**CAS (PC):**		**Station:**	Outfall 009
Sample Age:	28h (3 °C)	**Client:**	Eurofins Calscience		

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	62	---	---	62	62	---	0	---	0
100		1	123	---	---	123	123	---	0	---	0
Overall		2	92.5	-295	480	62	123	30.5	43.13	46.63%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	493	488.8	497.2	489	498	0.6782	3.391	0.69%	0
100		5	266.8	244.4	289.2	238	288	3.609	18.05	6.76%	0
Overall		10	379.9	294.2	465.6	238	498	37.9	119.8	31.55%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	34	---	---	34	34	---	0	---	0
100		1	60	---	---	60	60	---	0	---	0
Overall		2	47	-118.2	212.2	34	60	13	18.38	39.12%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.72	7.516	7.924	7.6	8	0.03286	0.1643	2.13%	0
100		5	8.34	8.152	8.528	8.2	8.5	0.03033	0.1517	1.82%	0
Overall		10	8.03	7.773	8.287	7.6	8.5	0.1136	0.3592	4.47%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	24.96	24.85	25.07	24.8	25	0.01789	0.08947	0.36%	0
100		5	24.96	24.85	25.07	24.8	25	0.01789	0.08947	0.36%	0
Overall		10	24.96	24.9	25.02	24.8	25	0.02667	0.08433	0.34%	0 (0%)

Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		62					
100				123					

Conductivity-µmhos

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		491					
100				238					
0	N	2		494					
100				268					
0	N	3		493					
100				269					
0	N	4		489					
100				271					
0	N	5		498					
100				288					

Hardness (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		34					
100				60					

pH-Units

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.7					
100				8.5					
0	N	2		7.6					
100				8.2					
0	N	3		7.6					
100				8.2					
0	N	4		7.7					
100				8.3					
0	N	5		8					
100				8.5					

Temperature-°C

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		25					
100				25					
0	N	2		25					
100				25					
0	N	3		25					
100				25					
0	N	4		25					
100				25					
0	N	5		24.8					
100				24.8					

Eurofins Calscience Irvine

Login # 570-70964

CHAIN OF CUSTODY FORM

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [003-007, 009, 010] Outfall 009 Comp
Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-23-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Field Manager: Mark Dominick 978.234.5033, 618.599.0702 (cell)
Sampler:	

Sample Description	Sample I D	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7) Al, B, Fe, Ni, V, Zn, Hardness as CaCO3 (E200.8) Ag, Cd, Cu, Pb, Sb, Se, Tl	TODD (and all congeners) (E1613B)	Cl-, F-, SO4, NO3-NO2-N, Perchlorate (E300)	TDS (SM2540C/E160.1)	TSS (160.2 (SM2540D))	Total Dissolved Metals: (E200.7) Al, B, Fe, Ni, V, Zn, Hardness as CaCO3 (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)	Chrome Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	Cyanide (SM4500-CN-E / E335.2)	Priority Pollutants-Pesticides+PCBs (E608)	Total Recoverable Metals: Mercury (E245.1)	Total Dissolved Metals: Mercury (E245.1)		Comments
									R/A	R	R/A	R	A	R/A	R	R	R	A	R	R		
Outfall 009	Outfall009_20211215_Comp	12/15/2021 1130	WM	500 mL Poly	1	HNO_3	85	No	X										X			
			WM	1 L Glass Amber	2	None	110	No		X												
			WM	500 mL Poly	2	None	135	No			X											48 hours Holding Time NO3 & NO2
			WM	500 mL Poly	1	None	155	No				X										
			WM	1 L Poly	1	None	185	No					X									
			WM	500 mL Poly	1	NaOH	220	No									X					
			WM	1 L Poly	6	HNO_3	326	No							X							Separate RAD onto another workorder. Analysis duplicate, not MS/MSD.
			WM	1 Gal Cube	6	None	235	No								X						Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA.
			WM	1 L Glass Amber	2	None	250	No										X				
	Outfall009_20211215_Comp_F	12/15/2021 1130	WM	1 L Poly	1	None	193	No						X								Filter and preserve with 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No												X		Sample receiving DO NOT OPEN EPA vial to be opened in Mercury Prep using clean procedures.
	Outfall009_20211215_Comp_Extra	12/15/2021 1130	WM	1 L Glass Amber	2	None	110	No		H												Hold
			WM	500 mL Poly	2	None	135	No			H											Hold
			WM	1 L Glass Amber	2	None	250	No										H				Hold

Legend: A = Annual, R = Routine.

Relinquished By	Date/Time	Company	Received By	Date/Time
[signature]	12-15-21/1510	H:A	[signature]	12/15/21 1510
[signature]	12-16-2021/1335	H:A	[signature]	12/16/21 1335

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

*Hand-delivered seperately by H:A directly to ABC Lab

.190

Temp. deg. C = 3.0°C

Chlorine (mg/L) = <0.1

NH3 (mg/L) = <0.1

Rainy Season 2019-2020
Version 2

aquatic bioassay & consulting laboratories, inc

CHRONIC SELENASTRUM GROWTH BIOASSAY

DATE: 1 December - 2021

STANDARD TOXICANT: Cadmium Chloride

NOEC = 40.00 ug/l

IC25 = 80.10 ug/l
IC50 = >180.00 ug/l

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 22 Dec-21 10:29 (p 1 of 1)
Test Code/ID: SEL120121 / 12-8398-6744

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX		
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant		
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX		
Sample Age:	---	**Client:**	Internal Lab				

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	S
12-9938-5833	Cell Density	Steel Many-One Rank Sum Test		40	80	56.57	20.9%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	µg/L	95% LCL	95% UCL	S
05-8956-0180	Cell Density	Linear Interpolation (ICPIN)		IC10	38.71	19.34	68.85	1
				IC15	52.07	16.61	76.06	
				IC20	66.06	13.49	90.22	
				IC25	80.1	10.35	112.7	
				IC40	151.3	133.7	175.1	
				IC50	>180	---	---	

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
05-8956-0180	Cell Density	Control CV	0.05263	<<	0.2	Yes	Passes Criteria
12-9938-5833	Cell Density	Control CV	0.05263	<<	0.2	Yes	Passes Criteria
05-8956-0180	Cell Density	Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria
12-9938-5833	Cell Density	Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.713E+6	1.570E+6	1.856E+6	1.597E+6	1.814E+6	4.508E+4	9.015E+4	5.26%	0.00%
20		4	1.859E+6	1.635E+6	2.082E+6	1.689E+6	2.023E+6	7.027E+4	1.405E+5	7.56%	-8.51%
40		4	1.595E+6	8.516E+5	2.338E+6	8.980E+5	1.869E+6	2.336E+5	4.672E+5	29.29%	6.89%
80		4	1.340E+6	1.213E+6	1.466E+6	1.235E+6	1.428E+6	3.976E+4	7.952E+4	5.94%	21.79%
140		4	1.132E+6	1.037E+6	1.226E+6	1.092E+6	1.219E+6	2.971E+4	5.941E+4	5.25%	33.95%
180		4	9.200E+5	7.681E+5	1.072E+6	7.860E+5	9.900E+5	4.774E+4	9.549E+4	10.38%	46.29%

Cell Density Detail

MD5: A31AFF07134985287B29E5F730798522

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.738E+6	1.597E+6	1.703E+6	1.814E+6
20		1.903E+6	1.689E+6	1.820E+6	2.023E+6
40		1.854E+6	1.759E+6	8.980E+5	1.869E+6
80		1.342E+6	1.428E+6	1.235E+6	1.354E+6
140		1.092E+6	1.118E+6	1.097E+6	1.219E+6
180		9.870E+5	9.900E+5	9.170E+5	7.860E+5

CETIS Analytical Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	12-9938-5833	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0
Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	40	80	56.57	---	357800	20.89%

Steel Many-One Rank Sum Test

Control	vs	Conc-µg/L	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		20	23	10	0	6	CDF	0.9966	Non-Significant Effect
		40	21	10	0	6	CDF	0.9778	Non-Significant Effect
		80*	10	10	0	6	CDF	0.0417	Significant Effect
		140*	10	10	0	6	CDF	0.0417	Significant Effect
		180*	10	10	0	6	CDF	0.0417	Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control CV	0.05263	<<	0.2	Yes	Passes Criteria
Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2.594E+12	5.187E+11	5	11.74	3.7E-05	Significant Effect
Error	7.954E+11	4.419E+10	18			
Total	3.389E+12		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	18.46	15.09	0.0024	Unequal Variances
	Levene Equality of Variance Test	4.633	4.248	0.0068	Unequal Variances
	Mod Levene Equality of Variance Test	0.8699	4.248	0.5203	Equal Variances
Distribution	Anderson-Darling A2 Test	1.388	3.878	0.0008	Non-Normal Distribution
	D'Agostino Kurtosis Test	3.63	2.576	0.0003	Non-Normal Distribution
	D'Agostino Skewness Test	3.782	2.576	0.0002	Non-Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	27.48	9.21	<1.0E-05	Non-Normal Distribution
	Kolmogorov-Smirnov D Test	0.2076	0.2056	0.0089	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.7996	0.884	0.0003	Non-Normal Distribution

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.713E+6	1.570E+6	1.856E+6	1.720E+6	1.597E+6	1.814E+6	4.508E+4	5.26%	0.00%
20		4	1.859E+6	1.635E+6	2.082E+6	1.862E+6	1.689E+6	2.023E+6	7.027E+4	7.56%	-8.51%
40		4	1.595E+6	8.516E+5	2.338E+6	1.806E+6	8.980E+5	1.869E+6	2.336E+5	29.29%	6.89%
80		4	1.340E+6	1.213E+6	1.466E+6	1.348E+6	1.235E+6	1.428E+6	3.976E+4	5.94%	21.79%
140		4	1.132E+6	1.037E+6	1.226E+6	1.108E+6	1.092E+6	1.219E+6	2.971E+4	5.25%	33.95%
180		4	9.200E+5	7.681E+5	1.072E+6	9.520E+5	7.860E+5	9.900E+5	4.774E+4	10.38%	46.29%

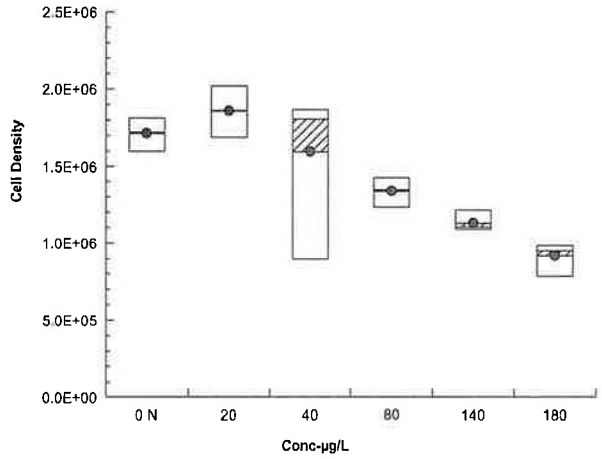
Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

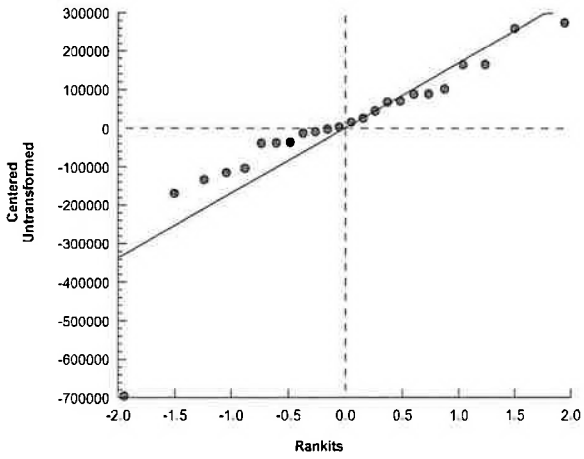
Analysis ID:	12-9938-5833	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0

Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.738E+6	1.597E+6	1.703E+6	1.814E+6
20		1.903E+6	1.689E+6	1.820E+6	2.023E+6
40		1.854E+6	1.759E+6	8.980E+5	1.869E+6
80		1.342E+6	1.428E+6	1.235E+6	1.354E+6
140		1.092E+6	1.118E+6	1.097E+6	1.219E+6
180		9.870E+5	9.900E+5	9.170E+5	7.860E+5

Graphics





CETIS Analytical Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	05-8956-0180	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0
Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.05263	<<	0.2	Yes	Passes Criteria
Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria

Point Estimates

Level	µg/L	95% LCL	95% UCL
IC10	38.71	19.34	68.85
IC15	52.07	16.61	76.06
IC20	66.06	13.49	90.22
IC25	80.1	10.35	112.7
IC40	151.3	133.7	175.1
IC50	>180	---	---

Cell Density Summary

			Calculated Variate						Isotonic Variate	
Conc-µg/L	**Code**	**Count**	**Mean**	**Median**	**Min**	**Max**	**CV%**	**%Effect**	**Mean**	**%Effect**
0	N	4	1.713E+6	1.720E+6	1.597E+6	1.814E+6	5.26%	0.00%	1.786E+6	0.00%
20		4	1.859E+6	1.862E+6	1.689E+6	2.023E+6	7.56%	-8.51%	1.786E+6	0.00%
40		4	1.595E+6	1.806E+6	8.980E+5	1.869E+6	29.29%	6.89%	1.595E+6	10.69%
80		4	1.340E+6	1.348E+6	1.235E+6	1.428E+6	5.94%	21.79%	1.340E+6	24.98%
140		4	1.132E+6	1.108E+6	1.092E+6	1.219E+6	5.25%	33.95%	1.132E+6	36.64%
180		4	9.200E+5	9.520E+5	7.860E+5	9.900E+5	10.38%	46.29%	9.200E+5	48.48%

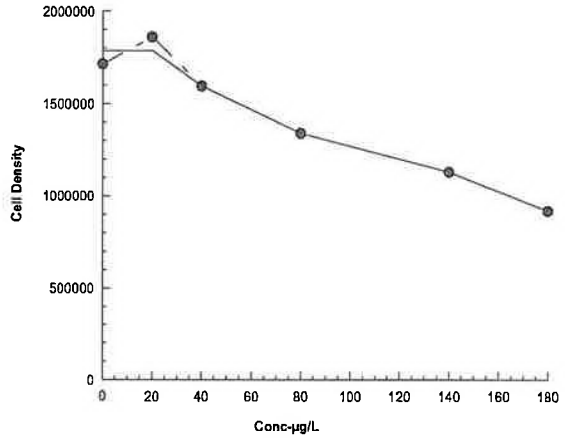
Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.738E+6	1.597E+6	1.703E+6	1.814E+6
20		1.903E+6	1.689E+6	1.820E+6	2.023E+6
40		1.854E+6	1.759E+6	8.980E+5	1.869E+6
80		1.342E+6	1.428E+6	1.235E+6	1.354E+6
140		1.092E+6	1.118E+6	1.097E+6	1.219E+6
180		9.870E+5	9.900E+5	9.170E+5	7.860E+5

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	05-8956-0180	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0

Graphics



Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX		
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant		
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX		
Sample Age:	---	**Client:**	Internal Lab				

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	60	---	---	60	60	---	0	---	0
20		1	59	---	---	59	59	---	0	---	0
40		1	64	---	---	64	64	---	0	---	0
80		1	57	---	---	57	57	---	0	---	0
140		1	57	---	---	57	57	---	0	---	0
180		1	60	---	---	60	60	---	0	---	0
Overall		6	59.5	56.78	62.22	57	64	1.057	2.588	4.35%	0 (0%)

Conductivity-µmhos

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	475.2	468.4	482	466	480	1.09	5.45	1.15%	0
20		5	574.6	516	633.2	500	612	9.438	47.19	8.21%	0
40		5	463.6	442.9	484.3	447	482	3.33	16.65	3.59%	0
80		5	432	429	435	429	435	0.4899	2.449	0.57%	0
140		5	412	405.9	418.1	406	418	0.9798	4.899	1.19%	0
180		5	402	391.1	412.9	389	410	1.755	8.775	2.18%	0
Overall		30	459.9	436.9	482.9	389	612	11.23	61.51	13.37%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	115	---	---	115	115	---	0	---	0
20		1	110	---	---	110	110	---	0	---	0
40		1	110	---	---	110	110	---	0	---	0
80		1	115	---	---	115	115	---	0	---	0
140		1	110	---	---	110	110	---	0	---	0
180		1	110	---	---	110	110	---	0	---	0
Overall		6	111.7	109	114.4	110	115	1.054	2.582	2.31%	0 (0%)

pH-Units

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.84	7.516	8.164	7.4	8	0.05215	0.2608	3.33%	0
20		5	8.16	8.018	8.302	8	8.3	0.0228	0.114	1.40%	0
40		5	8.18	8.076	8.284	8.1	8.3	0.01673	0.08367	1.02%	0
80		5	8.18	8.076	8.284	8.1	8.3	0.01673	0.08367	1.02%	0
140		5	8.22	8.164	8.276	8.2	8.3	0.008944	0.04472	0.54%	0
180		5	8.22	8.164	8.276	8.2	8.3	0.008944	0.04472	0.54%	0
Overall		30	8.133	8.067	8.2	7.4	8.3	0.03264	0.1788	2.20%	0 (0%)

Temperature-°C

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
20		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
40		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
80		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
140		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
180		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
Overall		30	25.54	25.42	25.66	25	25.9	0.05825	0.3191	1.25%	0 (0%)

Selenastrum Growth Test
Aquatic Bioassay & Consulting Labs, Inc.

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		60					
20				59					
40				64					
80				57					
140				57					
180				60					

Conductivity-µmhos

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		466					
20				500					
40				447					
80				429					
140				408					
180				389					
0	N	2		480					
20				556					
40				449					
80				430					
140				406					
180				397					
0	N	3		475					
20				607					
40				460					
80				435					
140				418					
180				410					
0	N	4		477					
20				612					
40				482					
80				433					
140				414					
180				407					
0	N	5		478					
20				598					
40				480					
80				433					
140				414					
180				407					

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		115					
20				110					
40				110					
80				115					
140				110					
180				110					

Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

pH-Units

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.4					
20				8.2					
40				8.2					
80				8.2					
140				8.2					
180				8.2					
0	N	2		7.8					
20				8.2					
40				8.2					
80				8.2					
140				8.2					
180				8.2					
0	N	3		8					
20				8.3					
40				8.3					
80				8.3					
140				8.3					
180				8.3					
0	N	4		8					
20				8.1					
40				8.1					
80				8.1					
140				8.2					
180				8.2					
0	N	5		8					
20				8					
40				8.1					
80				8.1					
140				8.2					
180				8.2					

Analyst: QA: 1/28/2022

Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		25					
20				25					
40				25					
80				25					
140				25					
180				25					
0	N	2		25.8					
20				25.8					
40				25.8					
80				25.8					
140				25.8					
180				25.8					
0	N	3		25.9					
20				25.9					
40				25.9					
80				25.9					
140				25.9					
180				25.9					
0	N	4		25.5					
20				25.5					
40				25.5					
80				25.5					
140				25.5					
180				25.5					
0	N	5		25.5					
20				25.5					
40				25.5					
80				25.5					
140				25.5					
180				25.5					

LA Testing
520 Mission Street South Pasadena, CA 91030
Phone/Fax: (323) 254-9960 / (323) 254-9982
http://www.LATesting.com / pasadenalab@latesting.com

LA Testing Order ID: 322122948
Customer ID: 32CALS51
Customer PO:
Project ID:

Attn: Virendra Patel
Eurofins Calscience, Inc.
7440 Lincoln Way
Garden Grove, CA 92841

Phone: (714) 895-5494
Fax: (714) 894-7501
Received: 12/17/2021
Analyzed: 01/04/2022

Proj: COC No: 570-145795.1 / Project #: 570-78864 / Job #: 570-78864-2

Test Report: Determination of Asbestos Structures ≥ 0.5 µm & > 10µm in Water Performed by the 100.2 Method (EPA 600/R-94/134)

Sample ID Client / EMSL	Sample Filtration Date/Time	Original Sample Vol. Filtered (ml)	Effective Filter Area (mm^2)	Area Analyzed (mm^2)	ASBESTOS					
						Asbestos Types	Fibers Detected	Analytical Sensitivity	Concentration	Confidence Limits
									MFL (million fibers per liter)	
Outfall009_20211215_Comp (570-78864-1) 322122948-0001	12/17/2021 07:20 PM	5	1288	0.2560	≥ 0.5 µm	Chrysotile	1	1.00	1.00	0.03 - 5.60
					> 10 µm only	None Detected	ND	1.00	<1.00	0.00 - 3.70

Collection Date/Time: *12/15/2021 11:30 AM*

Sample ozonated prior to analysis due to lab receipt time exceeding 48hr method hold time.

Analyst(s)
Kyeong Corbin (1)

Jerry Drapala Ph.D, Laboratory Manager
or Other Approved Signatory

Any questions please contact Jerry Drapala.

Initial report from: 01/04/2022 10:12:11

Samples analyzed by LA Testing South Pasadena, CA CA ELAP 2283

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

#322122948

Chain of Custody Record

eurofins Environment Testing America

OrderID: 322122948

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-145795.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: EMSL Analytical, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78864-2
Address: 520 Mission Street, ,	Due Date Requested: 1/10/2022			
City: South Pasadena	TAT Requested (days):			
State, Zip: CA, 91030				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: ~~44024446~~ 570-78864			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Asbestos 100.2)/ Asbestos 100.2	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11:30 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:			
Relinquished by:	Date/Time: 12/16/21 1529	Company	Received by:	Date/Time: 12/17/21 1130	Company: CA TSH
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.3 °C

Ver: 06/08/2021

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-78864 COC

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [003-007 009, 010] Outfall 009 Comp
Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)
Sampler:	

ANALYSIS REQUIRED

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): Al, B, Fe, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl (R/A)	TCDD (and all congeners) (E1613B) (R)	Cl-, F-, SO4, NO3+NO2-N, Perchlorate (E300) (R/A)	TDS (SM2540C/E160.1) (R)	TSS (160.2 (SM2540D)) (A)	Total Dissolved Metals (E200.7): Al, B, Fe, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl (R/A)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1) (R)	Chronic Toxicity Selenastrum (EPA-821-R-02-013) ABC Labs entr ra CA (R)	Cyanide (SM4500-CN-E / E335.2) (A)	Priority Pollutants-Pesticides+PCBs (E608) (A)	Total Recoverable Metals: Mercury (E245.1) (R)	Total Dissolved Metals: Mercury (E245.1) (R)		Comments
Outfall 009	Outfall009_20211215_Comp	12/15/2021 1130	WM	500 mL Poly	1	HNO_3	85	No	X										X			
			WM	1 L Glass Amber	2	None	110	No		X												
			WM	500 mL Poly	2	None	135	No			X											48 hours Holding Time NO3 & NO2
			WM	500 mL Poly	1	None	155	No				X										
			WM	1 L Poly	1	None	185	No					X									
			WM	500 mL Poly	1	NaOH	220	No									X					
			WM	1 L Poly	6	HNO3	325	No							X							Separate RAD onto another workorder Analyze duplicate, not MS/MSD
			WM	1 Gal Cube	6	None	235	No								X						Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	1 L Glass Amber	2	None	250	No											X			
	Outfall009_20211215_Comp_F	12/15/2021 1130	WM	1 L Poly	1	None	195	No						X								Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No												X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall009_20211215_Comp_Extra	12/15/2021 1130	WM	1 L Glass Amber	2	None	110	No		H												Hold
			WM	500 mL Poly	2	None	135	No			H											Hold
			WM	1 L Glass Amber	2	None	250	No											H			Hold

Legend A = Annual, R = Routine.

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12.15.21/1510 M;A		[signature]	12/15/21 1510
[signature]	12/15/21 1920	ECI	[signature]	12/15/21 1720

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements: (Check)
No Level IV: _____ All Level IV: ___X___

*Hand-delivered separately by H;A

2.0/29, 2.6/35 SCG

CHAIN OF CUSTODY FORM

Client Name/Address.	Project:	Project Manager: Katherine Miller
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Annual Outfall [003-007, 009, 010] Outfall 009 Comp	520.289.8606, 520.904.6944 (cell)
Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218		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:		

									ANALYSIS REQUIRED																
									A	A	A	A	A												
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Priority Pollutants-SVOCs (E625)	Asbestos (EPA100.2) OF009 only	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Cr (VI), Total (E218.6)	LL Mercury total recoverable + dissolved(E1631)												Comments
Outfall 009	Outfall009_20211215_Comp	12/15/2021 1130	WM	1 L Glass Amber	2	None	175	No	X																
			WM	1L Poly	1	None	270	No		X															Only at Outfall 009
			WM	1 L Glass Amber	2	None	275	No			X														extract within 24-Hours of sampling.
			WM	500 mL Poly	1	None	260	No				X													
	Outfall009_20211215_Comp	12/15/2021 1130	WM	250 Glass	1	HCl	330	No					X												
	Outfall009_20211215_Comp_Extra	12/15/2021 1130	WM	1 L Glass Amber	2	None	175	No	H																Hold
			WM	1 L Glass Amber	2	None	275	No			H														Hold

Legend: A = Annual

Relinquished By	Date/Time:	Company	Received By	Date/Time:
	12.15.21/1510	H&A		12/15/21 1510
Relinquished By	Date/Time:	Company	Received By	Date/Time:
	12/15/21 1720	ECI		12/15/21 17:20
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 LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-145790 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78864-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 12/29/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfalls	SSOW#:			
Site				

Analysis Requested

Preservation Codes

A - HCL	M Hexane		
B - NaOH	N None		
C - Zn Acetate	O AsNaO2		
D - Nitric Acid	P Na2O4S		
E - NaHSO4	Q Na2SO3		
F - MeOH	R Na2S2O3		
G - Amchlor	S H2SO4		
H - Ascorbic Acid	T TSP Dodecahydrate		
I - Ice	U Acetone		
J - DI Water	V MCAA		
K - EDTA	W pH 4-5		
L - EDA	Z other (specify)		

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11 30 Pacific		Water			X	X	X	X	X	X	X	6	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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Relinquished by:	Date/Time: 12/16/21 1509	Company	Received by:	Date/Time:	Company
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/28/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-145795 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: EMSL Analytical Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78864-2
Address: 520 Mission Street,	Due Date Requested: 1/10/2022			
City: South Pasadena	TAT Requested (days):			
State Zip: CA, 91030				
Phone:	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: ~~44024446~~ 570-78864			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M Hexane
N None
O - AsNaO2
P - Na2O4S
Q Na2SO3
R - Na2S2O3
S - H2SO4
T TSP Dodecahydrate
U Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Asbestos 100.2)/ Asbestos 100.2	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11 30 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
	12/16/21 1529				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

1/28/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-145800 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Frontier Global Sciences LLC		Accreditations Required (See note): State Program - California		Job #: 570-78864-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/10/2022			
City: Tacoma	TAT Requested (days)			
State, Zip: WA, 98424				
Phone	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: ~~44024446~~ 570-78864			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V - MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11 30 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	12/16/21 1555				
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-145828 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78864-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/5/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11 30 Pacific		Water			X	2	See QAS, Boeing_w/u to zero. Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/16/21 1717				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-78864-3

Login Number: 78864
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-78864-4
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/2/2022 6:41:27 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 7
Client Sample Results 8
Tracer Carrier Summary 15
QC Sample Results 17
QC Association Summary 23
Lab Chronicle 25
Certification Summary 26
Method Summary 27
Sample Summary 28
Chain of Custody 29
Receipt Checklists 35

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-78864-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-78864-4

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-78864-4

Comments
No additional comments.

Receipt
The samples were received on 12/15/2021 5:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice.

RAD
Method 900.0: Gross alpha beta batch 542868
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_20211215_Comp (570-78864-1), (LCS 160-542868/2-A), (LCSB 160-542868/3-A), (MB 160-542868/1-A), (570-78864-BD-1-D DU), (570-78864-BD-1-B MS) and (570-78864-BD-1-C MSBT)

Method 901.1: Gamma Prep Batch 160-542872
Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

**The method blank (MB) Z-score is within limits and is located in the level IV raw data.

Outfall009_20211215_Comp (570-78864-1) and (570-78864-BF-1-B DU)

Job ID: 570-78864-4 (Continued)

Laboratory: Eurofins Calscience (Continued)

Methods 903.0, 9315: Radium 226 batch 542884
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_20211215_Comp (570-78864-1), (LCS 160-542884/1-A), (MB 160-542884/20-A), (480-193435-W-6-B), (480-193435-X-6-C MS) and (480-193435-X-6-D MSD)

Methods 904.0, 9320: Radium 228 batch 542889
The LCS recovered at (127%). The limits in our LIMS system at 75-125 reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (61-138%) per method requirements. The LCS passes, no further action is required

(LCS 160-542889/1-A)

Methods 904.0, 9320: Radium 228 batch 542889
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_20211215_Comp (570-78864-1), (LCS 160-542889/1-A), (MB 160-542889/20-A), (480-193435-W-6-C), (480-193435-X-6-E MS) and (480-193435-X-6-F MSD)

Method 905: Strontium 90 batch 547259
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_20211215_Comp (570-78864-1), (LCS 160-547259/1-A), (MB 160-547259/19-A), (280-155984-A-2-B), (280-155984-A-2-C MS) and (280-155984-B-2-C MSD)

Method 906.0: Tritium in liquid batch 160-543325
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_20211215_Comp (570-78864-1), (LCS 160-543325/2-A), (MB 160-543325/1-A), (160-44205-B-2-A), (160-44205-B-2-B DU), (280-156586-B-1-A) and (280-156586-B-1-B MS)

Method A-01-R: Isotopic Uranium Batch 160-543586:

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_20211215_Comp (570-78864-1), (LCS 160-543586/2-A), (MB 160-543586/1-A) and (570-78864-BI-1-B DU)

Method ExtChrom: Uranium Prep Batch 160-543586

The following samples were prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall009_20211215_Comp (570-78864-1) and (570-78864-BI-1 DU).

Method LSC_Dist_Susp: Tritium Prep Batch 543325:

Job ID: 570-78864-4 (Continued)

Laboratory: Eurofins Calscience (Continued)

The following sample was acidic and had an unclear matrix: Outfall009_20211215_Comp (570-78864-1). NCMs: The sample was acidic. Additional sodium hydroxide (NaOH) pellets were added to bring it to basic.The sample had a yellow tint to it.

Method PrecSep_0:

Method PrecSep-21:

Method PrecSep-7: The following samples were prepared at a reduced aliquot due to matrix. Samples 280-155984-1, 280-153629-1, and 160-44205-2 were slightly cloudy. Samples 280-155355-1, 400-211691-1, 160-44205-1, 570-78818-1, 570-78864-1, 570-78804-1, 160-44307-1, and 160-44316-1 were slightly yellow and cloudy.

Method PrecSep-7:

Method PrecSep-7: Strontium-90 Prep Batch 160-547259

The following samples were prepared at a reduced aliquot due to Matrix: Outfall009_20211215_Comp (570-78864-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.2: The reference method requires samples to be preserved to a pH of <2. The following samples were received with insufficient preservation at a pH of >2: Outfall009_20211215_Comp (570-78864-1) and LXBMP001_20211224 (570-80272-1). The sample was preserved to the appropriate pH in the laboratory.

01/07/22 @ 08:36 hours
1.0 mL 1:1 HNO3
1:1 HNO3 # 6803471

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: 570-78864-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20211215_Comp
Lab Sample ID: 570-78864-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall009_20211215_Comp
Date Collected: 12/15/21 11:30
Date Received: 12/15/21 17:20

Lab Sample ID: 570-78864-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	1.27	U	1.24	1.25	3.00	1.99	pCi/L	12/20/21 09:32	12/22/21 07:47	1
Gross Beta	**2.70**		0.757	0.804	4.00	0.945	pCi/L	12/20/21 09:32	12/22/21 07:47	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall009_20211215_Comp
Date Collected: 12/15/21 11:30
Date Received: 12/15/21 17:20

Lab Sample ID: 570-78864-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	4.40	U	8.18	8.20	20.0	9.70	pCi/L	12/20/21 10:46	01/17/22 12:54	1
Potassium-40	54.8	U	93.6	93.8		98.4	pCi/L	12/20/21 10:46	01/17/22 12:54	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall009_20211215_Comp
Date Collected: 12/15/21 11:30
Date Received: 12/15/21 17:20

Lab Sample ID: 570-78864-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0422	U	0.0862	0.0863	1.00	0.156	pCi/L	12/20/21 12:06	01/11/22 08:38	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*68.7*		*40 - 110*	*12/20/21 12:06*	*01/11/22 08:38*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall009_20211215_Comp
Date Collected: 12/15/21 11:30
Date Received: 12/15/21 17:20

Lab Sample ID: 570-78864-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.823	U	0.567	0.572	1.00	0.880	pCi/L	12/20/21 12:54	12/27/21 11:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*68.7*		*40 - 110*	*12/20/21 12:54*	*12/27/21 11:11*	*1*
Y Carrier	*80.7*		*40 - 110*	*12/20/21 12:54*	*12/27/21 11:11*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall009_20211215_Comp
Date Collected: 12/15/21 11:30
Date Received: 12/15/21 17:20

Lab Sample ID: 570-78864-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.465	U	0.440	0.442	3.00	0.710	pCi/L	01/20/22 12:28	02/01/22 17:02	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*72.2*		*40 - 110*	*01/20/22 12:28*	*02/01/22 17:02*	*1*
Y Carrier	*91.2*		*40 - 110*	*01/20/22 12:28*	*02/01/22 17:02*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall009_20211215_Comp
Lab Sample ID: 570-78864-1
Date Collected: 12/15/21 11:30
Matrix: Water
Date Received: 12/15/21 17:20

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-126	U	220	220	500	431	pCi/L	12/22/21 13:33	12/28/21 00:15	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall009_20211215_Comp
Date Collected: 12/15/21 11:30
Date Received: 12/15/21 17:20

Lab Sample ID: 570-78864-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.276	U	0.294	0.295	1.00	0.345	pCi/L	12/27/21 10:55	01/06/22 21:19	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*46.5*		*30 - 110*	*12/27/21 10:55*	*01/06/22 21:19*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
480-193435-X-6-C MS	Matrix Spike	91.3
480-193435-X-6-D MSD	Matrix Spike Duplicate	84.6
570-78864-1	Outfall009_20211215_Comp	68.7
LCS 160-542884/1-A	Lab Control Sample	92.3
MB 160-542884/20-A	Method Blank	91.3

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
480-193435-X-6-E MS	Matrix Spike	91.3	84.1
480-193435-X-6-F MSD	Matrix Spike Duplicate	84.6	87.9
570-78864-1	Outfall009_20211215_Comp	68.7	80.7
LCS 160-542889/1-A	Lab Control Sample	92.3	80.0
MB 160-542889/20-A	Method Blank	91.3	92.7

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Sr	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
280-155984-A-2-C MS	Matrix Spike	82.9	86.4
280-155984-B-2-C MSD	Matrix Spike Duplicate	90.3	87.1
570-78864-1	Outfall009_20211215_Comp	72.2	91.2
LCS 160-547259/1-A	Lab Control Sample	84.7	90.8
MB 160-547259/19-A	Method Blank	91.0	91.6

Tracer/Carrier Legend

Sr = Sr Carrier
Y = Y Carrier

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		U-232
Lab Sample ID	Client Sample ID	(30-110)
570-78864-1	Outfall009_20211215_Comp	46.5
570-78864-1 DU	Outfall009_20211215_Comp	47.0
LCS 160-543586/2-A	Lab Control Sample	90.7
MB 160-543586/1-A	Method Blank	97.7

Tracer/Carrier Legend

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-542868/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 543309 — **Prep Batch: 542868**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.1917	U	0.578	0.579	3.00	1.05	pCi/L	12/20/21 09:32	12/22/21 07:39	1
Gross Beta	-0.5005	U	0.466	0.468	4.00	0.921	pCi/L	12/20/21 09:32	12/22/21 07:39	1

Lab Sample ID: LCS 160-542868/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 543309 — **Prep Batch: 542868**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	46.03		6.68	3.00	2.07	pCi/L	91	75 - 125

Lab Sample ID: LCSB 160-542868/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 543309 — **Prep Batch: 542868**

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.7	73.77		7.90	4.00	1.01	pCi/L	97	75 - 125

Lab Sample ID: 570-78864-1 MS — **Client Sample ID: Outfall009_20211215_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 543295 — **Prep Batch: 542868**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	1.27	U	50.6	49.24		6.85	3.00	1.55	pCi/L	95	60 - 140

Lab Sample ID: 570-78864-1 MSBT — **Client Sample ID: Outfall009_20211215_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 543295 — **Prep Batch: 542868**

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	2.70		75.7	81.65		8.68	4.00	0.835	pCi/L	104	60 - 140

Lab Sample ID: 570-78864-1 DU — **Client Sample ID: Outfall009_20211215_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 543295 — **Prep Batch: 542868**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	1.27	U	2.028		1.14	3.00	1.53	pCi/L	0.32	1
Gross Beta	2.70		2.352		0.768	4.00	0.923	pCi/L	0.22	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-542872/1-A
Matrix: Water
Analysis Batch: 546716

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 542872

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-1.605	U	10.0	10.0	20.0	12.1	pCi/L	12/20/21 10:46	01/17/22 16:11	1
Potassium-40	15.91	U	122	122		132	pCi/L	12/20/21 10:46	01/17/22 16:11	1

Lab Sample ID: LCS 160-542872/2-A
Matrix: Water
Analysis Batch: 546717

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 542872

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Americium-241			135000	150100		17700		285	pCi/L	111	75 - 125		
Cesium-137			42000	44060		5190	20.0	119	pCi/L	105	75 - 125		

Lab Sample ID: 570-78864-1 DU
Matrix: Water
Analysis Batch: 546719

Client Sample ID: Outfall009_20211215_Comp
Prep Type: Total/NA
Prep Batch: 542872

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Cesium-137	4.40	U		0.7537	U	10.8	20.0	13.8	pCi/L			0.19	1
Potassium-40	54.8	U		-28.95	U	114		171	pCi/L			0.40	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-542884/20-A
Matrix: Water
Analysis Batch: 545823

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 542884

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04301	U	0.0637	0.0638	1.00	0.109	pCi/L	12/20/21 12:06	01/11/22 08:43	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.3*		*40 - 110*	*12/20/21 12:06*	*01/11/22 08:43*	*1*

Lab Sample ID: LCS 160-542884/1-A
Matrix: Water
Analysis Batch: 545821

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 542884

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	10.33		1.07	1.00	0.0878	pCi/L	91	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*92.3*		*40 - 110*

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: 480-193435-X-6-C MS
Matrix: Water
Analysis Batch: 545821

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 542884

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226	0.305		11.3	11.34		1.16	1.00	0.0758	pCi/L	97	60 - 140		

Carrier	*MS %Yield*	*MS Qualifier*	*Limits*
Ba Carrier	*91.3*		*40 - 110*

Lab Sample ID: 480-193435-X-6-D MSD
Matrix: Water
Analysis Batch: 545821

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 542884

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	0.305		11.3	10.65		1.11	1.00	0.0888	pCi/L	91	60 - 140	0.31	1

Carrier	*MSD %Yield*	*MSD Qualifier*	*Limits*
Ba Carrier	*84.6*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-542889/20-A
Matrix: Water
Analysis Batch: 543612

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 542889

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3014	U	0.271	0.272	1.00	0.435	pCi/L	12/20/21 12:54	12/27/21 11:16	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.3*		*40 - 110*	*12/20/21 12:54*	*12/27/21 11:16*	*1*
Y Carrier	*92.7*		*40 - 110*	*12/20/21 12:54*	*12/27/21 11:16*	*1*

Lab Sample ID: LCS 160-542889/1-A
Matrix: Water
Analysis Batch: 543613

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 542889

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.02	11.48		1.34	1.00	0.429	pCi/L	127	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*92.3*		*40 - 110*
Y Carrier	*80.0*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: 480-193435-X-6-E MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 543613 — **Prep Batch: 542889**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228	0.705		9.02	9.786		1.18	1.00	0.440	pCi/L	101	60 - 140		

Carrier	*MS %Yield*	*MS Qualifier*	*Limits*
Ba Carrier	*91.3*		*40 - 110*
Y Carrier	*84.1*		*40 - 110*

Lab Sample ID: 480-193435-X-6-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 543613 — **Prep Batch: 542889**

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	0.705		9.01	10.29		1.23	1.00	0.451	pCi/L	106	60 - 140	0.21	1

Carrier	*MSD %Yield*	*MSD Qualifier*	*Limits*
Ba Carrier	*84.6*		*40 - 110*
Y Carrier	*87.9*		*40 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-547259/19-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 549020 — **Prep Batch: 547259**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.2560		0.154	0.156	3.00	0.229	pCi/L	01/20/22 12:28	02/01/22 17:06	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*91.0*		*40 - 110*	*01/20/22 12:28*	*02/01/22 17:06*	*1*
Y Carrier	*91.6*		*40 - 110*	*01/20/22 12:28*	*02/01/22 17:06*	*1*

Lab Sample ID: LCS 160-547259/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 549008 — **Prep Batch: 547259**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Strontium-90			7.55	6.945		0.789	3.00	0.338	pCi/L	92	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*84.7*		*40 - 110*
Y Carrier	*90.8*		*40 - 110*

Method: 905 - Strontium-90 (GFPC) (Continued)

Lab Sample ID: 280-155984-A-2-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 549020 — **Prep Batch: 547259**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Strontium-90	4.55		7.55	12.78		1.27	3.00	0.321	pCi/L	109	60 - 140

Carrier	*MS %Yield*	*MS Qualifier*	*Limits*
Sr Carrier	*82.9*		*40 - 110*
Y Carrier	*86.4*		*40 - 110*

Lab Sample ID: 280-155984-B-2-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 549020 — **Prep Batch: 547259**

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	4.55		7.55	13.24		1.29	3.00	0.290	pCi/L	115	60 - 140	0.18	1

Carrier	*MSD %Yield*	*MSD Qualifier*	*Limits*
Sr Carrier	*90.3*		*40 - 110*
Y Carrier	*87.1*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-543325/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 543645 — **Prep Batch: 543325**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-22.52	U	221	221	500	404	pCi/L	12/22/21 13:33	12/27/21 22:15	1

Lab Sample ID: LCS 160-543325/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 543645 — **Prep Batch: 543325**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Tritium	2250	1982		422	500	399	pCi/L	88	75 - 125

Lab Sample ID: 280-156586-B-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 543645 — **Prep Batch: 543325**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Tritium	4.50	U	2240	2207		453	500	418	pCi/L	98	60 - 140

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 160-44205-B-2-B DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 543645 — **Prep Batch: 543325**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	-152	U		-73.87	U	218	500	411	pCi/L			0.18	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-543586/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 547893 — **Prep Batch: 543586**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.1806		0.170	0.171	1.00	0.176	pCi/L	12/27/21 10:55	01/24/22 21:44	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*97.7*		*30 - 110*	*12/27/21 10:55*	*01/24/22 21:44*	*1*

Lab Sample ID: LCS 160-543586/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 545289 — **Prep Batch: 543586**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Uranium-234			25.5	23.84		2.62	1.00	0.246	pCi/L	94	75 - 125		
Uranium-238			26.0	24.46		2.67	1.00	0.224	pCi/L	94	75 - 125		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*90.7*		*30 - 110*

Lab Sample ID: 570-78864-1 DU — **Client Sample ID: Outfall009_20211215_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 545291 — **Prep Batch: 543586**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Total Uranium	0.276	U		0.2385	U	0.276	1.00	0.334	pCi/L			0.07	1

Tracer	*DU %Yield*	*DU Qualifier*	*Limits*
Uranium-232	*47.0*		*30 - 110*

Rad

Prep Batch: 542868

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	Evaporation	
MB 160-542868/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-542868/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-542868/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-78864-1 MS	Outfall009_20211215_Comp	Total/NA	Water	Evaporation	
570-78864-1 MSBT	Outfall009_20211215_Comp	Total/NA	Water	Evaporation	
570-78864-1 DU	Outfall009_20211215_Comp	Total/NA	Water	Evaporation	

Prep Batch: 542872

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-542872/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-542872/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-78864-1 DU	Outfall009_20211215_Comp	Total/NA	Water	Fill_Geo-0	

Prep Batch: 542884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	PrecSep-21	
MB 160-542884/20-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-542884/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
480-193435-X-6-C MS	Matrix Spike	Total/NA	Water	PrecSep-21	
480-193435-X-6-D MSD	Matrix Spike Duplicate	Total/NA	Water	PrecSep-21	

Prep Batch: 542889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	PrecSep_0	
MB 160-542889/20-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-542889/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
480-193435-X-6-E MS	Matrix Spike	Total/NA	Water	PrecSep_0	
480-193435-X-6-F MSD	Matrix Spike Duplicate	Total/NA	Water	PrecSep_0	

Prep Batch: 543325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-543325/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-543325/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
280-156586-B-1-B MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	
160-44205-B-2-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 543586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	ExtChrom	
MB 160-543586/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-543586/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
570-78864-1 DU	Outfall009_20211215_Comp	Total/NA	Water	ExtChrom	

Prep Batch: 547259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78864-1	Outfall009_20211215_Comp	Total/NA	Water	PrecSep-7	
MB 160-547259/19-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-547259/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	

Rad (Continued)

Prep Batch: 547259 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155984-A-2-C MS	Matrix Spike	Total/NA	Water	PrecSep-7	
280-155984-B-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	PrecSep-7	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20211215_Comp
Lab Sample ID: 570-78864-1
Date Collected: 12/15/21 11:30
Matrix: Water
Date Received: 12/15/21 17:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			200.01 mL	1.0 g	542868	12/20/21 09:32	KG	TAL SL
Total/NA	Analysis	900.0		1			543295	12/22/21 07:47	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	542872	12/20/21 10:46	SRE	TAL SL
Total/NA	Analysis	901.1		1			546716	01/17/22 12:54	JCB	TAL SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			750.29 mL	1.0 g	542884	12/20/21 12:06	LPS	TAL SL
Total/NA	Analysis	903.0		1			545821	01/11/22 08:38	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			750.29 mL	1.0 g	542889	12/20/21 12:54	LPS	TAL SL
Total/NA	Analysis	904.0		1			543613	12/27/21 11:11	ANW	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-7			500.61 mL	1.0 g	547259	01/20/22 12:28	LPS	TAL SL
Total/NA	Analysis	905		1			549020	02/01/22 17:02	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	LSC_Dist_Susp			100.50 mL	1.0 g	543325	12/22/21 13:33	BAL	TAL SL
Total/NA	Analysis	906.0		1			543645	12/28/21 00:15	JLP	TAL SL
	Instrument ID: LSCTEAL									
Total/NA	Prep	ExtChrom			250.03 mL	1.0 mL	543586	12/27/21 10:55	MLO	TAL SL
Total/NA	Analysis	A-01-R		1			545290	01/06/22 21:19	CLP	TAL SL
	Instrument ID: ALPHAVISION									

Laboratory References:
TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-78864-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	TAL SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	TAL SL

Protocol References:

DOE = U.S. Department of Energy

EPA = US Environmental Protection Agency

None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-78864-1	Outfall009_20211215_Comp	Water	12/15/21 11:30	12/15/21 17:20

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-78864 COC

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [003-007 009, 010] Outfall 009 Comp
Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)
Sampler:	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): Al, B, Fe, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	Cl-, F-, SO4, NO3+NO2-N, Perchlorate (E300)	TDS (SM2540C/E160.1)	TSS (160.2 (SM2540D))	Total Dissolved Metals (E200.7): Al, B, Fe, Ni, V Zn, Hardness as CaCO3 (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)	Chronic Toxicity Selenastrum (EPA-821-R-02-013) ABC Labs emti ra CA	Cyanide (SM4500-CN-E / E335.2)	Priority Pollutants-Pesticides+PCBs (E608)	Total Recoverable Metals: Mercury (E245.1)	Total Dissolved Metals: Mercury (E245.1)		Comments
									R/A	R	R/A	R	A	R/A			K	A	R	R		
Outfall 009	Outfall009_20211215_Comp	12/15/2021 1130	WM	500 mL Poly	1	HNO_3	85	No	X										X			
			WM	1 L Glass Amber	2	None	110	No		X												
			WM	500 mL Poly	2	None	135	No			X											48 hours Holding Time NO3 & NO2
			WM	500 mL Poly	1	None	155	No				X										
			WM	1 L Poly	1	None	185	No					X									
			WM	500 mL Poly	1	NaOH	220	No									X					
			WM	1 L Poly	6	HNO3	325	No							X							Separate RAD onto another workorder Analyze duplicate, not MS/MSD
			WM	1 Gal Cube	6	None	235	No								X						Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	1 L Glass Amber	2	None	250	No										X				
	Outfall009_20211215_Comp_F	12/15/2021 1130	WM	1 L Poly	1	None	195	No						X								Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No												X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall009_20211215_Comp_Extra	12/15/2021 1130	WM	1 L Glass Amber	2	None	110	No		H												Hold
			WM	500 mL Poly	2	None	135	No			H											Hold
			WM	1 L Glass Amber	2	None	250	No										H				Hold

Legend A = Annual, R = Routine.

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12.15.21/1510 M;A		[signature]	12/15/21 1510
[signature]	12/15/21 1920	ECI	[signature]	12/15/21 1720

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: ___X___
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements: (Check)
No Level IV: _____ All Level IV: ___X___

* Hand-delivered separately by H;A

2.0/29, 2.6/35 SCG

CHAIN OF CUSTODY FORM

Client Name/Address.	Project:	Project Manager: Katherine Miller
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Annual Outfall [003-007, 009, 010] Outfall 009 Comp	520.289.8606, 520.904.6944 (cell)
Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218		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:		

									A	A	A	A	A	ANALYSIS REQUIRED													
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Priority Pollutants-SVOCs (E625)	Asbestos (EPA100.2) OF009 only	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Cr (VI), Total (E218.6)	LL Mercury total recoverable + dissolved(E1631)													Comments
Outfall 009	Outfall009_20211215_Comp	12/15/2021 1130	WM	1 L Glass Amber	2	None	175	No	X																	
			WM	1L Poly	1	None	270	No		X																Only at Outfall 009
			WM	1 L Glass Amber	2	None	275	No			X															extract within 24-Hours of sampling.
			WM	500 mL Poly	1	None	260	No				X														
	Outfall009_20211215_Comp	12/15/2021 1130	WM	250 Glass	1	HCl	330	No					X													
	Outfall009_20211215_Comp_Extra	12/15/2021 1130	WM	1 L Glass Amber	2	None	175	No	H																	Hold
			WM	1 L Glass Amber	2	None	275	No			H															Hold

Legend: A = Annual

Relinquished By	Date/Time:	Company	Received By	Date/Time:
	12.15.21/1510	H&A		12/15/21 1510
Relinquished By	Date/Time:	Company	Received By	Date/Time:
	12/15/21 1720	ECI		12/15/21 17:20
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 LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-145790 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78864-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 12/29/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 44024446			
Project Name: Boeing NPDES SSFL Outfalls	SSOW#:			
Site				

Analysis Requested

Preservation Codes

A - HCL	M Hexane		
B - NaOH	N None		
C - Zn Acetate	O AsNaO2		
D - Nitric Acid	P Na2O4S		
E - NaHSO4	Q Na2SO3		
F - MeOH	R Na2S2O3		
G - Amchlor	S H2SO4		
H - Ascorbic Acid	T TSP Dodecahydrate		
I - Ice	U Acetone		
J - DI Water	V MCAA		
K - EDTA	W pH 4-5		
L - EDA	Z other (specify)		

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11 30 Pacific		Water			X	X	X	X	X	X	X	6	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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Relinquished by:	Date/Time: 12/16/21 1509	Company	Received by:	Date/Time:	Company
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-145795 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: EMSL Analytical Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78864-2
Address: 520 Mission Street,	Due Date Requested: 1/10/2022			
City: South Pasadena	TAT Requested (days):			
State Zip: CA, 91030				
Phone:	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: ~~44024446~~ 570-78864			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M Hexane
N None
O - AsNaO2
P - Na2O4S
Q Na2SO3
R - Na2S2O3
S - H2SO4
T TSP Dodecahydrate
U Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Asbestos 100.2)/ Asbestos 100.2	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11 30 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 12/16/21 1529	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-145800 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Frontier Global Sciences LLC		Accreditations Required (See note): State Program - California		Job #: 570-78864-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/10/2022			
City: Tacoma	TAT Requested (days)			
State, Zip: WA, 98424				
Phone	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: ~~44024446~~ 570-78864			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V - MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11 30 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	12/16/21 1555				
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-145828 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78864-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/5/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11 30 Pacific		Water			X	2	See QAS, Boeing_w/u to zero. Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	12/16/21 1717				
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: 570-78864-4

Login Number: 78864
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: 570-78864-4

Login Number: 78864
List Number: 3
Creator: Johnson, Autumn R

List Source: Eurofins St. Louis
List Creation: 12/17/21 01:53 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-78864-5
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/28/2022 4:28:26 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Method Summary 5
Sample Summary 6
Subcontract Data 7
Chain of Custody 11
Receipt Checklists 17

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-78864-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-78864-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Job ID: 570-78864-5

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-78864-5

Comments
No additional comments.

Receipt
The samples were received on 12/15/2021 5:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice.

Metals
Method 200.2: The reference method requires samples to be preserved to a pH of <2. The following samples were received with insufficient preservation at a pH of >2: Outfall009_20211215_Comp (570-78864-1) and LXBMP001_20211224 (570-80272-1). The sample was preserved to the appropriate pH in the laboratory.

01/07/22 @ 08:36 hours
1.0 mL 1:1 HNO3
1:1 HNO3 # 6803471

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method 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.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method	Method Description	Protocol	Laboratory
Subcontract	Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units)	None	Weck Lab

Protocol References:

None = None

Laboratory References:

Weck Lab = Weck Laboratories, Inc., 14859 E. Clark Avenue, City of Industry, CA 91745

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78864-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-78864-1	Outfall009_20211215_Comp	Water	12/15/21 11:30	12/15/21 17:20

WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Work Orders: 1L15073

Project: 570-78864-1

Attn: Virendra Patel

Client: Eurofins Calscience - Garden Grove
7440 Lincoln Way
Garden Grove, CA 92841-1432

Report Date: 1/28/2022
Received Date: 12/15/2021
Turnaround Time: Normal
Phones: (714) 895-5494
Fax: (714) 894-7501
P.O. #: 570-78864-1
Billing Code:

Dear Virendra Patel,

Enclosed are the results of analyses for samples received 12/15/21 with the Chain-of-Custody document. The samples were received in good condition, at 2.8 °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: Outfall_20211215_Comp (570-78864-1) — Sampled: 12/15/21 11:30 by Client

1L15073-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 525.2M			**Instr:** GCMS13				
Batch ID: W1L1108 **Preparation:** EPA 525.2/SPE			**Prepared:** 12/16/21 08:30				**Analyst:** EFC
Chlorpyrifos	ND	6.9	10	ng/l	1	12/23/21	
Diazinon	ND	5.2	10	ng/l	1	12/23/21	
Surrogate(s)							
1,3-Dimethyl-2-nitrobenzene	*89%*		*50-141*	*Conc: 443*		*12/23/21*	
Triphenyl phosphate	*150%*		*63-200*	*Conc: 748*		*12/23/21*	

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 (W1L1108-BLK1)					**Prepared: 12/16/21**	**Analyzed: 12/23/21**					
Chlorpyrifos	ND	6.9	10	ng/l							
Diazinon	ND	5.2	10	ng/l							
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*364*			*ng/l*	*500*		*73*	*50-141*			
Triphenyl phosphate	*511*			*ng/l*	*500*		*102*	*63-200*			
LCS (W1L1108-BS1)					**Prepared: 12/16/21**	**Analyzed: 12/23/21**					
Chlorpyrifos	44.3	6.9	10	ng/l	50.0		89	63-145			
Diazinon	23.8	5.2	10	ng/l	50.0		48	25-180			
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*392*			*ng/l*	*500*		*78*	*50-141*			
Triphenyl phosphate	*531*			*ng/l*	*500*		*106*	*63-200*			
Matrix Spike (W1L1108-MS1)	**Source: 1L15073-01**				**Prepared: 12/16/21**	**Analyzed: 12/23/21**					
Chlorpyrifos	58.8	6.9	10	ng/l	50.0	*ND*	118	37-168			
Diazinon	41.4	5.2	10	ng/l	50.0	*ND*	83	36-153			
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*476*			*ng/l*	*500*		*95*	*50-141*			
Triphenyl phosphate	*722*			*ng/l*	*500*		*144*	*63-200*			
Matrix Spike Dup (W1L1108-MSD1)	**Source: 1L15073-01**				**Prepared: 12/16/21**	**Analyzed: 12/23/21**					
Chlorpyrifos	46.4	6.9	10	ng/l	50.0	*ND*	93	37-168	24	30	
Diazinon	36.1	5.2	10	ng/l	50.0	*ND*	72	36-153	14	30	
Surrogate(s)											
1,3-Dimethyl-2-nitrobenzene	*436*			*ng/l*	*500*		*87*	*50-141*			
Triphenyl phosphate	*649*			*ng/l*	*500*		*130*	*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:

Rahul R. Nair
Project Manager

ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • HW-DOH #4047 • LACSD #10143 • NELAP-OR #4047 • NJ-DEP #CA015 • NV-DEP #NAC 445A • SCAQMD #93LA1006

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

C570-78864

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California	
Address: 14859 E. Clark Avenue,	Due Date Requested: STANDARD	Analysis Requested	
City: City of Industry	TAT Requested (days):		
State, Zip: CA, 91745			
Phone:	PO #:		
Email:	WO #: ECI Login# 570-78810		
Project Name: Boeing NPDES SSFL Outfalls	Project #:		
Site:	SSOW#:		

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units)) – Report with "J" flags MDL	
			Preservation Code:					
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11:30 Pacific		Water			X	
Outfall009_20211215_Comp_Extra (570-78864-3)	12/15/21	11:30 Pacific		Water			H	HOLD

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-o 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 accreditat 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 reta
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Ar
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:

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-78864 COC

Client Name/Address:	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Annual Outfall [003-007 009, 010] Outfall 009 Comp
Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler:	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/A) Total Recoverable Metals: (E200.7): Al, B, Fe, Ni, V Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	(R) TCDD (and all congeners) (E1613B)	(R/A) Cl-, F-, SO4, NO3+NO2-N, Perchlorate (E300)	(R) TDS (SM2540C/E160.1)	(A) TSS (160.2 (SM2540D))	(R/A) Total Dissolved Metals (E200.7): Al, B, Fe, Ni, V Zn, Hardness as CaCO3 (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)	Chronic Toxicity Selenastrum (EPA-821-R-02-013) ABC Labs enti ra CA	(r) Cyanide (SM4500-CN-E / E335.2)	(A) Priority Pollutants-Pesticides+PCBs (E608)	(R) Total Recoverable Metals: Mercury (E245.1)	(R) Total Dissolved Metals: Mercury (E245.1)		Comments
Outfall 009	Outfall009_20211215_Comp	12/15/2021 / 1130	WM	500 mL Poly	1	HNO_3	85	No	X										X			
			WM	1 L Glass Amber	2	None	110	No		X												
			WM	500 mL Poly	2	None	135	No			X											48 hours Holding Time NO3 & NO2
			WM	500 mL Poly	1	None	155	No				X										
			WM	1 L Poly	1	None	185	No					X									
			WM	500 mL Poly	1	NaOH	220	No									X					
			WM	1 L Poly	6	HNO3	325	No							X							Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 Gal Cube	6	None	235	No								X						Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA *
			WM	1 L Glass Amber	2	None	250	No										X				
	Outfall009_20211215_Comp_F	12/15/2021 / 1130	WM	1 L Poly	1	None	195	No						X								Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No												X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall009_20211215_Comp_Extra	12/15/2021 / 1130	WM	1 L Glass Amber	2	None	110	No		H												Hold
			WM	500 mL Poly	2	None	135	No			H											Hold
			WM	1 L Glass Amber	2	None	250	No										H				Hold

Legend A = Annual, R = Routine,

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
[signature]	12-15-21/1510	H&A	[signature]	12/15/21 1510	Turn-around time: (Check) 24 Hour: ____ 72 Hour: ____ 10 Day: X 48 Hour: ____ 5 Day: ____ Normal: ____
[signature]	12/15/21 1920	ECI	[signature]	12/15/21 1720 EC	Sample Integrity: (Check) Intact: ____ On Ice: ____
					Store samples for 6 months. Data Requirements: (Check) No Level IV: ____ All Level IV: X

* Hand-delivered seperately by H&A

2.0/2.9, 2.6/3.5 SCG

Rainy Season 2019-2020
Version 2

CHAIN OF CUSTODY FORM

Client Name/Address.	Project:	Project Manager: Katherine Miller
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Annual Outfall [003-007, 009, 010] Outfall 009 Comp	520.289.8606, 520.904.6944 (cell)
Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218		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:		

									ANALYSIS REQUIRED																
									A	A	A	A	A												
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Priority Pollutants-SVOCs (E625)	Asbestos (EPA100.2) OF009 only	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Cr (VI), Total (E218.6)	LL Mercury total recoverable + dissolved(E1631)												Comments
Outfall 009	Outfall009_20211215_Comp	12/15/2021 1130	WM	1 L Glass Amber	2	None	175	No	X																
			WM	1L Poly	1	None	270	No		X															Only at Outfall 009
			WM	1 L Glass Amber	2	None	275	No			X														extract within 24-Hours of sampling.
			WM	500 mL Poly	1	None	260	No				X													
	Outfall009_20211215_Comp	12/15/2021 1130	WM	250 Glass	1	HCl	330	No					X												
	Outfall009_20211215_Comp_Extra	12/15/2021 1130	WM	1 L Glass Amber	2	None	175	No	H																Hold
			WM	1 L Glass Amber	2	None	275	No			H														Hold

Legend: A = Annual

Relinquished By	Date/Time:	Company	Received By	Date/Time:
	12.15.21/1510	H&A		12/15/21 1510
Relinquished By	Date/Time:	Company	Received By	Date/Time:
	12/15/21 1720	ECI		12/15/21 17:20
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 LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-145790 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78864-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 12/29/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:				
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane		
B - NaOH	N None		
C - Zn Acetate	O AsNaO2		
D - Nitric Acid	P Na2O4S		
E - NaHSO4	Q Na2SO3		
F - MeOH	R Na2S2O3		
G - Amchlor	S H2SO4		
H - Ascorbic Acid	T TSP Dodecahydrate		
I - Ice	U Acetone		
J - DI Water	V MCAA		
K - EDTA	W pH 4-5		
L - EDA	Z other (specify)		

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	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/FIII_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11 30 Pacific		Water			X	X	X	X	X	X	X	6	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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Relinquished by: [signature]	Date/Time: 12/16/21 1509	Company	Received by:	Date/Time:	Company
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/28/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-145795 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: EMSL Analytical Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78864-2
Address: 520 Mission Street,	Due Date Requested: 1/10/2022			
City: South Pasadena	TAT Requested (days):			
State Zip: CA, 91030				
Phone:	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: ~~44024446~~ 570-78864			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M Hexane
N None
O - AsNaO2
P - Na2O4S
Q Na2SO3
R - Na2S2O3
S - H2SO4
T TSP Dodecahydrate
U Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Asbestos 100.2)/ Asbestos 100.2	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11 30 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time: 12/16/21 1529				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

1/28/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-145800 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Frontier Global Sciences LLC		Accreditations Required (See note): State Program - California		Job #: 570-78864-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/10/2022			
City: Tacoma	TAT Requested (days)			
State, Zip: WA, 98424				
Phone	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: ~~44024446~~ 570-78864			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V - MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11 30 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	12/16/21 1555				
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

1/28/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-145828 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78864-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/5/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
Outfall009_20211215_Comp (570-78864-1)	12/15/21	11 30 Pacific		Water			X	2	See QAS, Boeing_w/u to zero. Use Boeing glassware

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/16/21 1717				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-78864-5

Login Number: 78864
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80139-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/9/2022 9:31:32 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Client Sample Results 6
QC Sample Results 7
QC Association Summary 8
Lab Chronicle 9
Certification Summary 10
Method Summary 11
Sample Summary 12
Chain of Custody 13
Receipt Checklists 14

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80139-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-80139-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Job ID: 570-80139-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80139-1

Comments
No additional comments.

Receipt
The samples were received on 12/27/2021 5:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.9º C.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 1664A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-203858. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 1664.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80139-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Client Sample ID: Outfall009_20211224_Grab
Lab Sample ID: 570-80139-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80139-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

General Chemistry

Client Sample ID: Outfall009_20211224_Grab
Lab Sample ID: 570-80139-1
Date Collected: 12/24/21 08:10
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.1	0.55	mg/L		12/28/21 13:00	12/28/21 13:00	1

QC Sample Results

Client: Haley & Aldrich, Inc.
Job ID: 570-80139-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-203858/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204595
Prep Batch: 203858

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		12/27/21 13:19	12/27/21 13:19	1

Lab Sample ID: LCS 570-203858/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204595
Prep Batch: 203858

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
HEM (Oil & Grease)			40.0	34.9		mg/L		87	78 - 114		

Lab Sample ID: LCSD 570-203858/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204595
Prep Batch: 203858

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM (Oil & Grease)			40.0	33.4		mg/L		83	78 - 114	4	18

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80139-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

General Chemistry

Prep Batch: 203858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80139-1	Outfall009_20211224_Grab	Total/NA	Water	1664A	
MB 570-203858/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-203858/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-203858/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

Analysis Batch: 204595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80139-1	Outfall009_20211224_Grab	Total/NA	Water	1664A	203858
MB 570-203858/1-A	Method Blank	Total/NA	Water	1664A	203858
LCS 570-203858/2-A	Lab Control Sample	Total/NA	Water	1664A	203858
LCSD 570-203858/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	203858

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80139-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Client Sample ID: Outfall009_20211224_Grab
Lab Sample ID: 570-80139-1

Date Collected: 12/24/21 08:10
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664A			932 mL	1000 mL	203858	12/28/21 13:00	USUL	ECL 1
Total/NA	Analysis	1664A		1			204595	12/28/21 13:00	OM8W	ECL 1
	Instrument ID: ICPMS05									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80139-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80139-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Method	Method Description	Protocol	Laboratory
1664A	HEM and SGT-HEM	1664A	ECL 1
1664A	HEM and SGT-HEM (Aqueous)	1664A	ECL 1

Protocol References:

1664A = EPA-821-98-002

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80139-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Grab

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80139-1	Outfall009_20211224_Grab	Water	12/24/21 08:10	12/27/21 17:35

80139

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

WYR7R59L

R

Client Name/Address.	Project:	ANALYSIS REQUIRED	Field Readings	Meter serial #
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego CA 92108 Eurofins Calscience Irvine Contact: Virendra Patel **ECI# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	Boeing-SSFL NPDES Permit 2021 Routine Outfall [003-007, 009, 010] Outfall 009 Grab	Oil & Grease (E1664A-HEM)	**Field Readings: (Include units)** **Time of Readings:** 0805 **pH** 7.40 **pH unit** **Temp** 50.2 **C/°F**	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)			
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		**Field readings QC** **Checked by:** [signature] **Date/Time:** 12-24-2021/0805	

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_20211224_Grab	12/24/2021 0810	WM	1 L Glass Amber	2	HCl	15	No	X	
	Outfall009_20211224_Grab_Extra	12/24/2021 0810	WM	1 L Glass Amber	2	HCl	15	No	H	Hold

Legend: R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12-27-2021/1445	[signature]	[signature] ECI	12/27/21 1445
[signature]	12/27/21 1735		[signature]	12/27/21 1735

Turn-around time: (Check)
24 Hour: ____ 72 Hour: ____ 10 Day: X
48 Hour: ____ 5 Day: ____ Normal: ____

Sample Integrity: (Check)
Intact: ____ On Ice: ____
Store samples for 6 months.

Data Requirements. (Check)
No Level IV: ____ All Level IV: X

20/29 SCS

570-80139 Chain of Custody

1/9/2022

2019-2020 Rainy Season
Version 2

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80139-1

Login Number: 80139
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80142-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp
Revision: 4

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/15/2022 2:13:09 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 6
Client Sample Results 7
QC Sample Results 16
QC Association Summary 24
Lab Chronicle 28
Certification Summary 29
Method Summary 30
Sample Summary 31
Chain of Custody 32
Receipt Checklists 37

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80142-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 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
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80142-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80142-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 1/24/2022. The report (revision 4) is being revised due to: Reissued PDF report without e-mail request for EPA 200.8 metals review per Katherine Miller on 02/15/2022.

Report revision history
Revision 1 - 2/1/2022 - Reason - The client requested the case narrative to be revised to include additional testing required for Aquatic Bioassay labs..

Revision 2 - 2/6/2022 - Reason - The results were revised for EPA 200.8 metals confrimation..

Revision 3 - 2/14/2022 - Reason - The results were revised for EPA 200.8 metals confrimation. Confirmation run data does not support the original results released. The laboratory suspects the incorrect sample was analyzed in error. We have replaced the EPA 200.8 metals data to report the confirmation data only.

Client approved TST to be performed on January 6th, 2022 at 11:03am by Katherine Miller *H&A".

Receipt
The samples were received on 12/27/2021 5:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.3º C and 3.8º C.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall009_20211226_Comp_F (570-80142-2). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method 200.8: Results for the following sample have been revised from those originally reported. It is suspected that the prep analyst inadvertently switched the sample during the digestion procedure. The sample has been redigested to confirm results. Therefore, sample results have been revised and reported.

Outfall009_20211226_Comp (570-80142-1)

Method 245.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate(MS/MSD) associated with preparation batch 440-663587 and 440-664073.

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall009_20211226_Comp_F (570-80142-2). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to Tustin relocation.

12/29/21 @ 14:40 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall009_20211226_Comp_F (570-80142-2). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to Tustin relocation.

Job ID: 570-80142-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

12/29/21 @ 15:47 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20211226_Comp
Lab Sample ID: 570-80142-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4.7	J,DX	5.0	1.8	mg/L	5		300.0	Total/NA
Nitrate as N	3.1		0.50	0.12	mg/L	5		300.0	Total/NA
Sulfate	3.7	J,DX	5.0	1.2	mg/L	5		300.0	Total/NA
Nitrate Nitrite as N	3.1		0.15	0.055	mg/L	1		NO3NO2 Calc	Total/NA
Zinc	14	J,DX	20	12	ug/L	1		200.7 Rev 4.4	Total Recoverable
Copper	3.6		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	2.0		1.0	0.50	ug/L	1		200.8	Total Recoverable
Antimony	0.64	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Total Dissolved Solids	89		10	3.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	31		2.0	1.0	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Outfall009_20211226_Comp_F
Lab Sample ID: 570-80142-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	2.8		2.0	0.50	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall009_20211226_Comp
Lab Sample ID: 570-80142-1
Date Collected: 12/26/21 08:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4.7**	**J,DX**	5.0	1.8	mg/L			12/28/21 05:57	5
Nitrite as N	ND		0.50	0.090	mg/L			12/28/21 05:57	5
Nitrate as N	**3.1**		0.50	0.12	mg/L			12/28/21 05:57	5
Sulfate	**3.7**	**J,DX**	5.0	1.2	mg/L			12/28/21 05:57	5

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: NO3NO2 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall009_20211226_Comp
Lab Sample ID: 570-80142-1
Date Collected: 12/26/21 08:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	3.1		0.15	0.055	mg/L			02/01/22 12:09	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: Outfall009_20211226_Comp
Lab Sample ID: 570-80142-1
Date Collected: 12/26/21 08:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	ND		10	5.0	ug/L		01/18/22 17:17	01/19/22 12:37	1
Zinc	**14**	**J,DX**	20	12	ug/L		01/18/22 17:17	01/19/22 12:37	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: Outfall009_20211226_Comp_F
Lab Sample ID: 570-80142-2
Date Collected: 12/26/21 08:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	ND		10	5.0	ug/L		12/30/21 07:56	12/30/21 14:21	1
Zinc	ND		20	12	ug/L		12/30/21 07:56	12/30/21 14:21	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall009_20211226_Comp
Lab Sample ID: 570-80142-1
Date Collected: 12/26/21 08:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		02/11/22 10:22	02/11/22 14:36	1
Cadmium	ND		1.0	0.25	ug/L		02/11/22 10:22	02/11/22 14:36	1
Copper	**3.6**		2.0	0.50	ug/L		02/11/22 10:22	02/11/22 14:36	1
Lead	**2.0**		1.0	0.50	ug/L		02/11/22 10:22	02/11/22 14:36	1
Antimony	**0.64**	**J,DX**	2.0	0.50	ug/L		02/11/22 10:22	02/11/22 14:36	1
Selenium	ND		2.0	0.50	ug/L		02/11/22 10:22	02/11/22 14:36	1
Thallium	ND		1.0	0.20	ug/L		02/11/22 10:22	02/11/22 14:36	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall009_20211226_Comp_F
Lab Sample ID: 570-80142-2
Date Collected: 12/26/21 08:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:49	1
Cadmium	ND		1.0	0.25	ug/L		12/29/21 16:21	12/30/21 12:49	1
Copper	**2.8**		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:49	1
Lead	ND		1.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:49	1
Antimony	ND		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:49	1
Selenium	ND		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:49	1
Thallium	ND		1.0	0.20	ug/L		12/29/21 16:21	12/30/21 12:49	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 245.1 - Mercury (CVAA)

Client Sample ID: Outfall009_20211226_Comp
Lab Sample ID: 570-80142-1
Date Collected: 12/26/21 08:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/19/22 15:04	01/20/22 19:34	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall009_20211226_Comp_F
Lab Sample ID: 570-80142-2
Date Collected: 12/26/21 08:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.25	0.12	ug/L		01/19/22 17:58	01/20/22 19:56	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

General Chemistry

Client Sample ID: Outfall009_20211226_Comp
Lab Sample ID: 570-80142-1
Date Collected: 12/26/21 08:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**89**		10	3.0	mg/L			12/29/21 10:13	1
Total Suspended Solids	**31**		2.0	1.0	mg/L			12/29/21 12:18	1
Cyanide, Total	ND		0.0030	0.0014	mg/L		12/29/21 13:00	12/30/21 15:18	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-203940/15
Matrix: Water
Analysis Batch: 203940

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			12/28/21 00:35	1
Nitrate as N	ND		0.10	0.024	mg/L			12/28/21 00:35	1

Lab Sample ID: LCS 570-203940/16
Matrix: Water
Analysis Batch: 203940

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	2.39		mg/L		96	90 - 110
Nitrate as N	5.00	4.87		mg/L		97	90 - 110

Lab Sample ID: LCSD 570-203940/17
Matrix: Water
Analysis Batch: 203940

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	2.40		mg/L		96	90 - 110	1	15
Nitrate as N	5.00	4.87		mg/L		97	90 - 110	0	15

Lab Sample ID: MB 570-203941/15
Matrix: Water
Analysis Batch: 203941

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			12/28/21 00:35	1
Sulfate	ND		1.0	0.24	mg/L			12/28/21 00:35	1

Lab Sample ID: LCS 570-203941/16
Matrix: Water
Analysis Batch: 203941

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	48.2		mg/L		96	90 - 110
Sulfate	50.0	49.2		mg/L		98	90 - 110

Lab Sample ID: LCSD 570-203941/17
Matrix: Water
Analysis Batch: 203941

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50.0	48.1		mg/L		96	90 - 110	0	15
Sulfate	50.0	49.1		mg/L		98	90 - 110	0	15

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 570-79264-H-1 MS
Matrix: Water
Analysis Batch: 203940

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N - DL	ND		2.50	2.60		mg/L		104	80 - 120		
Nitrate as N - DL	0.19	J,DX	5.00	5.15		mg/L		99	80 - 120		

Lab Sample ID: 570-79264-H-1 MSD
Matrix: Water
Analysis Batch: 203940

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N - DL	ND		2.50	2.74		mg/L		110	80 - 120	5	20
Nitrate as N - DL	0.19	J,DX	5.00	5.33		mg/L		103	80 - 120	3	20

Lab Sample ID: 570-79264-H-1 MS
Matrix: Water
Analysis Batch: 203941

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride - DL	26		50.0	72.2		mg/L		92	80 - 120		
Sulfate - DL	120		50.0	178		mg/L		108	80 - 120		

Lab Sample ID: 570-79264-H-1 MSD
Matrix: Water
Analysis Batch: 203941

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride - DL	26		50.0	74.6		mg/L		97	80 - 120	3	20
Sulfate - DL	120		50.0	183		mg/L		117	80 - 120	3	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-664761/1-A
Matrix: Water
Analysis Batch: 664862

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664761

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	ND		10	5.0	ug/L		01/18/22 17:17	01/19/22 12:33	1
Zinc	ND		20	12	ug/L		01/18/22 17:17	01/19/22 12:33	1

Lab Sample ID: LCS 440-664761/2-A
Matrix: Water
Analysis Batch: 664862

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664761

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nickel			500	544		ug/L		109	85 - 115		
Zinc			500	547		ug/L		109	85 - 115		

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 570-80142-1 MS — **Client Sample ID: Outfall009_20211226_Comp**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 664862 — **Prep Batch: 664761**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nickel	ND		500	547		ug/L		109	70 - 130
Zinc	14	J,DX	500	562		ug/L		110	70 - 130

Lab Sample ID: 570-80142-1 MSD — **Client Sample ID: Outfall009_20211226_Comp**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 664862 — **Prep Batch: 664761**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nickel	ND		500	560		ug/L		112	70 - 130	2	20
Zinc	14	J,DX	500	567		ug/L		111	70 - 130	1	20

Lab Sample ID: MB 440-663584/1-C — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 663658 — **Prep Batch: 663619**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	9.00	J,DX	10	5.0	ug/L		12/30/21 07:56	12/30/21 14:16	1
Zinc	ND		20	12	ug/L		12/30/21 07:56	12/30/21 14:16	1

Lab Sample ID: LCS 440-663584/2-C — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 663658 — **Prep Batch: 663619**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nickel	500	470		ug/L		94	85 - 115
Zinc	500	468		ug/L		94	85 - 115

Lab Sample ID: 570-80142-2 MS — **Client Sample ID: Outfall009_20211226_Comp_F**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 663658 — **Prep Batch: 663619**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nickel	ND		500	482		ug/L		96	70 - 130
Zinc	ND		500	489		ug/L		98	70 - 130

Lab Sample ID: 570-80142-2 MSD — **Client Sample ID: Outfall009_20211226_Comp_F**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 663658 — **Prep Batch: 663619**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nickel	ND		500	476		ug/L		95	70 - 130	1	20
Zinc	ND		500	482		ug/L		96	70 - 130	2	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-666888/1-A
Matrix: Water
Analysis Batch: 666924

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 666888

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		02/11/22 10:22	02/11/22 14:24	1
Cadmium	ND		1.0	0.25	ug/L		02/11/22 10:22	02/11/22 14:24	1
Copper	ND		2.0	0.50	ug/L		02/11/22 10:22	02/11/22 14:24	1
Lead	ND		1.0	0.50	ug/L		02/11/22 10:22	02/11/22 14:24	1
Antimony	ND		2.0	0.50	ug/L		02/11/22 10:22	02/11/22 14:24	1
Selenium	ND		2.0	0.50	ug/L		02/11/22 10:22	02/11/22 14:24	1
Thallium	ND		1.0	0.20	ug/L		02/11/22 10:22	02/11/22 14:24	1

Lab Sample ID: LCS 440-666888/2-A
Matrix: Water
Analysis Batch: 666924

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 666888

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	68.3		ug/L		85	85 - 115
Cadmium	80.0	74.2		ug/L		93	85 - 115
Copper	80.0	72.3		ug/L		90	85 - 115
Lead	80.0	76.6		ug/L		96	85 - 115
Antimony	80.0	76.3		ug/L		95	85 - 115
Selenium	80.0	73.8		ug/L		92	85 - 115
Thallium	80.0	76.5		ug/L		96	85 - 115

Lab Sample ID: 440-295271-A-1-B MS ^5
Matrix: Water
Analysis Batch: 666924

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 666888

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	4.9	J,DX	80.0	69.2		ug/L		80	70 - 130
Cadmium	ND		80.0	74.8		ug/L		93	70 - 130
Copper	ND		80.0	74.8		ug/L		94	70 - 130
Lead	ND		80.0	75.5		ug/L		94	70 - 130
Antimony	9.5	J,DX	80.0	88.9		ug/L		99	70 - 130
Selenium	19		80.0	89.3		ug/L		88	70 - 130
Thallium	ND		80.0	73.3		ug/L		92	70 - 130

Lab Sample ID: 440-295271-A-1-C MSD ^5
Matrix: Water
Analysis Batch: 666924

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 666888

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	4.9	J,DX	80.0	70.2		ug/L		82	70 - 130	1	20
Cadmium	ND		80.0	74.3		ug/L		93	70 - 130	1	20
Copper	ND		80.0	74.9		ug/L		94	70 - 130	0	20
Lead	ND		80.0	74.2		ug/L		93	70 - 130	2	20
Antimony	9.5	J,DX	80.0	87.0		ug/L		97	70 - 130	2	20
Selenium	19		80.0	90.1		ug/L		89	70 - 130	1	20
Thallium	ND		80.0	72.7		ug/L		91	70 - 130	1	20

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 440-663584/1-B
Matrix: Water
Analysis Batch: 663652

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663593

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:45	1
Cadmium	ND		1.0	0.25	ug/L		12/29/21 16:21	12/30/21 12:45	1
Copper	ND		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:45	1
Lead	ND		1.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:45	1
Antimony	ND		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:45	1
Selenium	ND		2.0	0.50	ug/L		12/29/21 16:21	12/30/21 12:45	1
Thallium	ND		1.0	0.20	ug/L		12/29/21 16:21	12/30/21 12:45	1

Lab Sample ID: LCS 440-663584/2-B
Matrix: Water
Analysis Batch: 663652

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663593

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	77.6		ug/L		97	85 - 115
Cadmium	80.0	74.8		ug/L		94	85 - 115
Copper	80.0	74.3		ug/L		93	85 - 115
Lead	80.0	75.7		ug/L		95	85 - 115
Antimony	80.0	85.1		ug/L		106	85 - 115
Selenium	80.0	75.1		ug/L		94	85 - 115
Thallium	80.0	75.5		ug/L		94	85 - 115

Lab Sample ID: 570-80142-2 MS
Matrix: Water
Analysis Batch: 663652

Client Sample ID: Outfall009_20211226_Comp_F
Prep Type: Dissolved
Prep Batch: 663593

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	78.4		ug/L		98	70 - 130
Cadmium	ND		80.0	75.1		ug/L		94	70 - 130
Copper	2.8		80.0	78.5		ug/L		95	70 - 130
Lead	ND		80.0	76.5		ug/L		96	70 - 130
Antimony	ND		80.0	86.0		ug/L		108	70 - 130
Selenium	ND		80.0	74.6		ug/L		93	70 - 130
Thallium	ND		80.0	76.4		ug/L		95	70 - 130

Lab Sample ID: 570-80142-2 MSD
Matrix: Water
Analysis Batch: 663652

Client Sample ID: Outfall009_20211226_Comp_F
Prep Type: Dissolved
Prep Batch: 663593

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	80.9		ug/L		101	70 - 130	3	20
Cadmium	ND		80.0	77.6		ug/L		97	70 - 130	3	20
Copper	2.8		80.0	81.6		ug/L		98	70 - 130	4	20
Lead	ND		80.0	79.4		ug/L		99	70 - 130	4	20
Antimony	ND		80.0	89.1		ug/L		111	70 - 130	4	20
Selenium	ND		80.0	76.6		ug/L		96	70 - 130	3	20
Thallium	ND		80.0	79.0		ug/L		99	70 - 130	3	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-208325/1-A
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208325

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/19/22 15:04	01/20/22 18:41	1

Lab Sample ID: LCS 570-208325/2-A
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208325

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	9.44		ug/L		94	85 - 115

Lab Sample ID: LCSD 570-208325/3-A
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208325

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	10.0	9.47		ug/L		95	85 - 115	0	10

Lab Sample ID: 570-81280-A-2-B MS
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 208325

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		10.0	8.92		ug/L		89	70 - 130

Lab Sample ID: 570-81280-A-2-C MSD
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 208325

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	9.44		ug/L		94	70 - 130	6	10

Lab Sample ID: MB 570-208358/1-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 208361

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/19/22 17:58	01/20/22 19:43	1

Lab Sample ID: LCS 570-208358/2-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	9.71		ug/L		97	85 - 115

Lab Sample ID: LCSD 570-208358/3-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	10.0	9.72		ug/L		97	85 - 115	0	10

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: 570-80124-C-3-I MS
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		10.0	9.27		ug/L		93	70 - 130

Lab Sample ID: 570-80124-C-3-L MSD
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	9.28		ug/L		93	70 - 130	0	10

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-663505/1
Matrix: Water
Analysis Batch: 663505

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	3.0	mg/L			12/28/21 08:43	1

Lab Sample ID: LCS 440-663505/2
Matrix: Water
Analysis Batch: 663505

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	984		mg/L		98	90 - 110

Lab Sample ID: 440-293601-G-5 DU
Matrix: Water
Analysis Batch: 663505

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	4000		4070		mg/L		1	5

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-663578/1
Matrix: Water
Analysis Batch: 663578

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			12/29/21 12:18	1

Lab Sample ID: LCS 440-663578/2
Matrix: Water
Analysis Batch: 663578

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	1000	1110		mg/L		111	85 - 115

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: 440-293605-B-3 DU
Matrix: Water
Analysis Batch: 663578

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	210			202		mg/L				4	5

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 570-204823/1-A
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204823

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0030	0.0014	mg/L		12/29/21 13:00	12/30/21 15:07	1

Lab Sample ID: LCS 570-204823/2-A
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204823

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			0.0100	0.0104		mg/L		104	80 - 120		

Lab Sample ID: LCSD 570-204823/3-A
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204823

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total			0.0100	0.0111		mg/L		111	80 - 120	7	20

Lab Sample ID: 570-79831-I-1-A MS
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 204823

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total	ND		0.0100	0.0119	LM	mg/L		119	74 - 115		

Lab Sample ID: 570-79831-I-1-B MSD
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 204823

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		0.0100	0.0110		mg/L		110	74 - 115	8	20

HPLC/IC

Analysis Batch: 203940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total/NA	Water	300.0	
MB 570-203940/15	Method Blank	Total/NA	Water	300.0	
LCS 570-203940/16	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-203940/17	Lab Control Sample Dup	Total/NA	Water	300.0	
570-79264-H-1 MS - DL	Matrix Spike	Total/NA	Water	300.0	
570-79264-H-1 MSD - DL	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 203941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total/NA	Water	300.0	
MB 570-203941/15	Method Blank	Total/NA	Water	300.0	
LCS 570-203941/16	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-203941/17	Lab Control Sample Dup	Total/NA	Water	300.0	
570-79264-H-1 MS - DL	Matrix Spike	Total/NA	Water	300.0	
570-79264-H-1 MSD - DL	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 666054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total/NA	Water	NO3NO2 Calc	

Metals

Prep Batch: 208325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total/NA	Water	245.1	
MB 570-208325/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-208325/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-208325/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-81280-A-2-B MS	Matrix Spike	Total/NA	Water	245.1	
570-81280-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Filtration Batch: 208358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-2	Outfall009_20211226_Comp_F	Dissolved	Water	Filtration	
MB 570-208358/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-80124-C-3-I MS	Matrix Spike	Dissolved	Water	Filtration	
570-80124-C-3-L MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

Prep Batch: 208361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-2	Outfall009_20211226_Comp_F	Dissolved	Water	245.1	208358
MB 570-208358/1-B	Method Blank	Dissolved	Water	245.1	208358
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	245.1	208358
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	208358
570-80124-C-3-I MS	Matrix Spike	Dissolved	Water	245.1	208358
570-80124-C-3-L MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	208358

Metals

Analysis Batch: 208671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total/NA	Water	245.1	208325
570-80142-2	Outfall009_20211226_Comp_F	Dissolved	Water	245.1	208361
MB 570-208325/1-A	Method Blank	Total/NA	Water	245.1	208325
MB 570-208358/1-B	Method Blank	Dissolved	Water	245.1	208361
LCS 570-208325/2-A	Lab Control Sample	Total/NA	Water	245.1	208325
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	245.1	208361
LCSD 570-208325/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	208325
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	208361
570-80124-C-3-I MS	Matrix Spike	Dissolved	Water	245.1	208361
570-80124-C-3-L MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	208361
570-81280-A-2-B MS	Matrix Spike	Total/NA	Water	245.1	208325
570-81280-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	208325

Filtration Batch: 663584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-2	Outfall009_20211226_Comp_F	Dissolved	Water	FILTRATION	
MB 440-663584/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-663584/1-C	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663584/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-663584/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
570-80142-2 MS	Outfall009_20211226_Comp_F	Dissolved	Water	FILTRATION	
570-80142-2 MSD	Outfall009_20211226_Comp_F	Dissolved	Water	FILTRATION	

Prep Batch: 663593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-2	Outfall009_20211226_Comp_F	Dissolved	Water	200.2	663584
MB 440-663584/1-B	Method Blank	Dissolved	Water	200.2	663584
LCS 440-663584/2-B	Lab Control Sample	Dissolved	Water	200.2	663584
570-80142-2 MS	Outfall009_20211226_Comp_F	Dissolved	Water	200.2	663584
570-80142-2 MSD	Outfall009_20211226_Comp_F	Dissolved	Water	200.2	663584

Prep Batch: 663619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-2	Outfall009_20211226_Comp_F	Dissolved	Water	200.2	663584
MB 440-663584/1-C	Method Blank	Dissolved	Water	200.2	663584
LCS 440-663584/2-C	Lab Control Sample	Dissolved	Water	200.2	663584
570-80142-2 MS	Outfall009_20211226_Comp_F	Dissolved	Water	200.2	663584
570-80142-2 MSD	Outfall009_20211226_Comp_F	Dissolved	Water	200.2	663584

Analysis Batch: 663652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-2	Outfall009_20211226_Comp_F	Dissolved	Water	200.8	663593
MB 440-663584/1-B	Method Blank	Dissolved	Water	200.8	663593
LCS 440-663584/2-B	Lab Control Sample	Dissolved	Water	200.8	663593
570-80142-2 MS	Outfall009_20211226_Comp_F	Dissolved	Water	200.8	663593
570-80142-2 MSD	Outfall009_20211226_Comp_F	Dissolved	Water	200.8	663593

Analysis Batch: 663658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-2	Outfall009_20211226_Comp_F	Dissolved	Water	200.7 Rev 4.4	663619
MB 440-663584/1-C	Method Blank	Dissolved	Water	200.7 Rev 4.4	663619

Metals (Continued)

Analysis Batch: 663658 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-663584/2-C	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	663619
570-80142-2 MS	Outfall009_20211226_Comp_F	Dissolved	Water	200.7 Rev 4.4	663619
570-80142-2 MSD	Outfall009_20211226_Comp_F	Dissolved	Water	200.7 Rev 4.4	663619

Prep Batch: 664761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total Recoverable	Water	200.2	
MB 440-664761/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664761/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80142-1 MS	Outfall009_20211226_Comp	Total Recoverable	Water	200.2	
570-80142-1 MSD	Outfall009_20211226_Comp	Total Recoverable	Water	200.2	

Analysis Batch: 664862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total Recoverable	Water	200.7 Rev 4.4	664761
MB 440-664761/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	664761
LCS 440-664761/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	664761
570-80142-1 MS	Outfall009_20211226_Comp	Total Recoverable	Water	200.7 Rev 4.4	664761
570-80142-1 MSD	Outfall009_20211226_Comp	Total Recoverable	Water	200.7 Rev 4.4	664761

Prep Batch: 666888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total Recoverable	Water	200.2	
MB 440-666888/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-666888/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
440-295271-A-1-B MS ^5	Matrix Spike	Total Recoverable	Water	200.2	
440-295271-A-1-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 666924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total Recoverable	Water	200.8	666888
MB 440-666888/1-A	Method Blank	Total Recoverable	Water	200.8	666888
LCS 440-666888/2-A	Lab Control Sample	Total Recoverable	Water	200.8	666888
440-295271-A-1-B MS ^5	Matrix Spike	Total Recoverable	Water	200.8	666888
440-295271-A-1-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	200.8	666888

General Chemistry

Analysis Batch: 204811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total/NA	Water	SM 4500 CN E	204823
MB 570-204823/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	204823
LCS 570-204823/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	204823
LCSD 570-204823/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	204823
570-79831-I-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	204823
570-79831-I-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	204823

Prep Batch: 204823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total/NA	Water	SM 4500 CN C	
MB 570-204823/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	

General Chemistry (Continued)

Prep Batch: 204823 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-204823/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-204823/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-79831-I-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN C	
570-79831-I-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN C	

Analysis Batch: 663505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total/NA	Water	SM 2540C	
MB 440-663505/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-663505/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-293601-G-5 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 663578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total/NA	Water	SM 2540D	
MB 440-663578/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-663578/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-293605-B-3 DU	Duplicate	Total/NA	Water	SM 2540D	

Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 570-80142-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20211226_Comp — Lab Sample ID: 570-80142-1

Date Collected: 12/26/21 08:00 **Matrix: Water**
Date Received: 12/27/21 17:35

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		5			203940	12/28/21 05:57	URMH	ECL 1
	Instrument ID: IC10									
Total/NA	Analysis	300.0		5			203941	12/28/21 05:57	URMH	ECL 1
	Instrument ID: IC10									
Total/NA	Analysis	NO3NO2 Calc		1			666054	02/01/22 12:09	PN8W	IRV 2
	Instrument ID: NOEQUIP									
Total Recoverable	Prep	200.2			25 mL	25 mL	664761	01/18/22 17:17		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664862	01/19/22 12:37	P1R	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	666888	02/11/22 10:22		IRV 2
Total Recoverable	Analysis	200.8		1			666924	02/11/22 14:36	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Total/NA	Prep	245.1			50 mL	100 mL	208325	01/19/22 15:04	VWJ7	ECL 4
Total/NA	Analysis	245.1		1			208671	01/20/22 19:34	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	663505	12/29/21 10:13	VY3D	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540D		1	500 mL	1000 mL	663578	12/29/21 12:18	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	204823	12/29/21 13:00	UAPD	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	5 mL	5 mL	204811	12/30/21 15:18	UAPD	ECL 1
	Instrument ID: UV9									

Client Sample ID: Outfall009_20211226_Comp_F — Lab Sample ID: 570-80142-2

Date Collected: 12/26/21 08:00 **Matrix: Water**
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			200 mL	200 mL	663584	12/29/21 14:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663619	12/30/21 07:56	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			663658	12/30/21 14:21	K1UV	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			200 mL	200 mL	663584	12/29/21 14:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663593	12/29/21 16:21	LZY7	IRV 2
Dissolved	Analysis	200.8		1			663652	12/30/21 12:49	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	208358	01/19/22 17:49	UIAS	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	208361	01/19/22 17:58	VWJ7	ECL 4
Dissolved	Analysis	245.1		1			208671	01/20/22 19:56	VWJ7	ECL 1
	Instrument ID: HG7									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	ECL 1
NO3NO2 Calc	Nitrogen, Nitrate-Nitrite	EPA	IRV 2
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	ECL 1
SM 2540C	Solids, Total Dissolved (TDS)	SM	IRV 2
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 2
SM 4500 CN E	Cyanide, Total (Low Level)	SM	ECL 1
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	ECL 4
Filtration	Sample Filtration	None	ECL 4
FILTRATION	Sample Filtration	None	IRV 2
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80142-1	Outfall009_20211226_Comp	Water	12/26/21 08:00	12/27/21 17:35
570-80142-2	Outfall009_20211226_Comp_F	Water	12/26/21 08:00	12/27/21 17:35

80142

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80142 Chain of Custody

Client Name/Address.	Project:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Routine Outfall [003-007 009 010] Outfall 009 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **ECI# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Mark Dominick	Field Manager: Mark Dominick 978.234.5033, 818.599 0702 (cell)

ANALYSIS REQUIRED

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R: Total Recoverable Metals. (E200.7): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R: TCDD (and all congeners) (E1613B)	R: Cl⁻, SO_4, NO_3+NO_2-N (300)	R: TDS (SM2540C/E160.1)	R: Total Dissolved Metals. (E200.7): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R: Gross Alpha(E900.0) Gross Beta(E900.0) Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0) Uranium (E908.0), K-40, CS-137 (E901.0 or E901 1)	R: Chronic Toxicity Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	R: Cyanide (SM4500-CN-E / E335.2)	R: Total Recoverable Metals. Mercury (E245.1)	R: Total Dissolved Metals: Mercury (E245.1)	EP: TSS (160.2 (SM2540D))				Comments
Outfall 009	Outfall009_20211226_Comp	12/26/2021	WM	500 mL Poly	1	HNO_3	95	No	X								X						
			WM	1 L Glass Amber	2	None	110	No		X													
			WM	500 mL Poly	2	None	145	No			X												48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	155	No				X											
			WM	500 mL Poly	1	NaOH	220	No								X							
			WM	2.5 Gal Cube	1	None	225	No						X									Unfiltered and unpreserved analysis. Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No															
		*	WM	1 Gal Cube	6	None	235	No							X								Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA.
			WM	1 L Poly	1	None	185	No											X				
	Outfall009_20211226_Comp_F	12/26/2021	WM	1L Poly	1	None	205	No					X										Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No										X					Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall009_20211226_Comp_Extra	12/26/2021	WM	1 L Glass Amber	2	None	110	No		H													Hold
			WM	500 mL Poly	2	None	145	No			H												Hold

Legend: EP=Expert Panel, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
M Dominick	12-27-2021 / 1445	H'A	[signature]	ECI 12/27/21 1445	Turn-around time: (Check) 24 Hour ___ 72 Hour ___ 10 Day: X 48 Hour ___ 5 Day ___ Normal: ___
[signature]	12/27/21 1735		[signature]	12/27/21 1735	Sample Integrity: (Check) Intact: ___ On Ice: ___
					Store samples for 6 months. Data Requirements: (Check) No Level IV: ___ All Level IV: X

* Hand-delivered separately by H'A

2.4/3.3, 2.9/3.8 SCS

2019-2020 Rainy Season
Version 2

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147895 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80142-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/25/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PreoSep_21 Radium-226	904.0/PreoSep_0 Radium-228	905_Sr90/PreoSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note
			Preservation Code:												
Outfall009_20211226_Comp (570-80142-1)	12/26/21	08 00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/28/21 1252				
2						
3						

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-147926 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80142-2
Address: 880 Riverside Parkway	Due Date Requested: 1/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall009_20211226_Comp (570-80142-1)	12/26/21	08:00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L Use Boeing glassware
Outfall009_20211226_Comp_Extra (570-80142-3)	12/26/21	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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
12/28/21 1500					
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80142-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/5/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 Ni,,Zn	200.8/200.2 (MOD) Sb, Cd,Cu,Pb,Tl,Se,Ag	2540C_Calcd/ Solids, Total Dissolved (TDS)	245.1/245.1_Prep Mercury	2540D	200.8/FILTRATION (MOD) Sb, Cd,Cu,Pb,Tl,Se,Ag	245.1/FILTRATION Diss Mercury	200.7/FILTRATION Diss NiZn	Total Number of containers	Special Instructions/Note.
			Preservation Code:													
Outfall009_20211226_Comp (570-80142-1)	12/26/21	08 00 Pacific		Water			X	X	X	X	X				3	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall009_20211226_Comp_F (570-80142-2)	12/26/21	08 00 Pacific		Water								X	X	X	3	Filter within 24 hours of reciept use VOA vials from LL Hg Kit-Clean Hands

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements. IR-89 1.4/11.4

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
1		12/28/21	EC			
2	Relinquished by:	Date/Time:	Company	Received by: Olga Cinclos	Date/Time 12/28/21 1752	Company EAT
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks.

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80142-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/5/2022			
City: Tustin	TAT Requested (days)			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B NaOH	N None
C Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H Ascorbic Acid	T TSP Dodecahydrate
I Ice	U Acetone
J DI Water	V MCAA
K EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 Ni,Zn	200.8/200.2 (MOD) Sb, Cd,Cu,Pb,Tl,Se,Ag	2540C_Calcd/ Solids, Total Dissolved (TDS)	245.1/245.1_Prep Mercury	2540D	200.8/FILTRATION (MOD) Sb, Cd,Cu,Pb,Tl,Se,Ag	245.1/FILTRATION Diss Mercury	200.7/FILTRATION Diss NiZn	Total Number of containers	Special Instructions/Note:
			Preservation Code:													
Outfall009_20211226_Comp (570-80142-1)	12/26/21	08 00 Pacific		Water			X	X	X	X	X				3	use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall009_20211226_Comp_F (570-80142-2)	12/26/21	08 00 Pacific		Water								X	X	X	3	Filter within 24 hours of reciept use VOA vials from LL Hg Kit-Clean Hands

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements IR-89 1.4/1.4

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/28/21	EC			
2		Date/Time	Company	Received by: Olga Cinclos	Date/Time 12/28/21 1752	Company EAT
3		Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Custody Seal No

Cooler Temperature(s) °C and Other Remarks

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80142-1

Login Number: 80142
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: 570-80142-1

Login Number: 80142
List Number: 3
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 12/29/21 10:00 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80142-2
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/1/2022 10:43:17 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Client Sample Results 6
Surrogate Summary 9
Isotope Dilution Summary 10
QC Sample Results 12
QC Association Summary 16
Lab Chronicle 17
Certification Summary 18
Method Summary 19
Sample Summary 20
Subcontract Data 21
Chain of Custody 44
Receipt Checklists 49

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80142-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80142-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80142-2

Comments
No additional comments.

Receipt
The samples were received on 12/27/2021 5:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.3º C and 3.8º C.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 10D5 exceeded this criteria: (CCV 320-557344/2), (LCS 320-555916/2-A), (LCSD 320-555916/3-A) and (MB 320-555916/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 10D5 exceeded this criteria: Outfall009_20211226_Comp (570-80142-1) and (CCV 320-557869/16). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: Outfall009_20211226_Comp (570-80142-1), (CCV 320-557644/2) and (MB 320-555916/1-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.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method Chronic-Selenestrum: This method was subcontracted to Aquatic Bioassay & Consulting. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20211226_Comp
Lab Sample ID: 570-80142-1

Sample Analysis Not Complete.

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall009_20211226_Comp
Date Collected: 12/26/21 08:00
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80142-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000042	ug/L		01/04/22 13:59	01/14/22 06:48	1
1,2,3,7,8-PeCDD	ND		0.000052	0.00000039	ug/L		01/04/22 13:59	01/14/22 06:48	1
1,2,3,7,8-PeCDF	ND		0.000052	0.00000031	ug/L		01/04/22 13:59	01/14/22 06:48	1
2,3,4,7,8-PeCDF	ND		0.000052	0.00000031	ug/L		01/04/22 13:59	01/14/22 06:48	1
1,2,3,4,7,8-HxCDD	**0.0000020**	**J,DX MB**	0.000052	0.00000036	ug/L		01/04/22 13:59	01/14/22 06:48	1
1,2,3,6,7,8-HxCDD	**0.0000018**	**J,DX**	0.000052	0.00000037	ug/L		01/04/22 13:59	01/14/22 06:48	1
1,2,3,7,8,9-HxCDD	**0.0000012**	**J,DX**	0.000052	0.00000032	ug/L		01/04/22 13:59	01/14/22 06:48	1
1,2,3,4,7,8-HxCDF	**0.00000063**	**J,DX q**	0.000052	0.00000026	ug/L		01/04/22 13:59	01/14/22 06:48	1
1,2,3,6,7,8-HxCDF	**0.00000046**	**J,DX q**	0.000052	0.00000029	ug/L		01/04/22 13:59	01/14/22 06:48	1
1,2,3,7,8,9-HxCDF	**0.00000050**	**J,DX**	0.000052	0.00000025	ug/L		01/04/22 13:59	01/14/22 06:48	1
2,3,4,6,7,8-HxCDF	**0.00000047**	**J,DX**	0.000052	0.00000025	ug/L		01/04/22 13:59	01/14/22 06:48	1
1,2,3,4,6,7,8-HpCDD	**0.000027**	**J,DX MB**	0.000052	0.00000036	ug/L		01/04/22 13:59	01/14/22 06:48	1
1,2,3,4,6,7,8-HpCDF	**0.0000046**	**J,DX MB**	0.000052	0.00000032	ug/L		01/04/22 13:59	01/14/22 06:48	1
1,2,3,4,7,8,9-HpCDF	ND		0.000052	0.00000036	ug/L		01/04/22 13:59	01/14/22 06:48	1
OCDD	**0.00019**	**MB**	0.00010	0.00000048	ug/L		01/04/22 13:59	01/14/22 06:48	1
OCDF	**0.0000099**	**J,DX**	0.00010	0.00000037	ug/L		01/04/22 13:59	01/14/22 06:48	1
Total TCDD	**0.0000040**	**J,DX MB**	0.000010	0.00000042	ug/L		01/04/22 13:59	01/14/22 06:48	1
Total TCDF	**0.0000027**	**J,DX q MB**	0.000010	0.00000018	ug/L		01/04/22 13:59	01/14/22 06:48	1
Total PeCDD	ND		0.000052	0.00000039	ug/L		01/04/22 13:59	01/14/22 06:48	1
Total PeCDF	ND		0.000052	0.00000031	ug/L		01/04/22 13:59	01/14/22 06:48	1
Total HxCDD	**0.000010**	**J,DX q MB**	0.000052	0.00000032	ug/L		01/04/22 13:59	01/14/22 06:48	1
Total HxCDF	**0.0000052**	**J,DX q**	0.000052	0.00000025	ug/L		01/04/22 13:59	01/14/22 06:48	1
Total HpCDD	**0.000052**	**J,DX MB**	0.000052	0.00000036	ug/L		01/04/22 13:59	01/14/22 06:48	1
Total HpCDF	**0.000011**	**J,DX q MB**	0.000052	0.00000032	ug/L		01/04/22 13:59	01/14/22 06:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*71*		*25 - 164*	*01/04/22 13:59*	*01/14/22 06:48*	*1*
13C-2,3,7,8-TCDF	*71*		*24 - 169*	*01/04/22 13:59*	*01/14/22 06:48*	*1*
13C-1,2,3,7,8-PeCDD	*71*		*25 - 181*	*01/04/22 13:59*	*01/14/22 06:48*	*1*
13C-1,2,3,7,8-PeCDF	*69*		*24 - 185*	*01/04/22 13:59*	*01/14/22 06:48*	*1*
13C-2,3,4,7,8-PeCDF	*77*		*21 - 178*	*01/04/22 13:59*	*01/14/22 06:48*	*1*
13C-1,2,3,4,7,8-HxCDD	*86*		*32 - 141*	*01/04/22 13:59*	*01/14/22 06:48*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall009_20211226_Comp
Lab Sample ID: 570-80142-1
Date Collected: 12/26/21 08:00
Matrix: Water
Date Received: 12/27/21 17:35

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDD	80		28 - 130	01/04/22 13:59	01/14/22 06:48	1
13C-1,2,3,4,7,8-HxCDF	85		26 - 152	01/04/22 13:59	01/14/22 06:48	1
13C-1,2,3,6,7,8-HxCDF	76		26 - 123	01/04/22 13:59	01/14/22 06:48	1
13C-1,2,3,7,8,9-HxCDF	75		29 - 147	01/04/22 13:59	01/14/22 06:48	1
13C-2,3,4,6,7,8-HxCDF	77		28 - 136	01/04/22 13:59	01/14/22 06:48	1
13C-1,2,3,4,6,7,8-HpCDD	80		23 - 140	01/04/22 13:59	01/14/22 06:48	1
13C-1,2,3,4,6,7,8-HpCDF	73		28 - 143	01/04/22 13:59	01/14/22 06:48	1
13C-1,2,3,4,7,8,9-HpCDF	88		26 - 138	01/04/22 13:59	01/14/22 06:48	1
13C-OCDD	89		17 - 157	01/04/22 13:59	01/14/22 06:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	87		35 - 197	01/04/22 13:59	01/14/22 06:48	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: Outfall009_20211226_Comp
Lab Sample ID: 570-80142-1
Date Collected: 12/26/21 08:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000022	ug/L		01/04/22 13:59	01/12/22 14:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*76*		*24 - 169*	*01/04/22 13:59*	*01/12/22 14:52*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*89*		*35 - 197*	*01/04/22 13:59*	*01/12/22 14:52*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	**Client Sample ID**	**37TCDD (35-197)**
570-80142-1 - RA	Outfall009_20211226_Comp	89
570-80142-1	Outfall009_20211226_Comp	87
MB 320-555916/1-A	Method Blank	90
MB 320-555916/1-A - RA	Method Blank	92

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	**Client Sample ID**	**37TCDD (31-191)**
LCS 320-555916/2-A	Lab Control Sample	90
LCSD 320-555916/3-A	Lab Control Sample Dup	87

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80142-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-80142-1 - RA	Outfall009_20211226_Comp		76						
570-80142-1	Outfall009_20211226_Comp	71	71	71	69	77	86	80	85
MB 320-555916/1-A	Method Blank	52	54	51	50	57	53	59	56
MB 320-555916/1-A - RA	Method Blank		54						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-80142-1 - RA	Outfall009_20211226_Comp							
570-80142-1	Outfall009_20211226_Comp	76	75	77	80	73	88	89
MB 320-555916/1-A	Method Blank	56	50	55	48	48	53	48
MB 320-555916/1-A - RA	Method Blank							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-555916/2-A	Lab Control Sample	67	68	66	64	74	71	79	75
LCSD 320-555916/3-A	Lab Control Sample Dup	59	63	59	59	65	71	71	71

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-555916/2-A	Lab Control Sample	73	67	72	74	70	79	80
LCSD 320-555916/3-A	Lab Control Sample Dup	71	65	69	71	67	80	78

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-555916/1-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 555916

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000050	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000032	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000036	ug/L		01/04/22 13:59	01/11/22 14:39	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000033	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,4,7,8-HxCDD	0.00000183	J,DX q	0.000050	0.00000026	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.00000028	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.00000024	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.00000018	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.00000019	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,7,8,9-HxCDF	ND		0.000050	0.00000021	ug/L		01/04/22 13:59	01/11/22 14:39	1
2,3,4,6,7,8-HxCDF	ND		0.000050	0.00000017	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,4,6,7,8-HpCDD	0.00000158	J,DX q	0.000050	0.00000024	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,4,6,7,8-HpCDF	0.000000872	J,DX q	0.000050	0.00000024	ug/L		01/04/22 13:59	01/11/22 14:39	1
1,2,3,4,7,8,9-HpCDF	0.000000423	J,DX q	0.000050	0.00000030	ug/L		01/04/22 13:59	01/11/22 14:39	1
OCDD	0.00000603	J,DX	0.00010	0.00000038	ug/L		01/04/22 13:59	01/11/22 14:39	1
OCDF	ND		0.00010	0.00000044	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total TCDD	0.00000504	J,DX q	0.000010	0.00000050	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total TCDF	0.000000609	J,DX	0.000010	0.00000018	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total PeCDD	ND		0.000050	0.00000039	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total PeCDF	ND		0.000050	0.00000036	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total HxCDD	0.00000183	J,DX q	0.000050	0.00000026	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total HxCDF	ND		0.000050	0.00000021	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total HpCDD	0.00000350	J,DX q	0.000050	0.00000024	ug/L		01/04/22 13:59	01/11/22 14:39	1
Total HpCDF	0.00000129	J,DX q	0.000050	0.00000027	ug/L		01/04/22 13:59	01/11/22 14:39	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*52*		*25 - 164*	*01/04/22 13:59*	*01/11/22 14:39*	*1*
13C-2,3,7,8-TCDF	*54*		*24 - 169*	*01/04/22 13:59*	*01/11/22 14:39*	*1*
13C-1,2,3,7,8-PeCDD	*51*		*25 - 181*	*01/04/22 13:59*	*01/11/22 14:39*	*1*
13C-1,2,3,7,8-PeCDF	*50*		*24 - 185*	*01/04/22 13:59*	*01/11/22 14:39*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-555916/1-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 555916

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	57		21 - 178	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,4,7,8-HxCDD	53		32 - 141	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,6,7,8-HxCDD	59		28 - 130	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,4,7,8-HxCDF	56		26 - 152	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,6,7,8-HxCDF	56		26 - 123	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,7,8,9-HxCDF	50		29 - 147	01/04/22 13:59	01/11/22 14:39	1
13C-2,3,4,6,7,8-HxCDF	55		28 - 136	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,4,6,7,8-HpCDD	48		23 - 140	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,4,6,7,8-HpCDF	48		28 - 143	01/04/22 13:59	01/11/22 14:39	1
13C-1,2,3,4,7,8,9-HpCDF	53		26 - 138	01/04/22 13:59	01/11/22 14:39	1
13C-OCDD	48		17 - 157	01/04/22 13:59	01/11/22 14:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	90		35 - 197	01/04/22 13:59	01/11/22 14:39	1

Lab Sample ID: LCS 320-555916/2-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 555916

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000203		ug/L		102	67 - 158
2,3,7,8-TCDF	0.000200	0.000210	MB	ug/L		105	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.00102		ug/L		102	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.00104		ug/L		104	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000928		ug/L		93	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000874	MB	ug/L		87	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000917		ug/L		92	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000858		ug/L		86	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000873		ug/L		87	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000967		ug/L		97	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.000972		ug/L		97	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000999		ug/L		100	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000875	MB	ug/L		88	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000897	MB	ug/L		90	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000807	MB	ug/L		81	78 - 138
OCDD	0.00200	0.00167	MB	ug/L		84	78 - 144
OCDF	0.00200	0.00162		ug/L		81	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	67		20 - 175
13C-2,3,7,8-TCDF	68		22 - 152
13C-1,2,3,7,8-PeCDD	66		21 - 227
13C-1,2,3,7,8-PeCDF	64		21 - 192
13C-2,3,4,7,8-PeCDF	74		13 - 328
13C-1,2,3,4,7,8-HxCDD	71		21 - 193
13C-1,2,3,6,7,8-HxCDD	79		25 - 163
13C-1,2,3,4,7,8-HxCDF	75		19 - 202
13C-1,2,3,6,7,8-HxCDF	73		21 - 159

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-555916/2-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 555916

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,7,8,9-HxCDF	67		17 - 205
13C-2,3,4,6,7,8-HxCDF	72		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	74		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	70		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	79		20 - 186
13C-OCDD	80		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	90		31 - 191

Lab Sample ID: LCSD 320-555916/3-A
Matrix: Water
Analysis Batch: 557344

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 555916

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000202		ug/L		101	67 - 158	0	50
2,3,7,8-TCDF			0.000200	0.000199	MB	ug/L		100	75 - 158	5	50
1,2,3,7,8-PeCDD			0.00100	0.00105		ug/L		105	70 - 142	2	50
1,2,3,7,8-PeCDF			0.00100	0.00105		ug/L		105	80 - 134	1	50
2,3,4,7,8-PeCDF			0.00100	0.000925		ug/L		92	68 - 160	0	50
1,2,3,4,7,8-HxCDD			0.00100	0.000879	MB	ug/L		88	70 - 164	1	50
1,2,3,6,7,8-HxCDD			0.00100	0.00106		ug/L		106	76 - 134	14	50
1,2,3,7,8,9-HxCDD			0.00100	0.000931		ug/L		93	64 - 162	8	50
1,2,3,4,7,8-HxCDF			0.00100	0.000959		ug/L		96	72 - 134	9	50
1,2,3,6,7,8-HxCDF			0.00100	0.00104		ug/L		104	84 - 130	8	50
1,2,3,7,8,9-HxCDF			0.00100	0.00105		ug/L		105	78 - 130	8	50
2,3,4,6,7,8-HxCDF			0.00100	0.00106		ug/L		106	70 - 156	6	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.00101	MB	ug/L		101	70 - 140	15	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.00102	MB	ug/L		102	82 - 122	13	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000904	MB	ug/L		90	78 - 138	11	50
OCDD			0.00200	0.00196	MB	ug/L		98	78 - 144	16	50
OCDF			0.00200	0.00191		ug/L		95	63 - 170	16	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	59		20 - 175
13C-2,3,7,8-TCDF	63		22 - 152
13C-1,2,3,7,8-PeCDD	59		21 - 227
13C-1,2,3,7,8-PeCDF	59		21 - 192
13C-2,3,4,7,8-PeCDF	65		13 - 328
13C-1,2,3,4,7,8-HxCDD	71		21 - 193
13C-1,2,3,6,7,8-HxCDD	71		25 - 163
13C-1,2,3,4,7,8-HxCDF	71		19 - 202
13C-1,2,3,6,7,8-HxCDF	71		21 - 159
13C-1,2,3,7,8,9-HxCDF	65		17 - 205
13C-2,3,4,6,7,8-HxCDF	69		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	71		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	67		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	80		20 - 186

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-555916/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 557344 **Prep Batch: 555916**

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-OCDD	78		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	87		31 - 191

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-555916/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 557644 **Prep Batch: 555916**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	ND		0.000010	0.0000018	ug/L		01/04/22 13:59	01/12/22 11:40	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF - RA	54		24 - 169	01/04/22 13:59	01/12/22 11:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD - RA	92		35 - 197	01/04/22 13:59	01/12/22 11:40	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Specialty Organics

Prep Batch: 555916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total/NA	Water	1613B	
570-80142-1 - RA	Outfall009_20211226_Comp	Total/NA	Water	1613B	
MB 320-555916/1-A	Method Blank	Total/NA	Water	1613B	
MB 320-555916/1-A - RA	Method Blank	Total/NA	Water	1613B	
LCS 320-555916/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-555916/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 557344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-555916/1-A	Method Blank	Total/NA	Water	1613B	555916
LCS 320-555916/2-A	Lab Control Sample	Total/NA	Water	1613B	555916
LCSD 320-555916/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	555916

Analysis Batch: 557644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1 - RA	Outfall009_20211226_Comp	Total/NA	Water	1613B	555916
MB 320-555916/1-A - RA	Method Blank	Total/NA	Water	1613B	555916

Analysis Batch: 557869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total/NA	Water	1613B	555916

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20211226_Comp
Lab Sample ID: 570-80142-1
Date Collected: 12/26/21 08:00
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			968.5 mL	20.0 uL	555916	01/04/22 13:59	CGB	TAL SAC
Total/NA	Analysis	1613B		1			557869	01/14/22 06:48	GRB	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		968.5 mL	20.0 uL	555916	01/04/22 13:59	CGB	TAL SAC
Total/NA	Analysis	1613B	RA	1			557644	01/12/22 14:52	DB	TAL SAC
	Instrument ID: 11D2									

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80142-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-29-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Kansas	NELAP	E-10375	10-31-21 *
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-18-22
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-21 *
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80142-1	Outfall009_20211226_Comp	Water	12/26/21 08:00	12/27/21 17:35

aquatic bioassay & consulting laboratories, inc

January 26, 2022

Mr. Virendra Patel
Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841-1432

Dear Mr. Patel:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013.* Results were as follows:

CLIENT:	Eurofins Calscience
SAMPLE I.D.:	Outfall 009
DATE RECEIVED:	27 Dec - 2021
ABC LAB. NO.:	CSE1221.238

CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY

IWC = 100.00 %

TST RESULT

GROWTH = FAIL % EFFECT = 57.52 %

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 25 Jan-22 14:56 (p 1 of 1)
Test Code/ID: CSE1221.238 / 05-5246-4059

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	08-8203-8697	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	28 Dec-21 18:02	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	01 Jan-22 16:05	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	94h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	5d
Sample ID:	06-6778-4341	**Code:**	CSE1221.238	**Project:**	Boeing-SSFL NPDES		
Sample Date:	26 Dec-21	**Material:**	Sample Water	**Source:**	Bioassay Report		
Receipt Date:	27 Dec-21 16:20	**CAS (PC):**		**Station:**	Outfall 009		
Sample Age:	66h (0.5 °C)	**Client:**	Eurofins Calscience				

SIngle Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result	S
13-7112-3550	Cell Density	TST-Welch's t Test	1.0000	100% failed cell density	1

Test Acceptability

				TAC Limits			
Analysis ID	**Endpoint**	**Attribute**	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
13-7112-3550	Cell Density	Control CV	0.03237	<<	0.2	Yes	Passes Criteria
13-7112-3550	Cell Density	Control Resp	1.16E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	8	1.157E+6	1.126E+6	1.188E+6	1.107E+6	1.219E+6	1.324E+4	3.745E+4	3.24%	0.00%
100		8	4.915E+5	4.711E+5	5.119E+5	4.560E+5	5.200E+5	8.613E+3	2.436E+4	4.96%	57.52%

Cell Density Detail — MD5: A2635C49649C1AFC409CC59002B9EDFC

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.156E+6	1.203E+6	1.133E+6	1.107E+6	1.130E+6	1.150E+6	1.219E+6	1.158E+6
100		5.200E+5	5.150E+5	4.840E+5	4.600E+5	5.090E+5	5.030E+5	4.560E+5	4.850E+5

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	13-7112-3550	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	05 Jan-22 13:20	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:	05 Jan-22 13:20	**MD5 Hash:**	3265DE45AB72D48F1A2E3E7D4F3D2AE	**Editor ID:**	000-189-126-0
Batch ID:	08-8203-8697	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	28 Dec-21 18:02	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	01 Jan-22 16:05	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	94h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 5d
Sample ID:	06-6778-4341	**Code:**	CSE1221.238	**Project:**	Boeing-SSFL NPDES
Sample Date:	26 Dec-21	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	27 Dec-21 16:20	**CAS (PC):**		**Station:**	Outfall 009
Sample Age:	66h (0.5 °C)	**Client:**	Eurofins Calscience		

Data Transform	Alt Hyp	TST_b	Comparison Result
Untransformed	C*b < T	0.75	100% failed cell density endpoint

TST-Welch's t Test

Control	vs	Conc-%	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:25%)
Negative Control		100	-28.62	0.6938	13	CDF	1.0000	Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.03237	<<	0.2	Yes	Passes Criteria
Control Resp	1.16E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	1.772E+12	1.772E+12	1	1775	<1.0E-05	Significant Effect
Error	1.397E+10	997857000	14			
Total	1.786E+12		15			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Levene Equality of Variance Test	0.5778	8.862	0.4598	Equal Variances
	Mod Levene Equality of Variance Test	0.5067	8.862	0.4883	Equal Variances
	Variance Ratio F Test	2.363	8.885	0.2792	Equal Variances
Distribution	Anderson-Darling A2 Test	0.2061	3.878	0.9109	Normal Distribution
	D'Agostino Skewness Test	0.7135	2.576	0.4755	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1119	0.2471	1.0000	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9776	0.8408	0.9412	Normal Distribution

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	8	1.157E+6	1.126E+6	1.188E+6	1.153E+6	1.107E+6	1.219E+6	1.324E+4	3.24%	0.00%
100		8	4.915E+5	4.711E+5	5.119E+5	4.940E+5	4.560E+5	5.200E+5	8.613E+3	4.96%	57.52%

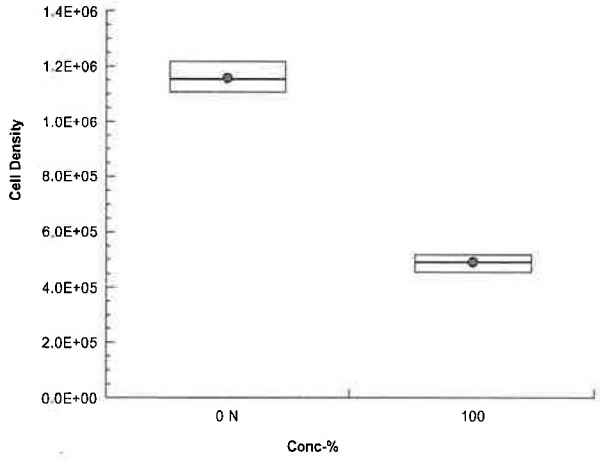
Cell Density Detail

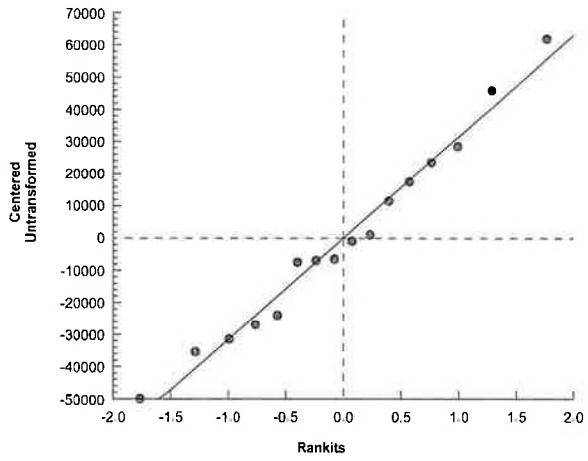
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.156E+6	1.203E+6	1.133E+6	1.107E+6	1.130E+6	1.150E+6	1.219E+6	1.158E+6
100		5.200E+5	5.150E+5	4.840E+5	4.600E+5	5.090E+5	5.030E+5	4.560E+5	4.850E+5

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	13-7112-3550	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	05 Jan-22 13:20	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:	05 Jan-22 13:20	**MD5 Hash:**	3265DE45AB72D48F1A2E3E7D4F3D2AE	**Editor ID:**	000-189-126-0

Graphics





Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	08-8203-8697	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	28 Dec-21 18:02	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	01 Jan-22 16:05	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	94h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	5d

Sample ID:	06-6778-4341	**Code:**	CSE1221.238	**Project:**	Boeing-SSFL NPDES
Sample Date:	26 Dec-21	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	27 Dec-21 16:20	**CAS (PC):**		**Station:**	Outfall 009
Sample Age:	66h (0.5 °C)	**Client:**	Eurofins Calscience		

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	62	---	---	62	62	---	0	---	0
100		1	20	---	---	20	20	---	0	---	0
Overall		2	41	-225.8	307.8	20	62	21	29.7	72.44%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	450.4	440.4	460.4	437	458	1.616	8.081	1.79%	0
100		5	215	181.6	248.4	196	262	5.383	26.92	12.52%	0
Overall		10	332.7	242.9	422.5	196	458	39.68	125.5	37.71%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	100	---	---	100	100	---	0	---	0
100		1	43	---	---	43	43	---	0	---	0
Overall		2	71.5	-290.6	433.6	43	100	28.5	40.31	56.37%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	8.14	7.998	8.282	8	8.3	0.0228	0.114	1.40%	0
100		5	8	7.683	8.317	7.8	8.4	0.05099	0.255	3.19%	0
Overall		10	8.07	7.927	8.213	7.8	8.4	0.06333	0.2003	2.48%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.08	24.94	25.22	25	25.2	0.02191	0.1095	0.44%	0
100		5	25.06	24.95	25.17	25	25.2	0.01789	0.08943	0.36%	0
Overall		10	25.07	25	25.14	25	25.2	0.03	0.09487	0.38%	0 (0%)

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		62					
100				20					

Conductivity-µmhos

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		437					
100				196					
0	N	2		450					
100				199					
0	N	3		458					
100				262					
0	N	4		455					
100				209					
0	N	5		452					
100				209					

Hardness (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		100					
100				43					

pH-Units

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		8.3					
100				8.4					
0	N	2		8.2					
100				8.1					
0	N	3		8.1					
100				7.8					
0	N	4		8.1					
100				7.8					
0	N	5		8					
100				7.9					

Temperature-°C

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		25					
100				25					
0	N	2		25					
100				25					
0	N	3		25					
100				25					
0	N	4		25.2					
100				25.1					
0	N	5		25.2					
100				25.2					

aquatic bioassay consulting laboratories, inc

January 26, 2022

Mr. Virendra Patel
Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841-1432

Dear Mr. Patel:

We are pleased to present the enclosed revised bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013.* Results were as follows:

CLIENT:	Eurofins Calscience
SAMPLE I.D.:	Outfall 009
DATE RECEIVED:	27 Dec - 2021
ABC LAB. NO.:	CSE1221.238

CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY [BASELINE TIE]

GROWTH: PERCENT EFFECT = 20.49% IWC = 100.00%

*NOTE: TIE Baseline initiated due to 57.52% effect in initial test and client approval. The "baseline" test was conducted and toxicity was reduced, GROWTH = PASS. Therefore, there was no purpose to continue with further TIE manipulations.

In conclusion, the fact that toxicity was observed in the initial chronic tests and reduced toxicity was observed during the "baseline" tests indicate that the toxicant was most likely associated with volatile compound(s). The compound(s) apparently dissipated to non-toxic levels between the time of the initiation of the initial chronic toxicity tests and the initation of the "baseline" toxicity testing.

A TIE report will not be issued for this investigation. The attached report contains the results of the baseline test.

Yours very truly,

Scott Johnson
Laboratory Director

29 north olive st. ventura, ca 93001 (805) 643 5621 aquabio.org

CETIS Summary Report

Report Date: 13 Jan-22 12:50 (p 1 of 1)
Test Code/ID: CSE1221.238TIEB / 09-7298-9746

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	08-5671-3144	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	06 Jan-22 12:45	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	10 Jan-22 11:30	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	95h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	7d
Sample ID:	07-7369-8470	**Code:**	CSE1221.238TIEB	**Project:**	Boeing-SSFL NPDES		
Sample Date:	26 Dec-21	**Material:**	Sample Water	**Source:**	Bioassay Report		
Receipt Date:	27 Dec-21 16:20	**CAS (PC):**		**Station:**	Outfall 009		
Sample Age:	11d 13h (0.5 °C)	**Client:**	Eurofins Calscience				

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result	S
20-0989-5362	Cell Density	TST-Welch's t Test	0.0110	100% passed cell density	1

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
20-0989-5362	Cell Density	Control CV	0.04028	<<	0.2	Yes	Passes Criteria
20-0989-5362	Cell Density	Control Resp	1.36E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	8	1.356E+6	1.310E+6	1.401E+6	1.295E+6	1.440E+6	1.930E+4	5.459E+4	4.03%	0.00%
100		8	1.078E+6	1.034E+6	1.122E+6	1.029E+6	1.158E+6	1.853E+4	5.240E+4	4.86%	20.49%

Cell Density Detail — MD5: 5934E23AB18F404305871882E3332637

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.310E+6	1.426E+6	1.358E+6	1.318E+6	1.295E+6	1.376E+6	1.321E+6	1.440E+6
100		1.087E+6	1.040E+6	1.070E+6	1.029E+6	1.158E+6	1.039E+6	1.043E+6	1.156E+6

Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID:	20-0989-5362	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	13 Jan-22 12:50	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:		**MD5 Hash:**	FA68B0786E0936170966F08E95E0EC6C	**Editor ID:**	
Batch ID:	08-5671-3144	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	06 Jan-22 12:45	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	10 Jan-22 11:30	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	95h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 7d
Sample ID:	07-7369-8470	**Code:**	CSE1221.238TIEB	**Project:**	Boeing-SSFL NPDES
Sample Date:	26 Dec-21	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	27 Dec-21 16:20	**CAS (PC):**		**Station:**	Outfall 009
Sample Age:	11d 13h (0.5 °C)	**Client:**	Eurofins Calscience		

Data Transform	Alt Hyp	TST_b	Comparison Result
Untransformed	C*b < T	0.75	100% passed cell density endpoint

TST-Welch's t Test

Control	vs	Conc-%	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:25%)
Negative Control		100*	2.6	0.6938	13	CDF	0.0110	Non-Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.04028	<<	0.2	Yes	Passes Criteria
Control Resp	1.36E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	3.086E+11	3.086E+11	1	107.8	<1.0E-05	Significant Effect
Error	4.008E+10	2.863E+09	14			
Total	3.487E+11		15			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Levene Equality of Variance Test	0.03615	8.862	0.8519	Equal Variances
	Mod Levene Equality of Variance Test	0.06631	8.862	0.8005	Equal Variances
	Variance Ratio F Test	1.086	8.885	0.9165	Equal Variances
Distribution	Anderson-Darling A2 Test	1.172	3.878	0.0046	Non-Normal Distribution
	D'Agostino Skewness Test	1.284	2.576	0.1990	Normal Distribution
	Kolmogorov-Smirnov D Test	0.2477	0.2471	0.0097	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.8445	0.8408	0.0113	Normal Distribution

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	8	1.356E+6	1.310E+6	1.401E+6	1.340E+6	1.295E+6	1.440E+6	1.930E+4	4.03%	0.00%
100		8	1.078E+6	1.034E+6	1.122E+6	1.056E+6	1.029E+6	1.158E+6	1.853E+4	4.86%	20.49%

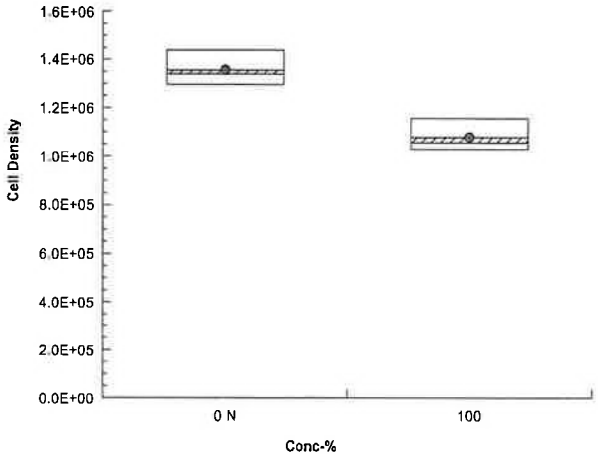
Cell Density Detail

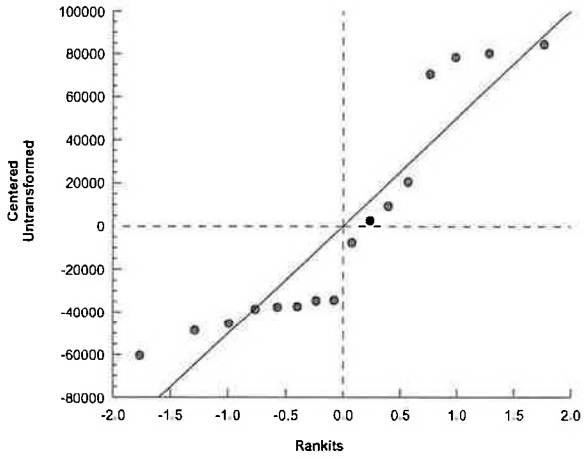
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.310E+6	1.426E+6	1.358E+6	1.318E+6	1.295E+6	1.376E+6	1.321E+6	1.440E+6
100		1.087E+6	1.040E+6	1.070E+6	1.029E+6	1.158E+6	1.039E+6	1.043E+6	1.156E+6

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	20-0989-5362	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	13 Jan-22 12:50	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:		**MD5 Hash:**	FA68B0786E0936170966F08E95E0EC6C	**Editor ID:**	

Graphics





Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	08-5671-3144	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	06 Jan-22 12:45	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	10 Jan-22 11:30	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	95h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	7d

Sample ID:	07-7369-8470	**Code:**	CSE1221.238TIEB	**Project:**	Boeing-SSFL NPDES
Sample Date:	26 Dec-21	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	27 Dec-21 16:20	**CAS (PC):**		**Station:**	Outfall 009
Sample Age:	11d 13h (0.5 °C)	**Client:**	Eurofins Calscience		

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	57	---	---	57	57	---	0	---	0
100		1	20	---	---	20	20	---	0	---	0
Overall		2	38.5	-196.6	273.6	20	57	18.5	26.16	67.96%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	468.6	457.2	480	460	484	1.831	9.154	1.95%	0
100		5	195.8	189.9	201.7	192	204	0.9529	4.764	2.43%	0
Overall		10	332.2	229.2	435.2	192	484	45.52	143.9	43.33%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	109	---	---	109	109	---	0	---	0
100		1	43	---	---	43	43	---	0	---	0
Overall		2	76	-343.3	495.3	43	109	33	46.67	61.41%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.9	7.812	7.988	7.8	8	0.01414	0.0707	0.89%	0
100		5	7.82	7.551	8.089	7.7	8.2	0.04336	0.2168	2.77%	0
Overall		10	7.86	7.747	7.973	7.7	8.2	0.04989	0.1578	2.01%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
100		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
Overall		10	25.8	25.5	26.1	25	26	0.1333	0.4216	1.63%	0 (0%)

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		57					
100				20					

Conductivity-µmhos

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		460					
100				192					
0	N	2		464					
100				193					
0	N	3		468					
100				195					
0	N	4		467					
100				195					
0	N	5		484					
100				204					

Hardness (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		109					
100				43					

pH-Units

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.8					
100				7.8					
0	N	2		7.9					
100				7.7					
0	N	3		7.9					
100				7.7					
0	N	4		7.9					
100				7.7					
0	N	5		8					
100				8.2					

Temperature-°C

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		26					
100				26					
0	N	2		26					
100				26					
0	N	3		26					
100				26					
0	N	4		26					
100				26					
0	N	5		25					
100				25					

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

2/1/2022

Client Name/Address:
Haley & Aldrich
5333 Mission Center Rd Suite 300
San Diego, CA 92108

Eurofins Calscience Irvine Contact: Virendra Patel **ECI# 44024446**
17461 Derian Ave Suite #100
Irvine CA 92614
Tel: 949-260-3218

Project:
Boeing-SSFL NPDES
Permit 2021
Routine 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)

Sampler: MARK DOMINICK

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R: Total Recoverable Metals: (E200.7): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R: TCDD (and all congeners) (E1613B)	R: Cl⁻, SO_4, NO_3+NO_2-N (300)	R: TDS (SM2540C/E160.1)	R: Total Dissolved Metals: (E200.7): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R: Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 226 (E904.0), Uranium (E908.0), K-40, Cs-137 (E901.0 or E901.1)	R: Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	R: Cyanide (SM4500-CN-E / E335.2)	R: Total Recoverable Metals: Mercury (E245.1)	R: Total Dissolved Metals: Mercury (E245.1)	EP: TSS (160.2 (SM2540D))	Comments
Outfall 009	Outfall009_20211226_Comp	12/26/2021	WM	500 mL Poly	1	HNO_3	95	No	X								X		
			WM	1 L Glass Amber	2	None	110	No		X									
			WM	500 mL Poly	2	None	145	No			X								48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	155	No				X							
			WM	500 mL Poly	1	NaOH	220	No								X			
			WM	2.5 Gal Cube	1	None	225	No											Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No						X					
		*	WM	1 Gal Cube	8	None	235	No							X				Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA
			WM	1 L Poly	1	None	185	No										X	
	Outfall009_20211226_Comp_F	12/26/2021	WM	1L Poly	1	None	205	No					X						Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag tobe opened in Mercury Prep using clean procedures.
	Outfall009_20211226_Comp_Extra	12/26/2021	WM	1 L Glass Amber	2	None	110	No		H									Hold
			WM	500 mL Poly	2	None	145	No			H								Hold

Legend: EP=Expert Panel, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12-27-2021/1620	H:A	Victor Moreno	12/27/21 1620
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Relinquished By	Date/Time:	Company:	Received By	Date/Time:

Turn-around time: (Check)
24 Hour: ____ 72 Hour: ____ 10 Day: X
48 Hour: ____ 5 Day: ____ Normal: ____

Sample Integrity: (Check)
Intact: ____ On Ice: ____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: ____ All Level IV: X

* Hand-delivered separately by H:A

Temp. deg. C = 0.5

Chlorine (mg/L) = <0.1 -238

TNTC (mg/L) = <0.1

2019-2020 Rainy Season
Version 2

aquatic bioassay & consulting laboratories, inc

CHRONIC SELENASTRUM GROWTH BIOASSAY

DATE: 1 December - 2021

STANDARD TOXICANT: Cadmium Chloride

NOEC = 40.00 ug/l

IC25 = 80.10 ug/l
IC50 = >180.00 ug/l

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 22 Dec-21 10:29 (p 1 of 1)
Test Code/ID: SEL120121 / 12-8398-6744

Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX		
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant		
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX		
Sample Age:	---	**Client:**	Internal Lab				

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	S
12-9938-5833	Cell Density	Steel Many-One Rank Sum Test		40	80	56.57	20.9%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	µg/L	95% LCL	95% UCL	S
05-8956-0180	Cell Density	Linear Interpolation (ICPIN)		IC10	38.71	19.34	68.85	1
				IC15	52.07	16.61	76.06	
				IC20	66.06	13.49	90.22	
				IC25	80.1	10.35	112.7	
				IC40	151.3	133.7	175.1	
				IC50	>180	---	---	

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
05-8956-0180	Cell Density	Control CV	0.05263	<<	0.2	Yes	Passes Criteria
12-9938-5833	Cell Density	Control CV	0.05263	<<	0.2	Yes	Passes Criteria
05-8956-0180	Cell Density	Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria
12-9938-5833	Cell Density	Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.713E+6	1.570E+6	1.856E+6	1.597E+6	1.814E+6	4.508E+4	9.015E+4	5.26%	0.00%
20		4	1.859E+6	1.635E+6	2.082E+6	1.689E+6	2.023E+6	7.027E+4	1.405E+5	7.56%	-8.51%
40		4	1.595E+6	8.516E+5	2.338E+6	8.980E+5	1.869E+6	2.336E+5	4.672E+5	29.29%	6.89%
80		4	1.340E+6	1.213E+6	1.466E+6	1.235E+6	1.428E+6	3.976E+4	7.952E+4	5.94%	21.79%
140		4	1.132E+6	1.037E+6	1.226E+6	1.092E+6	1.219E+6	2.971E+4	5.941E+4	5.25%	33.95%
180		4	9.200E+5	7.681E+5	1.072E+6	7.860E+5	9.900E+5	4.774E+4	9.549E+4	10.38%	46.29%

Cell Density Detail — MD5: A31AFF07134985287B29E5F730798522

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.738E+6	1.597E+6	1.703E+6	1.814E+6
20		1.903E+6	1.689E+6	1.820E+6	2.023E+6
40		1.854E+6	1.759E+6	8.980E+5	1.869E+6
80		1.342E+6	1.428E+6	1.235E+6	1.354E+6
140		1.092E+6	1.118E+6	1.097E+6	1.219E+6
180		9.870E+5	9.900E+5	9.170E+5	7.860E+5

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	12-9938-5833	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0
Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	40	80	56.57	---	357800	20.89%

Steel Many-One Rank Sum Test

Control	vs	Conc-µg/L	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		20	23	10	0	6	CDF	0.9966	Non-Significant Effect
		40	21	10	0	6	CDF	0.9778	Non-Significant Effect
		80*	10	10	0	6	CDF	0.0417	Significant Effect
		140*	10	10	0	6	CDF	0.0417	Significant Effect
		180*	10	10	0	6	CDF	0.0417	Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.05263	<<	0.2	Yes	Passes Criteria
Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2.594E+12	5.187E+11	5	11.74	3.7E-05	Significant Effect
Error	7.954E+11	4.419E+10	18			
Total	3.389E+12		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	18.46	15.09	0.0024	Unequal Variances
	Levene Equality of Variance Test	4.633	4.248	0.0068	Unequal Variances
	Mod Levene Equality of Variance Test	0.8699	4.248	0.5203	Equal Variances
Distribution	Anderson-Darling A2 Test	1.388	3.878	0.0008	Non-Normal Distribution
	D'Agostino Kurtosis Test	3.63	2.576	0.0003	Non-Normal Distribution
	D'Agostino Skewness Test	3.782	2.576	0.0002	Non-Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	27.48	9.21	<1.0E-05	Non-Normal Distribution
	Kolmogorov-Smirnov D Test	0.2076	0.2056	0.0089	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.7996	0.884	0.0003	Non-Normal Distribution

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.713E+6	1.570E+6	1.856E+6	1.720E+6	1.597E+6	1.814E+6	4.508E+4	5.26%	0.00%
20		4	1.859E+6	1.635E+6	2.082E+6	1.862E+6	1.689E+6	2.023E+6	7.027E+4	7.56%	-8.51%
40		4	1.595E+6	8.516E+5	2.338E+6	1.806E+6	8.980E+5	1.869E+6	2.336E+5	29.29%	6.89%
80		4	1.340E+6	1.213E+6	1.466E+6	1.348E+6	1.235E+6	1.428E+6	3.976E+4	5.94%	21.79%
140		4	1.132E+6	1.037E+6	1.226E+6	1.108E+6	1.092E+6	1.219E+6	2.971E+4	5.25%	33.95%
180		4	9.200E+5	7.681E+5	1.072E+6	9.520E+5	7.860E+5	9.900E+5	4.774E+4	10.38%	46.29%

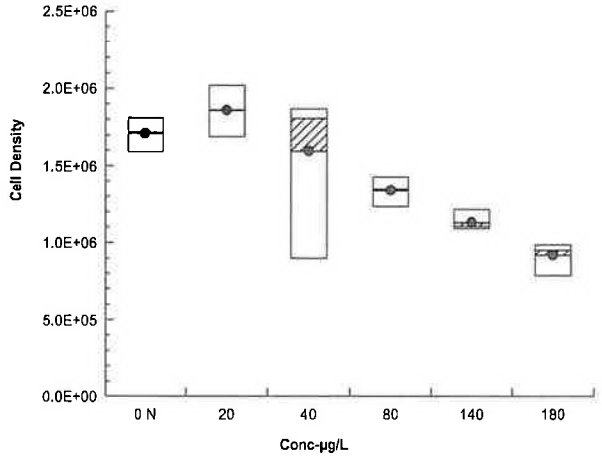
Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

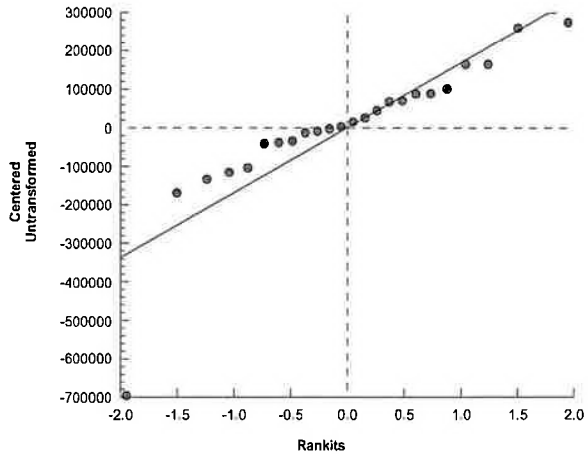
Analysis ID:	12-9938-5833	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0

Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.738E+6	1.597E+6	1.703E+6	1.814E+6
20		1.903E+6	1.689E+6	1.820E+6	2.023E+6
40		1.854E+6	1.759E+6	8.980E+5	1.869E+6
80		1.342E+6	1.428E+6	1.235E+6	1.354E+6
140		1.092E+6	1.118E+6	1.097E+6	1.219E+6
180		9.870E+5	9.900E+5	9.170E+5	7.860E+5

Graphics





CETIS Analytical Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	05-8956-0180	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0
Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.05263	<<	0.2	Yes	Passes Criteria
Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria

Point Estimates

Level	µg/L	95% LCL	95% UCL
IC10	38.71	19.34	68.85
IC15	52.07	16.61	76.06
IC20	66.06	13.49	90.22
IC25	80.1	10.35	112.7
IC40	151.3	133.7	175.1
IC50	>180	---	---

Cell Density Summary

			Calculated Variate						Isotonic Variate	
Conc-µg/L	**Code**	**Count**	**Mean**	**Median**	**Min**	**Max**	**CV%**	**%Effect**	**Mean**	**%Effect**
0	N	4	1.713E+6	1.720E+6	1.597E+6	1.814E+6	5.26%	0.00%	1.786E+6	0.00%
20		4	1.859E+6	1.862E+6	1.689E+6	2.023E+6	7.56%	-8.51%	1.786E+6	0.00%
40		4	1.595E+6	1.806E+6	8.980E+5	1.869E+6	29.29%	6.89%	1.595E+6	10.69%
80		4	1.340E+6	1.348E+6	1.235E+6	1.428E+6	5.94%	21.79%	1.340E+6	24.98%
140		4	1.132E+6	1.108E+6	1.092E+6	1.219E+6	5.25%	33.95%	1.132E+6	36.64%
180		4	9.200E+5	9.520E+5	7.860E+5	9.900E+5	10.38%	46.29%	9.200E+5	48.48%

Cell Density Detail

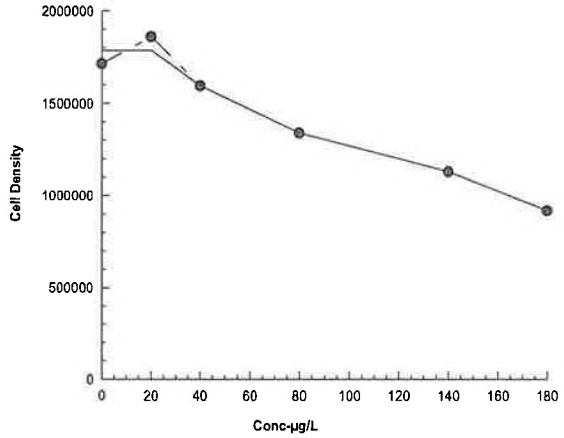
Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.738E+6	1.597E+6	1.703E+6	1.814E+6
20		1.903E+6	1.689E+6	1.820E+6	2.023E+6
40		1.854E+6	1.759E+6	8.980E+5	1.869E+6
80		1.342E+6	1.428E+6	1.235E+6	1.354E+6
140		1.092E+6	1.118E+6	1.097E+6	1.219E+6
180		9.870E+5	9.900E+5	9.170E+5	7.860E+5

Analyst: QA: 2/1/2022

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	05-8956-0180	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0

Graphics



Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**		
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water	
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable	
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:** 6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX	
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant	
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX	
Sample Age:	---	**Client:**	Internal Lab			

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	60	---	---	60	60	---	0	---	0
20		1	59	---	---	59	59	---	0	---	0
40		1	64	---	---	64	64	---	0	---	0
80		1	57	---	---	57	57	---	0	---	0
140		1	57	---	---	57	57	---	0	---	0
180		1	60	---	---	60	60	---	0	---	0
Overall		6	59.5	56.78	62.22	57	64	1.057	2.588	4.35%	0 (0%)

Conductivity-µmhos

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	475.2	468.4	482	466	480	1.09	5.45	1.15%	0
20		5	574.6	516	633.2	500	612	9.438	47.19	8.21%	0
40		5	463.6	442.9	484.3	447	482	3.33	16.65	3.59%	0
80		5	432	429	435	429	435	0.4899	2.449	0.57%	0
140		5	412	405.9	418.1	406	418	0.9798	4.899	1.19%	0
180		5	402	391.1	412.9	389	410	1.755	8.775	2.18%	0
Overall		30	459.9	436.9	482.9	389	612	11.23	61.51	13.37%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	115	---	---	115	115	---	0	---	0
20		1	110	---	---	110	110	---	0	---	0
40		1	110	---	---	110	110	---	0	---	0
80		1	115	---	---	115	115	---	0	---	0
140		1	110	---	---	110	110	---	0	---	0
180		1	110	---	---	110	110	---	0	---	0
Overall		6	111.7	109	114.4	110	115	1.054	2.582	2.31%	0 (0%)

pH-Units

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.84	7.516	8.164	7.4	8	0.05215	0.2608	3.33%	0
20		5	8.16	8.018	8.302	8	8.3	0.0228	0.114	1.40%	0
40		5	8.18	8.076	8.284	8.1	8.3	0.01673	0.08367	1.02%	0
80		5	8.18	8.076	8.284	8.1	8.3	0.01673	0.08367	1.02%	0
140		5	8.22	8.164	8.276	8.2	8.3	0.008944	0.04472	0.54%	0
180		5	8.22	8.164	8.276	8.2	8.3	0.008944	0.04472	0.54%	0
Overall		30	8.133	8.067	8.2	7.4	8.3	0.03264	0.1788	2.20%	0 (0%)

Temperature-°C

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
20		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
40		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
80		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
140		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
180		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
Overall		30	25.54	25.42	25.66	25	25.9	0.05825	0.3191	1.25%	0 (0%)

Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		60					
20				59					
40				64					
80				57					
140				57					
180				60					

Conductivity-µmhos

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		466					
20				500					
40				447					
80				429					
140				408					
180				389					
0	N	2		480					
20				556					
40				449					
80				430					
140				406					
180				397					
0	N	3		475					
20				607					
40				460					
80				435					
140				418					
180				410					
0	N	4		477					
20				612					
40				482					
80				433					
140				414					
180				407					
0	N	5		478					
20				598					
40				480					
80				433					
140				414					
180				407					

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		115					
20				110					
40				110					
80				115					
140				110					
180				110					

Selenastrum Growth Test
Aquatic Bioassay & Consulting Labs, Inc.

pH-Units

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.4					
20				8.2					
40				8.2					
80				8.2					
140				8.2					
180				8.2					
0	N	2		7.8					
20				8.2					
40				8.2					
80				8.2					
140				8.2					
180				8.2					
0	N	3		8					
20				8.3					
40				8.3					
80				8.3					
140				8.3					
180				8.3					
0	N	4		8					
20				8.1					
40				8.1					
80				8.1					
140				8.2					
180				8.2					
0	N	5		8					
20				8					
40				8.1					
80				8.1					
140				8.2					
180				8.2					

Analyst: QA:
2/1/2022

Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		25					
20				25					
40				25					
80				25					
140				25					
180				25					
0	N	2		25.8					
20				25.8					
40				25.8					
80				25.8					
140				25.8					
180				25.8					
0	N	3		25.9					
20				25.9					
40				25.9					
80				25.9					
140				25.9					
180				25.9					
0	N	4		25.5					
20				25.5					
40				25.5					
80				25.5					
140				25.5					
180				25.5					
0	N	5		25.5					
20				25.5					
40				25.5					
80				25.5					
140				25.5					
180				25.5					

80142

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80142 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Routine Outfall [003-007 009 010] Outfall 009 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **EC# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Field Manager: Mark Dominick 978.234.5033, 818.599 0702 (cell)
Sampler: MARK DOMINICK	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R Total Recoverable Metals. (E200.7): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R TCDD (and all congeners) (E1613B)	R Cl, SO_4, NO_3+NO_2-N (300)	R TDS (SM2540C/E160.1)	R Total Dissolved Metals. (E200.7): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R Gross Alpha(E900.0) Gross Beta(E900.0) Tritium (H-3) (E906.0); Sr-90 (E905.0); Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0) Uranium (E908.0); K-40, CS-137 (E901.0 or E901.1)	R Chronic Toxicity Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	R Cyanide (SM4500-CN-E / E335.2)	R Total Recoverable Metals. Mercury (E245.1)	R Total Dissolved Metals: Mercury (E245.1)	EP TSS (160.2 (SM2540D))	Comments
Outfall 009	Outfall009_20211226_Comp	12/26/2021	WM	500 mL Poly	1	HNO_3	95	No	X								X			
			WM	1 L Glass Amber	2	None	110	No		X										
			WM	500 mL Poly	2	None	145	No			X									48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	155	No				X								
			WM	500 mL Poly	1	NaOH	220	No								X				
			WM	2.5 Gal Cube	1	None	225	No						X						Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No												
		*	WM	1 Gal Cube	6	None	235	No							X					Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA.
			WM	1 L Poly	1	None	185	No											X	
	Outfall009_20211226_Comp_F	12/26/2021	WM	1L Poly	1	None	205	No					X							Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No										X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall009_20211226_Comp_Extra	12/26/2021	WM	1 L Glass Amber	2	None	110	No		H										Hold
			WM	500 mL Poly	2	None	145	No			H									Hold

Legend: EP=Expert Panel, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Mark Dominick	12-27-2021/1445	A		EC 12/27/21 1445
	12/27/21 1735			12/27/21 1735

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day: X
48 Hour _____ 5 Day _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: X

* Hand-delivered Separately by H'A

2.4|3.3, 2.9|3.8 SCS

2/1/2022

2019-2020 Rainy Season
Version 2

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147895 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80142-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/25/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PreoSep_21 Radium-226	904.0/PreoSep_0 Radium-228	905_Sr90/PreoSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note
			Preservation Code:												
Outfall009_20211226_Comp (570-80142-1)	12/26/21	08 00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	[signature]	12/28/21 1252				
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-147926 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80142-2
Address: 880 Riverside Parkway	Due Date Requested: 1/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall009_20211226_Comp (570-80142-1)	12/26/21	08:00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L Use Boeing glassware
Outfall009_20211226_Comp_Extra (570-80142-3)	12/26/21	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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	12/28/21 1500				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80142-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/5/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Preservation Codes

A HCL	M Hexane
B - NaOH	N None
C Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 Ni,,Zn	200.8/200.2 (MOD) Sb, Cd,Cu,Pb,Tl,Se,Ag	2540C_Calcd/ Solids, Total Dissolved (TDS)	245.1/245.1_Prep Mercury	2540D	200.8/FILTRATION (MOD) Sb, Cd,Cu,Pb,Tl,Se,Ag	245.1/FILTRATION Diss Mercury	200.7/FILTRATION Diss NiZn					Total Number of containers	Special Instructions/Note.
			Preservation Code:																	
Outfall009_20211226_Comp (570-80142-1)	12/26/21	08 00 Pacific		Water			X	X	X	X	X								3	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall009_20211226_Comp_F (570-80142-2)	12/26/21	08 00 Pacific		Water								X	X	X					3	Filter within 24 hours of reciept use VOA vials from LL Hg Kit-Clean Hands

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements. IR-89 1.4/1.4

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/28/21	EC			
2		Date/Time:	Company	Received by:	Date/Time 12/28/21 1752	Company EAT
3		Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks.

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-147926.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80142-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall009_20211226_Comp (570-80142-1)	12/26/21	08:00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall009_20211226_Comp_Extra (570-80142-3)	12/26/21	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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	12/28/21 1500		Alex Sotelo	12/29/21 10:30	ESTSAC
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80142-2

Login Number: 80142
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: 570-80142-2

Login Number: 80142
List Number: 4
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 12/29/21 03:04 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.6c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80142-3
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/25/2022 4:55:57 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 7
Client Sample Results 8
Tracer Carrier Summary 15
QC Sample Results 16
QC Association Summary 21
Lab Chronicle 22
Certification Summary 23
Method Summary 24
Sample Summary 25
Chain of Custody 26
Receipt Checklists 31

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80142-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80142-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80142-3

Comments
No additional comments.

Receipt
The samples were received on 12/27/2021 5:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.3º C and 3.8º C.

RAD
Method 900.0: Gross alpha beta batch 544905
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_20211226_Comp (570-80142-1), (LCS 160-544905/2-A), (LCSB 160-544905/3-A), (MB 160-544905/1-A), (570-80145-R-1-G), (570-80145-R-1-J DU), (570-80145-R-1-H MS) and (570-80145-R-1-I MSBT)

Method 901.1: Gamma Prep Batch 160-544496
Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

**The method blank (MB) Z-score is within limits and is located in the level IV raw data

Outfall009_20211226_Comp (570-80142-1), (570-80241-R-1-A) and (570-80241-R-1-B DU)

Method 903.0: Radium 226 batch 544163

Job ID: 570-80142-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall009_20211226_Comp (570-80142-1), (LCS 160-544163/1-A), (LCSD 160-544163/2-A) and (MB 160-544163/21-A)

Method 904.0: Radium 228 batch 544167
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall009_20211226_Comp (570-80142-1), (LCS 160-544167/1-A), (LCSD 160-544167/2-A) and (MB 160-544167/21-A)

Method 905: Strontium 90 batch 544884
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall009_20211226_Comp (570-80142-1), (LCS 160-544884/1-A), (LCSD 160-544884/2-A) and (MB 160-544884/16-A)

Method 906.0: Tritium in liquid batch 160-543993
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_20211226_Comp (570-80142-1), (LCS 160-543993/2-A), (MB 160-543993/1-A), (570-80132-U-1-A), (570-80132-U-1-B MS), (570-80145-I-1-A) and (570-80145-I-1-B DU)

Methods A-01-R, U-02-RC: Isotopic Uranium batch 544715
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_20211226_Comp (570-80142-1), (LCS 160-544715/2-A), (LCSD 160-544715/3-A) and (MB 160-544715/1-A)

Method ExtChrom: Uranium Prep Batch 160-544715

The following samples were prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall009_20211226_Comp

Job ID: 570-80142-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

(570-80142-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method LSC_Dist_Susp: Tritium Prep Batch 543993:

The following sample had an unclear matrix: Outfall009_20211226_Comp (570-80142-1). The sample was marigold in color and had small particles in it.

Method PrecSep_0: Radium-228 Prep Batch 160-544167

The following samples were prepared at a reduced aliquot due to Matrix: Outfall009_20211226_Comp (570-80142-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-544163

The following samples were prepared at a reduced aliquot due to Matrix: Outfall009_20211226_Comp (570-80142-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-544884

The following samples were prepared at a reduced aliquot due to Matrix: Outfall009_20211226_Comp (570-80142-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20211226_Comp
Lab Sample ID: 570-80142-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall009_20211226_Comp
Lab Sample ID: 570-80142-1
Date Collected: 12/26/21 08:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	**1.30**		0.811	0.825	3.00	1.10	pCi/L	01/05/22 10:40	01/06/22 14:25	1
Gross Beta	**2.64**		0.713	0.760	4.00	0.845	pCi/L	01/05/22 10:40	01/06/22 14:25	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall009_20211226_Comp
Lab Sample ID: 570-80142-1
Date Collected: 12/26/21 08:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-1.12	U	9.98	9.98	20.0	12.1	pCi/L	01/03/22 08:33	01/21/22 21:42	1
Potassium-40	45.4	U	92.2	92.4		98.4	pCi/L	01/03/22 08:33	01/21/22 21:42	1

Method: 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall009_20211226_Comp
Date Collected: 12/26/21 08:00
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80142-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0669	U	0.136	0.136	1.00	0.243	pCi/L	12/30/21 09:56	01/24/22 09:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.3*		*40 - 110*	*12/30/21 09:56*	*01/24/22 09:58*	*1*

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall009_20211226_Comp **Lab Sample ID: 570-80142-1**
Date Collected: 12/26/21 08:00 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.163	U	0.407	0.408	1.00	0.702	pCi/L	12/30/21 10:34	01/20/22 13:02	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.3*		*40 - 110*	*12/30/21 10:34*	*01/20/22 13:02*	*1*
Y Carrier	*81.5*		*40 - 110*	*12/30/21 10:34*	*01/20/22 13:02*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall009_20211226_Comp
Date Collected: 12/26/21 08:00
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80142-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.214	U	0.404	0.404	3.00	0.690	pCi/L	01/05/22 09:29	01/20/22 15:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*81.4*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:44*	*1*
Y Carrier	*79.3*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:44*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall009_20211226_Comp
Lab Sample ID: 570-80142-1
Date Collected: 12/26/21 08:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-125	U	160	161	500	308	pCi/L	12/29/21 14:28	01/04/22 23:06	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall009_20211226_Comp
Date Collected: 12/26/21 08:00
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80142-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.232	U	0.455	0.456	1.00	0.650	pCi/L	01/04/22 12:56	01/09/22 21:41	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*38.1*		*30 - 110*	*01/04/22 12:56*	*01/09/22 21:41*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
570-80142-1	Outfall009_20211226_Comp	79.3
LCS 160-544163/1-A	Lab Control Sample	98.2
LCSD 160-544163/2-A	Lab Control Sample Dup	104
MB 160-544163/21-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	(40-110)	(40-110)
570-80142-1	Outfall009_20211226_Comp	79.3	81.5
LCS 160-544167/1-A	Lab Control Sample	98.2	79.6
LCSD 160-544167/2-A	Lab Control Sample Dup	104	80.4
MB 160-544167/21-A	Method Blank	99.0	87.9

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Sr	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80142-1	Outfall009_20211226_Comp	81.4	79.3
LCS 160-544884/1-A	Lab Control Sample	77.6	85.2
LCSD 160-544884/2-A	Lab Control Sample Dup	79.2	84.9
MB 160-544884/16-A	Method Blank	84.7	78.9

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)
570-80142-1	Outfall009_20211226_Comp	38.1
LCS 160-544715/2-A	Lab Control Sample	88.8
LCSD 160-544715/3-A	Lab Control Sample Dup	103
MB 160-544715/1-A	Method Blank	93.4

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-544905/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 545103 — **Prep Batch: 544905**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.8965	U	0.678	0.686	3.00	1.01	pCi/L	01/05/22 10:40	01/06/22 14:23	1
Gross Beta	0.1978	U	0.523	0.524	4.00	0.880	pCi/L	01/05/22 10:40	01/06/22 14:23	1

Lab Sample ID: LCS 160-544905/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 545103 — **Prep Batch: 544905**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	59.45		8.64	3.00	2.32	pCi/L	117	75 - 125

Lab Sample ID: LCSB 160-544905/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 545103 — **Prep Batch: 544905**

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.7	74.99		8.03	4.00	1.03	pCi/L	99	75 - 125

Lab Sample ID: 570-80145-R-1-H MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 545103 — **Prep Batch: 544905**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	2.10		50.6	53.08		7.32	3.00	1.34	pCi/L	101	60 - 140

Lab Sample ID: 570-80145-R-1-I MSBT — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 545103 — **Prep Batch: 544905**

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	4.10		75.7	76.77		8.19	4.00	0.790	pCi/L	96	60 - 140

Lab Sample ID: 570-80145-R-1-J DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 545103 — **Prep Batch: 544905**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	2.10		1.928		1.04	3.00	1.33	pCi/L	0.08	1
Gross Beta	4.10		5.162		1.00	4.00	0.789	pCi/L	0.56	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-544496/1-A
Matrix: Water
Analysis Batch: 547455

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544496

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.0000	U	2.36	2.36	20.0	13.2	pCi/L	01/03/22 08:33	01/21/22 17:08	1
Potassium-40	-6.817	U	148	148		157	pCi/L	01/03/22 08:33	01/21/22 17:08	1

Lab Sample ID: LCS 160-544496/2-A
Matrix: Water
Analysis Batch: 547775

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544496

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium-241	135000	139600		16600		428	pCi/L	103	75 - 125
Cesium-137	42000	42670		5080	20.0	101	pCi/L	102	75 - 125

Lab Sample ID: 570-80241-R-1-B DU
Matrix: Water
Analysis Batch: 547775

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 544496

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Cesium-137	7.38		1.605	U	9.00	20.0	11.0	pCi/L	0.39	1
Potassium-40	116		-4.545	U	121		132	pCi/L	0.67	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-544163/21-A
Matrix: Water
Analysis Batch: 547796

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544163

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.001592	U	0.0935	0.0935	1.00	0.191	pCi/L	12/30/21 09:56	01/24/22 12:33	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.0*		*40 - 110*	*12/30/21 09:56*	*01/24/22 12:33*	*1*

Lab Sample ID: LCS 160-544163/1-A
Matrix: Water
Analysis Batch: 547796

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544163

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.1	13.71		1.50	1.00	0.263	pCi/L	91	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*98.2*		*40 - 110*

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-544163/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 547796 — **Prep Batch: 544163**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	12.36		1.37	1.00	0.260	pCi/L	82	75 - 125	0.47	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*104*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-544167/21-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 547242 — **Prep Batch: 544167**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.2693	U	0.301	0.302	1.00	0.577	pCi/L	12/30/21 10:34	01/20/22 13:05	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.0*		*40 - 110*	*12/30/21 10:34*	*01/20/22 13:05*	*1*
Y Carrier	*87.9*		*40 - 110*	*12/30/21 10:34*	*01/20/22 13:05*	*1*

Lab Sample ID: LCS 160-544167/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 547257 — **Prep Batch: 544167**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			11.9	13.64		1.58	1.00	0.522	pCi/L	114	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*98.2*		*40 - 110*
Y Carrier	*79.6*		*40 - 110*

Lab Sample ID: LCSD 160-544167/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 547257 — **Prep Batch: 544167**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			11.9	12.21		1.44	1.00	0.494	pCi/L	102	75 - 125	0.47	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*104*		*40 - 110*
Y Carrier	*80.4*		*40 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-544884/16-A
Matrix: Water
Analysis Batch: 547239

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544884

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	-0.1328	U	0.444	0.444	3.00	0.811	pCi/L	01/05/22 09:29	01/20/22 15:46	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*84.7*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:46*	*1*
Y Carrier	*78.9*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:46*	*1*

Lab Sample ID: LCS 160-544884/1-A
Matrix: Water
Analysis Batch: 547233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544884

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Strontium-90			15.1	15.49		1.76	3.00	0.788	pCi/L	102	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*77.6*		*40 - 110*
Y Carrier	*85.2*		*40 - 110*

Lab Sample ID: LCSD 160-544884/2-A
Matrix: Water
Analysis Batch: 547233

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544884

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Strontium-90			15.1	16.58		1.84	3.00	0.739	pCi/L	110	75 - 125	0.30	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*79.2*		*40 - 110*
Y Carrier	*84.9*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-543993/1-A
Matrix: Water
Analysis Batch: 544876

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 543993

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	38.74	U	179	179	500	313	pCi/L	12/29/21 14:28	01/04/22 21:35	1

Lab Sample ID: LCS 160-543993/2-A
Matrix: Water
Analysis Batch: 544876

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 543993

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			2250	2264		379	500	299	pCi/L	101	75 - 125		

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 570-80132-U-1-B MS
Matrix: Water
Analysis Batch: 544876

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 543993

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium	-130	U	2240	2160		375	500	309	pCi/L	97	60 - 140		

Lab Sample ID: 570-80145-I-1-B DU
Matrix: Water
Analysis Batch: 544876

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 543993

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	-34.7	U		-67.57	U	169	500	314	pCi/L			0.1	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-544715/1-A
Matrix: Water
Analysis Batch: 545484

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544715

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.08163	U	0.1210	0.1212	1.00	0.203	pCi/L	01/04/22 12:56	01/09/22 21:41	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*93.4*		*30 - 110*	*01/04/22 12:56*	*01/09/22 21:41*	*1*

Lab Sample ID: LCS 160-544715/2-A
Matrix: Water
Analysis Batch: 545486

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544715

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Uranium-234			25.5	25.08		2.81	1.00	0.294	pCi/L	98	75 - 125		
Uranium-238			26.0	24.44		2.75	1.00	0.193	pCi/L	94	75 - 125		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*88.8*		*30 - 110*

Lab Sample ID: LCSD 160-544715/3-A
Matrix: Water
Analysis Batch: 545487

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544715

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Uranium-234			25.5	24.55		2.70	1.00	0.231	pCi/L	96	75 - 125	0.1	1
Uranium-238			26.0	25.06		2.74	1.00	0.149	pCi/L	96	75 - 125	0.11	1

Tracer	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Uranium-232	*103*		*30 - 110*

Rad

Prep Batch: 543993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-543993/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-543993/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
570-80132-U-1-B MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	
570-80145-I-1-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 544163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total/NA	Water	PrecSep-21	
MB 160-544163/21-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-544163/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-544163/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 544167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total/NA	Water	PrecSep_0	
MB 160-544167/21-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-544167/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-544167/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 544496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-544496/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-544496/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-80241-R-1-B DU	Duplicate	Total/NA	Water	Fill_Geo-0	

Prep Batch: 544715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total/NA	Water	ExtChrom	
MB 160-544715/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-544715/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
LCSD 160-544715/3-A	Lab Control Sample Dup	Total/NA	Water	ExtChrom	

Prep Batch: 544884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total/NA	Water	PrecSep-7	
MB 160-544884/16-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-544884/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-544884/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Prep Batch: 544905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80142-1	Outfall009_20211226_Comp	Total/NA	Water	Evaporation	
MB 160-544905/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-544905/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-544905/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-80145-R-1-H MS	Matrix Spike	Total/NA	Water	Evaporation	
570-80145-R-1-I MSBT	Matrix Spike	Total/NA	Water	Evaporation	
570-80145-R-1-J DU	Duplicate	Total/NA	Water	Evaporation	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Client Sample ID: Outfall009_20211226_Comp
Lab Sample ID: 570-80142-1

Date Collected: 12/26/21 08:00
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			200.05 mL	1.0 g	544905	01/05/22 10:40	KG	TAL SL
Total/NA	Analysis	900.0		1			545103	01/06/22 14:25	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	544496	01/03/22 08:33	LTC	TAL SL
Total/NA	Analysis	901.1		1			547455	01/21/22 21:42	CAH	TAL SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			749.85 mL	1.0 g	544163	12/30/21 09:56	LPS	TAL SL
Total/NA	Analysis	903.0		1			547796	01/24/22 09:58	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			749.85 mL	1.0 g	544167	12/30/21 10:34	LPS	TAL SL
Total/NA	Analysis	904.0		1			547257	01/20/22 13:02	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-7			500.07 mL	1.0 g	544884	01/05/22 09:29	LPS	TAL SL
Total/NA	Analysis	905		1			547239	01/20/22 15:44	FLC	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	LSC_Dist_Susp			100.47 mL	1.0 g	543993	12/29/21 14:28	BAL	TAL SL
Total/NA	Analysis	906.0		1			544876	01/04/22 23:06	JLP	TAL SL
	Instrument ID: LSCBROWN									
Total/NA	Prep	ExtChrom			200.26 mL	1.0 mL	544715	01/04/22 12:56	MLO	TAL SL
Total/NA	Analysis	A-01-R		1			545494	01/09/22 21:41	FLC	TAL SL
	Instrument ID: ALPHAVISION									

Laboratory References:
TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80142-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	01-01-22 *
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	TAL SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	TAL SL

Protocol References:

DOE = U.S. Department of Energy
EPA = US Environmental Protection Agency
None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80142-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 009 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80142-1	Outfall009_20211226_Comp	Water	12/26/21 08:00	12/27/21 17:35

80142

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80142 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Routine Outfall [003-007 009 010] Outfall 009 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **EC# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599 0702 (cell)

									ANALYSIS REQUIRED																	
									R	R	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. (E200.7): Ni, Zn (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	Cl, SO_4, NO_3+NO_2-N (300)	TDS (SM2540C/E160.1)	Total Dissolved Metals. (E200.7): 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)	Chronic Toxicity Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura, CA	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_20211226_Comp	12/26/2021	WM	500 mL Poly	1	HNO_3	95	No	X										X							
			WM	1 L Glass Amber	2	None	110	No		X																
			WM	500 mL Poly	2	None	145	No			X															48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	155	No				X														
			WM	500 mL Poly	1	NaOH	220	No										X								
			WM	2.5 Gal Cube	1	None	225	No																		Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No						X												
		*	WM	1 Gal Cube	6	None	235	No									X									Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA.
			WM	1 L Poly	1	None	185	No													X					
	Outfall009_20211226_Comp_F	12/26/2021	WM	1L Poly	1	None	205	No					X													Filter and preserve w/in 24hrs of receipt at lab
			WM	borosilicate vials	1	None	320	No												X						Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall009_20211226_Comp_Extra	12/26/2021	WM	1 L Glass Amber	2	None	110	No		H																Hold
			WM	500 mL Poly	2	None	145	No			H															Hold

Legend: EP=Expert Panel, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12-27-2021/1445	A	[signature]	EC 12/27/21 1445
[signature]	12/27/21 1735		[signature]	12/27/21 1735
Relinquished By	Date/Time:	Company:	Received By	Date/Time:

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day: X
48 Hour _____ 5 Day _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: _____ All Level IV: X

* Hand-delivered Separately by H'A

2 4/3 3, 2 9/3.8 SCS

1/25/2022

2019-2020 Rainy Season
Version 2

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147895 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80142-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/25/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PreoSep_21 Radium-226	904.0/PreoSep_0 Radium-228	905_Sr90/PreoSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note
			Preservation Code:												
Outfall009_20211226_Comp (570-80142-1)	12/26/21	08 00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/28/21 1252				
2						
3						

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-147926 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80142-2
Address: 880 Riverside Parkway	Due Date Requested: 1/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall009_20211226_Comp (570-80142-1)	12/26/21	08:00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L Use Boeing glassware
Outfall009_20211226_Comp_Extra (570-80142-3)	12/26/21	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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	12/28/21 1500				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/25/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80142-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/5/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 Ni,,Zn	200.8/200.2 (MOD) Sb, Cd,Cu,Pb,Tl,Se,Ag	2540C_Calcd/ Solids, Total Dissolved (TDS)	245.1/245.1_Prep Mercury	2540D	200.8/FILTRATION (MOD) Sb, Cd,Cu,Pb,Tl,Se,Ag	245.1/FILTRATION Diss Mercury	200.7/FILTRATION Diss NiZn	Total Number of containers	Special Instructions/Note.
			Preservation Code:													
Outfall009_20211226_Comp (570-80142-1)	12/26/21	08 00 Pacific		Water			X	X	X	X	X				3	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall009_20211226_Comp_F (570-80142-2)	12/26/21	08 00 Pacific		Water								X	X	X	3	Filter within 24 hours of reciept use VOA vials from LL Hg Kit-Clean Hands

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements. IR-89 1.4/11.4

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
1		12/28/21	EC			
2	Relinquished by:	Date/Time:	Company	Received by: Olga Oneles	Date/Time 12/28/21 1752	Company EAT
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks.

1/25/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-147895.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80142-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/25/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	A01R_U/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall009_20211226_Comp (570-80142-1)	12/26/21	08:00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 12/28/21 1252	Company:	Received by: FED EX	Date/Time:	Company:
Relinquished by: FED EX	Date/Time:	Company:	Received by: Sierra Worthington	Date/Time: 12-29-21 0940	Company: EMSR
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: 570-80142-3

Login Number: 80142
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: 570-80142-3

Login Number: 80142
List Number: 2
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 12/29/21 11:32 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	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 America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80406-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 COMP
Revision: 1

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/25/2022 1:15:03 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Client Sample Results 6
Surrogate Summary 11
QC Sample Results 12
QC Association Summary 20
Lab Chronicle 22
Certification Summary 23
Method Summary 24
Sample Summary 25
Subcontract Data 26
Chain of Custody 35
Receipt Checklists 38

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80406-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 COMP

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
BU	Analyzed out of holding time

GC Semi VOA

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80406-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80406-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 1/19/2022. The report (revision 1) is being revised due to: The clients office requested the Enthalpy final report to be revised to remove Total Coliform reporting..

Receipt
The samples were received on 12/30/2021 3:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.5º C.

GC/MS VOA
Method 624.1: The following sample(s) was analyzed outside of analytical holding time due to laboratory relocation and requiring method validations. Clients were notified of hold time issues. Outfall011_20211230_Grab (570-80406-1) and TB-20211230 (570-80406-3).

Method 624.1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 440-663938 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 2540F: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: Outfall011_20211230_Grab (570-80406-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-205046. 8015B_DRO.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method 9223- Colilert 18 - E. Coli - level 4 required: This method was subcontracted to Enthalpy Analytical - Barkley. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80406-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 COMP

Client Sample ID: Outfall011_20211230_Grab
Lab Sample ID: 570-80406-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C13-C28	0.044	J,DX	0.047	0.034	mg/L	1		8015B	Total/NA
Specific Conductance	96		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA
Settleable Solids	0.40	BU	0.10	0.10	mL/L/Hr	1		SM 2540F	Total/NA

Client Sample ID: TB-20211230
Lab Sample ID: 570-80406-3

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80406-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 COMP

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall011_20211230_Grab
Lab Sample ID: 570-80406-1
Date Collected: 12/30/21 10:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	BU	0.50	0.25	ug/L			01/07/22 05:24	1
1,1,2,2-Tetrachloroethane	ND	BU	0.50	0.20	ug/L			01/07/22 05:24	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	BU	2.0	0.33	ug/L			01/07/22 05:24	1
1,1,2-Trichloroethane	ND	BU	0.50	0.17	ug/L			01/07/22 05:24	1
1,1-Dichloroethane	ND	BU	0.50	0.39	ug/L			01/07/22 05:24	1
1,1-Dichloroethene	ND	BU	0.50	0.33	ug/L			01/07/22 05:24	1
1,2-Dichloro-1,1,2-trifluoroethane	ND	BU	2.0	0.58	ug/L			01/07/22 05:24	1
1,2-Dichlorobenzene	ND	BU	0.50	0.16	ug/L			01/07/22 05:24	1
1,2-Dichloroethane	ND	BU	0.50	0.15	ug/L			01/07/22 05:24	1
1,2-Dichloropropane	ND	BU	0.50	0.17	ug/L			01/07/22 05:24	1
1,3-Dichlorobenzene	ND	BU	0.50	0.16	ug/L			01/07/22 05:24	1
1,4-Dichlorobenzene	ND	BU	0.50	0.11	ug/L			01/07/22 05:24	1
2-Chloroethyl vinyl ether	ND	BU	2.0	1.1	ug/L			01/07/22 05:24	1
Acrolein	ND	BU	5.0	4.6	ug/L			01/07/22 05:24	1
Acrylonitrile	ND	BU	2.0	1.4	ug/L			01/07/22 05:24	1
Benzene	ND	BU	0.50	0.28	ug/L			01/07/22 05:24	1
Bromodichloromethane	ND	BU	0.50	0.19	ug/L			01/07/22 05:24	1
Bromoform	ND	BU	1.0	0.25	ug/L			01/07/22 05:24	1
Bromomethane	ND	BU	0.50	0.22	ug/L			01/07/22 05:24	1
Carbon tetrachloride	ND	BU	0.50	0.28	ug/L			01/07/22 05:24	1
Chlorobenzene	ND	BU	0.50	0.19	ug/L			01/07/22 05:24	1
Chloroethane	ND	BU	1.0	0.29	ug/L			01/07/22 05:24	1
Chloroform	ND	BU	0.50	0.19	ug/L			01/07/22 05:24	1
Chloromethane	ND	BU	0.50	0.30	ug/L			01/07/22 05:24	1
cis-1,2-Dichloroethene	ND	BU	0.50	0.21	ug/L			01/07/22 05:24	1
cis-1,3-Dichloropropene	ND	BU	0.50	0.30	ug/L			01/07/22 05:24	1
Cyclohexane	ND	BU	2.0	0.79	ug/L			01/07/22 05:24	1
Dibromochloromethane	ND	BU	0.50	0.15	ug/L			01/07/22 05:24	1
Ethylbenzene	ND	BU	0.50	0.25	ug/L			01/07/22 05:24	1
m,p-Xylene	ND	BU	1.0	0.17	ug/L			01/07/22 05:24	1
Methylene Chloride	ND	BU	2.0	0.57	ug/L			01/07/22 05:24	1
Naphthalene	ND	BU	1.0	0.33	ug/L			01/07/22 05:24	1
o-Xylene	ND	BU	0.50	0.15	ug/L			01/07/22 05:24	1
Tetrachloroethene	ND	BU	0.50	0.21	ug/L			01/07/22 05:24	1
Toluene	ND	BU	0.50	0.23	ug/L			01/07/22 05:24	1
trans-1,2-Dichloroethene	ND	BU	0.50	0.24	ug/L			01/07/22 05:24	1
trans-1,3-Dichloropropene	ND	BU	0.50	0.18	ug/L			01/07/22 05:24	1
Trichloroethene	ND	BU	0.50	0.17	ug/L			01/07/22 05:24	1
Trichlorofluoromethane	ND	BU	0.50	0.29	ug/L			01/07/22 05:24	1
Vinyl chloride	ND	BU	0.50	0.47	ug/L			01/07/22 05:24	1
Xylenes, Total	ND	BU	1.0	0.17	ug/L			01/07/22 05:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*60 - 140*		*01/07/22 05:24*	*1*
Dibromofluoromethane (Surr)	*114*		*60 - 140*		*01/07/22 05:24*	*1*
Toluene-d8 (Surr)	*112*		*60 - 140*		*01/07/22 05:24*	*1*

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: TB-20211230
Date Collected: 12/30/21 10:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80406-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	BU	0.50	0.25	ug/L			01/07/22 05:53	1
1,1,2,2-Tetrachloroethane	ND	BU	0.50	0.20	ug/L			01/07/22 05:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	BU	2.0	0.33	ug/L			01/07/22 05:53	1
1,1,2-Trichloroethane	ND	BU	0.50	0.17	ug/L			01/07/22 05:53	1
1,1-Dichloroethane	ND	BU	0.50	0.39	ug/L			01/07/22 05:53	1
1,1-Dichloroethene	ND	BU	0.50	0.33	ug/L			01/07/22 05:53	1
1,2-Dichloro-1,1,2-trifluoroethane	ND	BU	2.0	0.58	ug/L			01/07/22 05:53	1
1,2-Dichlorobenzene	ND	BU	0.50	0.16	ug/L			01/07/22 05:53	1
1,2-Dichloroethane	ND	BU	0.50	0.15	ug/L			01/07/22 05:53	1
1,2-Dichloropropane	ND	BU	0.50	0.17	ug/L			01/07/22 05:53	1
1,3-Dichlorobenzene	ND	BU	0.50	0.16	ug/L			01/07/22 05:53	1
1,4-Dichlorobenzene	ND	BU	0.50	0.11	ug/L			01/07/22 05:53	1
2-Chloroethyl vinyl ether	ND	BU	2.0	1.1	ug/L			01/07/22 05:53	1
Acrolein	ND	BU	5.0	4.6	ug/L			01/07/22 05:53	1
Acrylonitrile	ND	BU	2.0	1.4	ug/L			01/07/22 05:53	1
Benzene	ND	BU	0.50	0.28	ug/L			01/07/22 05:53	1
Bromodichloromethane	ND	BU	0.50	0.19	ug/L			01/07/22 05:53	1
Bromoform	ND	BU	1.0	0.25	ug/L			01/07/22 05:53	1
Bromomethane	ND	BU	0.50	0.22	ug/L			01/07/22 05:53	1
Carbon tetrachloride	ND	BU	0.50	0.28	ug/L			01/07/22 05:53	1
Chlorobenzene	ND	BU	0.50	0.19	ug/L			01/07/22 05:53	1
Chloroethane	ND	BU	1.0	0.29	ug/L			01/07/22 05:53	1
Chloroform	ND	BU	0.50	0.19	ug/L			01/07/22 05:53	1
Chloromethane	ND	BU	0.50	0.30	ug/L			01/07/22 05:53	1
cis-1,2-Dichloroethene	ND	BU	0.50	0.21	ug/L			01/07/22 05:53	1
cis-1,3-Dichloropropene	ND	BU	0.50	0.30	ug/L			01/07/22 05:53	1
Cyclohexane	ND	BU	2.0	0.79	ug/L			01/07/22 05:53	1
Dibromochloromethane	ND	BU	0.50	0.15	ug/L			01/07/22 05:53	1
Ethylbenzene	ND	BU	0.50	0.25	ug/L			01/07/22 05:53	1
m,p-Xylene	ND	BU	1.0	0.17	ug/L			01/07/22 05:53	1
Methylene Chloride	ND	BU	2.0	0.57	ug/L			01/07/22 05:53	1
Naphthalene	ND	BU	1.0	0.33	ug/L			01/07/22 05:53	1
o-Xylene	ND	BU	0.50	0.15	ug/L			01/07/22 05:53	1
Tetrachloroethene	ND	BU	0.50	0.21	ug/L			01/07/22 05:53	1
Toluene	ND	BU	0.50	0.23	ug/L			01/07/22 05:53	1
trans-1,2-Dichloroethene	ND	BU	0.50	0.24	ug/L			01/07/22 05:53	1
trans-1,3-Dichloropropene	ND	BU	0.50	0.18	ug/L			01/07/22 05:53	1
Trichloroethene	ND	BU	0.50	0.17	ug/L			01/07/22 05:53	1
Trichlorofluoromethane	ND	BU	0.50	0.29	ug/L			01/07/22 05:53	1
Vinyl chloride	ND	BU	0.50	0.47	ug/L			01/07/22 05:53	1
Xylenes, Total	ND	BU	1.0	0.17	ug/L			01/07/22 05:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*60 - 140*		*01/07/22 05:53*	*1*
Dibromofluoromethane (Surr)	*115*		*60 - 140*		*01/07/22 05:53*	*1*
Toluene-d8 (Surr)	*110*		*60 - 140*		*01/07/22 05:53*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80406-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 COMP

Method: 8015B - Gasoline Range Organics - (GC)

Client Sample ID: Outfall011_20211230_Grab
Lab Sample ID: 570-80406-1
Date Collected: 12/30/21 10:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		50	30	ug/L			01/06/22 17:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*20 - 144*		*01/06/22 17:28*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80406-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 COMP

Method: 8015B - Diesel Range Organics (DRO) (GC)

Client Sample ID: Outfall011_20211230_Grab
Lab Sample ID: 570-80406-1
Date Collected: 12/30/21 10:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C28	0.044	J,DX	0.047	0.034	mg/L		01/03/22 10:17	01/06/22 13:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*89*		*53 - 151*	*01/03/22 10:17*	*01/06/22 13:13*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80406-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 COMP

General Chemistry

Client Sample ID: Outfall011_20211230_Grab
Lab Sample ID: 570-80406-1
Date Collected: 12/30/21 10:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	ND		1.0	0.53	mg/L		01/11/22 09:06	01/11/22 09:06	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	**96**		1.0	1.0	umhos/cm			01/04/22 11:54	1
Settleable Solids	**0.40**	**BU**	0.10	0.10	mL/L/Hr			01/18/22 13:03	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 COMP

Job ID: 570-80406-1

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)
570-80406-1	Outfall011_20211230_Grab	98	114	112
570-80406-3	TB-20211230	105	115	110
570-80528-G-1 MS	Matrix Spike	112	103	103
570-80528-I-1 MSD	Matrix Spike Duplicate	108	103	104
LCS 440-663938/1004	Lab Control Sample	109	98	99
LCS 440-663938/1005	Lab Control Sample	99	107	109
MB 440-663938/6	Method Blank	100	107	111

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8015B - Gasoline Range Organics - (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		BFB1
Lab Sample ID	Client Sample ID	(20-144)
570-80406-1	Outfall011_20211230_Grab	74
570-80673-D-1 MS	Matrix Spike	97
570-80673-D-1 MSD	Matrix Spike Duplicate	95
LCS 570-205878/3	Lab Control Sample	96
LCSD 570-205878/4	Lab Control Sample Dup	97
MB 570-205878/6	Method Blank	71

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: 8015B - Diesel Range Organics (DRO) (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		OTCSN1
Lab Sample ID	Client Sample ID	(53-151)
570-80406-1	Outfall011_20211230_Grab	89
LCS 570-205046/2-A	Lab Control Sample	99
LCSD 570-205046/3-A	Lab Control Sample Dup	95
MB 570-205046/1-A	Method Blank	91

Surrogate Legend

OTCSN = n-Octacosane (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-663938/6
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/06/22 19:47	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/06/22 19:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			01/06/22 19:47	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/06/22 19:47	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/06/22 19:47	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/06/22 19:47	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	0.58	ug/L			01/06/22 19:47	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/06/22 19:47	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/06/22 19:47	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/06/22 19:47	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/06/22 19:47	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/06/22 19:47	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/06/22 19:47	1
Acrolein	ND		5.0	4.6	ug/L			01/06/22 19:47	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/06/22 19:47	1
Benzene	ND		0.50	0.28	ug/L			01/06/22 19:47	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/06/22 19:47	1
Bromoform	ND		1.0	0.25	ug/L			01/06/22 19:47	1
Bromomethane	ND		0.50	0.22	ug/L			01/06/22 19:47	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/06/22 19:47	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/06/22 19:47	1
Chloroethane	ND		1.0	0.29	ug/L			01/06/22 19:47	1
Chloroform	ND		0.50	0.19	ug/L			01/06/22 19:47	1
Chloromethane	ND		0.50	0.30	ug/L			01/06/22 19:47	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/06/22 19:47	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/06/22 19:47	1
Cyclohexane	ND		2.0	0.79	ug/L			01/06/22 19:47	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/06/22 19:47	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/06/22 19:47	1
m,p-Xylene	ND		1.0	0.17	ug/L			01/06/22 19:47	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/06/22 19:47	1
Naphthalene	ND		1.0	0.33	ug/L			01/06/22 19:47	1
o-Xylene	ND		0.50	0.15	ug/L			01/06/22 19:47	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/06/22 19:47	1
Toluene	ND		0.50	0.23	ug/L			01/06/22 19:47	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/06/22 19:47	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/06/22 19:47	1
Trichloroethene	ND		0.50	0.17	ug/L			01/06/22 19:47	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			01/06/22 19:47	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/06/22 19:47	1
Xylenes, Total	ND		1.0	0.17	ug/L			01/06/22 19:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*60 - 140*		*01/06/22 19:47*	*1*
Dibromofluoromethane (Surr)	*107*		*60 - 140*		*01/06/22 19:47*	*1*
Toluene-d8 (Surr)	*111*		*60 - 140*		*01/06/22 19:47*	*1*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-663938/1004
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	25.5		ug/L		102	69 - 151
1,1,2,2-Tetrachloroethane	25.0	31.0		ug/L		124	68 - 136
1,1,2-Trichloroethane	25.0	28.6		ug/L		114	75 - 136
1,1-Dichloroethane	25.0	26.9		ug/L		108	71 - 143
1,1-Dichloroethene	25.0	27.4		ug/L		109	19 - 212
1,2-Dichlorobenzene	25.0	24.5		ug/L		98	59 - 174
1,2-Dichloroethane	25.0	27.1		ug/L		108	72 - 137
1,2-Dichloropropane	25.0	28.0		ug/L		112	19 - 181
1,3-Dichlorobenzene	25.0	24.9		ug/L		100	75 - 144
1,4-Dichlorobenzene	25.0	24.7		ug/L		99	59 - 174
2-Chloroethyl vinyl ether	25.0	29.5		ug/L		118	10 - 252
Acrolein	24.7	28.7		ug/L		116	50 - 150
Acrylonitrile	250	300		ug/L		120	50 - 150
Benzene	25.0	25.5		ug/L		102	75 - 125
Bromodichloromethane	25.0	27.1		ug/L		108	50 - 140
Bromoform	25.0	23.8		ug/L		95	57 - 156
Bromomethane	25.0	28.2		ug/L		113	10 - 206
Carbon tetrachloride	25.0	25.4		ug/L		101	65 - 125
Chlorobenzene	25.0	24.9		ug/L		99	82 - 137
Chloroethane	25.0	29.4		ug/L		118	42 - 202
Chloroform	25.0	25.6		ug/L		102	68 - 121
Chloromethane	25.0	31.6		ug/L		127	10 - 230
cis-1,2-Dichloroethene	25.0	23.1		ug/L		93	60 - 140
cis-1,3-Dichloropropene	25.0	28.7		ug/L		115	5 - 195
Dibromochloromethane	25.0	25.7		ug/L		103	69 - 133
Ethylbenzene	25.0	24.1		ug/L		97	75 - 134
m,p-Xylene	25.0	23.5		ug/L		94	60 - 140
Methylene Chloride	25.0	25.0		ug/L		100	10 - 205
Naphthalene	25.0	23.6		ug/L		95	60 - 140
o-Xylene	25.0	23.5		ug/L		94	60 - 140
Tetrachloroethene	25.0	23.5		ug/L		94	70 - 130
Toluene	25.0	24.8		ug/L		99	75 - 134
trans-1,2-Dichloroethene	25.0	23.2		ug/L		93	70 - 130
trans-1,3-Dichloropropene	25.0	29.0		ug/L		116	38 - 162
Trichloroethene	25.0	22.7		ug/L		91	75 - 138
Trichlorofluoromethane	25.0	29.8		ug/L		119	45 - 158
Vinyl chloride	25.0	31.8		ug/L		127	10 - 218
Xylenes, Total	50.0	47.0		ug/L		94	

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*60 - 140*
Dibromofluoromethane (Surr)	*98*		*60 - 140*
Toluene-d8 (Surr)	*99*		*60 - 140*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-663938/1005
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2-Dichloro-1,1,2-trifluoroethane			25.0	23.3		ug/L		93	60 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*60 - 140*
Dibromofluoromethane (Surr)	*107*		*60 - 140*
Toluene-d8 (Surr)	*109*		*60 - 140*

Lab Sample ID: 570-80528-G-1 MS
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,1,1-Trichloroethane	ND		25.0	25.9		ug/L		104	52 - 162		
1,1,2,2-Tetrachloroethane	ND		25.0	30.5		ug/L		122	46 - 157		
1,1,2-Trichloroethane	ND		25.0	27.8		ug/L		111	52 - 150		
1,1-Dichloroethane	ND		25.0	26.8		ug/L		107	59 - 155		
1,1-Dichloroethene	ND		25.0	29.6		ug/L		119	10 - 234		
1,2-Dichloro-1,1,2-trifluoroethane	ND		25.0	27.5		ug/L		110	60 - 140		
1,2-Dichlorobenzene	ND		25.0	24.2		ug/L		97	18 - 190		
1,2-Dichloroethane	ND		25.0	27.2		ug/L		109	49 - 155		
1,2-Dichloropropane	ND		25.0	28.0		ug/L		112	10 - 210		
1,3-Dichlorobenzene	ND		25.0	24.2		ug/L		97	59 - 156		
1,4-Dichlorobenzene	ND		25.0	24.6		ug/L		98	18 - 190		
2-Chloroethyl vinyl ether	ND		25.0	29.5		ug/L		118	10 - 305		
Acrolein	ND		24.7	18.4		ug/L		74	40 - 160		
Acrylonitrile	ND		250	273		ug/L		109	40 - 160		
Benzene	ND		25.0	25.9		ug/L		104	37 - 151		
Bromodichloromethane	ND		25.0	27.6		ug/L		110	35 - 155		
Bromoform	ND		25.0	24.9		ug/L		100	45 - 169		
Bromomethane	ND		25.0	29.4		ug/L		118	10 - 242		
Carbon tetrachloride	ND		25.0	27.3		ug/L		109	70 - 140		
Chlorobenzene	ND		25.0	25.4		ug/L		102	37 - 160		
Chloroethane	ND		25.0	30.1		ug/L		121	14 - 230		
Chloroform	ND		25.0	26.3		ug/L		105	51 - 138		
Chloromethane	ND		25.0	32.8		ug/L		131	10 - 273		
cis-1,2-Dichloroethene	ND		25.0	24.4		ug/L		98	60 - 140		
cis-1,3-Dichloropropene	ND		25.0	28.6		ug/L		115	10 - 227		
Dibromochloromethane	ND		25.0	26.1		ug/L		104	53 - 149		
Ethylbenzene	ND		25.0	25.4		ug/L		102	37 - 162		
m,p-Xylene	ND		25.0	24.4		ug/L		98	60 - 140		
Methylene Chloride	ND		25.0	24.5		ug/L		98	10 - 221		
Naphthalene	ND		25.0	23.3		ug/L		93	60 - 140		
o-Xylene	ND		25.0	24.9		ug/L		99	60 - 140		
Tetrachloroethene	ND		25.0	25.1		ug/L		100	64 - 148		
Toluene	ND		25.0	26.1		ug/L		104	47 - 150		
trans-1,2-Dichloroethene	ND		25.0	23.0		ug/L		92	54 - 156		
trans-1,3-Dichloropropene	ND		25.0	28.6		ug/L		114	17 - 183		
Trichloroethene	ND		25.0	23.5		ug/L		94	70 - 157		

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-80528-G-1 MS **Client Sample ID: Matrix Spike**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 663938

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	ND		25.0	30.9		ug/L		124	17 - 181
Vinyl chloride	ND		25.0	35.4		ug/L		142	10 - 251
Xylenes, Total	ND		50.0	49.3		ug/L		99	

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*60 - 140*
Dibromofluoromethane (Surr)	*103*		*60 - 140*
Toluene-d8 (Surr)	*103*		*60 - 140*

Lab Sample ID: 570-80528-I-1 MSD **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 663938

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		25.0	26.3		ug/L		105	52 - 162	2	36
1,1,2,2-Tetrachloroethane	ND		25.0	31.3		ug/L		125	46 - 157	3	61
1,1,2-Trichloroethane	ND		25.0	28.1		ug/L		112	52 - 150	1	45
1,1-Dichloroethane	ND		25.0	27.9		ug/L		112	59 - 155	4	40
1,1-Dichloroethene	ND		25.0	30.4		ug/L		121	10 - 234	2	32
1,2-Dichloro-1,1,2-trifluoroethane	ND		25.0	31.8		ug/L		127	60 - 140	14	35
1,2-Dichlorobenzene	ND		25.0	24.3		ug/L		97	18 - 190	1	57
1,2-Dichloroethane	ND		25.0	26.8		ug/L		107	49 - 155	1	49
1,2-Dichloropropane	ND		25.0	27.9		ug/L		112	10 - 210	0	55
1,3-Dichlorobenzene	ND		25.0	24.0		ug/L		96	59 - 156	1	43
1,4-Dichlorobenzene	ND		25.0	23.9		ug/L		96	18 - 190	3	57
2-Chloroethyl vinyl ether	ND		25.0	28.9		ug/L		116	10 - 305	2	71
Acrolein	ND		24.7	24.4		ug/L		99	40 - 160	28	60
Acrylonitrile	ND		250	303		ug/L		121	40 - 160	10	60
Benzene	ND		25.0	26.1		ug/L		104	37 - 151	1	61
Bromodichloromethane	ND		25.0	27.0		ug/L		108	35 - 155	2	56
Bromoform	ND		25.0	25.5		ug/L		102	45 - 169	2	42
Bromomethane	ND		25.0	28.3		ug/L		113	10 - 242	4	61
Carbon tetrachloride	ND		25.0	27.3		ug/L		109	70 - 140	0	41
Chlorobenzene	ND		25.0	24.4		ug/L		98	37 - 160	4	53
Chloroethane	ND		25.0	29.7		ug/L		119	14 - 230	1	78
Chloroform	ND		25.0	26.7		ug/L		107	51 - 138	1	54
Chloromethane	ND		25.0	31.7		ug/L		127	10 - 273	3	60
cis-1,2-Dichloroethene	ND		25.0	25.1		ug/L		101	60 - 140	3	35
cis-1,3-Dichloropropene	ND		25.0	28.6		ug/L		114	10 - 227	0	58
Dibromochloromethane	ND		25.0	25.3		ug/L		101	53 - 149	3	50
Ethylbenzene	ND		25.0	25.3		ug/L		101	37 - 162	0	63
m,p-Xylene	ND		25.0	23.3		ug/L		93	60 - 140	4	35
Methylene Chloride	ND		25.0	25.5		ug/L		102	10 - 221	4	28
Naphthalene	ND		25.0	23.6		ug/L		94	60 - 140	1	35
o-Xylene	ND		25.0	24.4		ug/L		97	60 - 140	2	35
Tetrachloroethene	ND		25.0	25.3		ug/L		101	64 - 148	1	39
Toluene	ND		25.0	25.8		ug/L		103	47 - 150	1	41
trans-1,2-Dichloroethene	ND		25.0	24.2		ug/L		97	54 - 156	5	45

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-80528-I-1 MSD
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,3-Dichloropropene	ND		25.0	28.9		ug/L		115	17 - 183	1	86
Trichloroethene	ND		25.0	23.4		ug/L		94	70 - 157	0	48
Trichlorofluoromethane	ND		25.0	31.4		ug/L		125	17 - 181	1	84
Vinyl chloride	ND		25.0	35.2		ug/L		141	10 - 251	1	66
Xylenes, Total	ND		50.0	47.7		ug/L		95		3	

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*60 - 140*
Dibromofluoromethane (Surr)	*103*		*60 - 140*
Toluene-d8 (Surr)	*104*		*60 - 140*

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 570-205878/6
Matrix: Water
Analysis Batch: 205878

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		50	30	ug/L			01/06/22 13:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*20 - 144*		*01/06/22 13:31*	*1*

Lab Sample ID: LCS 570-205878/3
Matrix: Water
Analysis Batch: 205878

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (C4-C13)			1970	1780		ug/L		90	71 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*20 - 144*

Lab Sample ID: LCSD 570-205878/4
Matrix: Water
Analysis Batch: 205878

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)			1970	1830		ug/L		93	71 - 120	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*20 - 144*

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: 570-80673-D-1 MS
Matrix: Water
Analysis Batch: 205878

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (C4-C13)	ND		1970	2090		ug/L		106	54 - 125		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*20 - 144*

Lab Sample ID: 570-80673-D-1 MSD
Matrix: Water
Analysis Batch: 205878

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	ND		1970	2010		ug/L		102	54 - 125	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*20 - 144*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 570-205046/1-A
Matrix: Water
Analysis Batch: 205738

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205046

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C28	ND		0.050	0.036	mg/L		01/03/22 10:17	01/06/22 00:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*91*		*53 - 151*	*01/03/22 10:17*	*01/06/22 00:30*	*1*

Lab Sample ID: LCS 570-205046/2-A
Matrix: Water
Analysis Batch: 205738

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205046

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C28			4.00	4.25		mg/L		106	70 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane (Surr)	*99*		*53 - 151*

Lab Sample ID: LCSD 570-205046/3-A
Matrix: Water
Analysis Batch: 205738

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205046

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28			4.00	4.04		mg/L		101	70 - 131	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane (Surr)	*95*		*53 - 151*

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-206690/1-A
Matrix: Water
Analysis Batch: 206809

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 206690

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	ND		1.0	0.51	mg/L		01/11/22 09:06	01/11/22 09:06	1

Lab Sample ID: LCS 570-206690/2-A
Matrix: Water
Analysis Batch: 206809

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 206690

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM: Oil and Grease	40.0	37.3		mg/L		93	78 - 114

Lab Sample ID: LCSD 570-206690/3-A
Matrix: Water
Analysis Batch: 206809

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 206690

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM: Oil and Grease	40.0	37.2		mg/L		93	78 - 114	0	18

Lab Sample ID: 440-294004-H-1-A MS
Matrix: Water
Analysis Batch: 206809

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 206690

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM: Oil and Grease	2.3		39.6	37.2		mg/L		88	78 - 114

Lab Sample ID: 440-294004-H-1-B MSD
Matrix: Water
Analysis Batch: 206809

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 206690

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM: Oil and Grease	2.3		39.8	40.3		mg/L		96	78 - 114	8	18

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 440-663757/3
Matrix: Water
Analysis Batch: 663757

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			01/04/22 11:54	1

Lab Sample ID: LCS 440-663757/4
Matrix: Water
Analysis Batch: 663757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	687	671		umhos/cm		98	90 - 110

Method: SM 2510B - Conductivity, Specific Conductance (Continued)

Lab Sample ID: 570-80129-N-1 DU
Matrix: Water
Analysis Batch: 663757

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Specific Conductance	210			213		umhos/cm				0	5

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80406-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 COMP

GC/MS VOA

Analysis Batch: 663938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80406-1	Outfall011_20211230_Grab	Total/NA	Water	624.1	
570-80406-3	TB-20211230	Total/NA	Water	624.1	
MB 440-663938/6	Method Blank	Total/NA	Water	624.1	
LCS 440-663938/1004	Lab Control Sample	Total/NA	Water	624.1	
LCS 440-663938/1005	Lab Control Sample	Total/NA	Water	624.1	
570-80528-G-1 MS	Matrix Spike	Total/NA	Water	624.1	
570-80528-I-1 MSD	Matrix Spike Duplicate	Total/NA	Water	624.1	

GC VOA

Analysis Batch: 205878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80406-1	Outfall011_20211230_Grab	Total/NA	Water	8015B	
MB 570-205878/6	Method Blank	Total/NA	Water	8015B	
LCS 570-205878/3	Lab Control Sample	Total/NA	Water	8015B	
LCSD 570-205878/4	Lab Control Sample Dup	Total/NA	Water	8015B	
570-80673-D-1 MS	Matrix Spike	Total/NA	Water	8015B	
570-80673-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B	

GC Semi VOA

Prep Batch: 205046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80406-1	Outfall011_20211230_Grab	Total/NA	Water	3510C	
MB 570-205046/1-A	Method Blank	Total/NA	Water	3510C	
LCS 570-205046/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 570-205046/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 205738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80406-1	Outfall011_20211230_Grab	Total/NA	Water	8015B	205046
MB 570-205046/1-A	Method Blank	Total/NA	Water	8015B	205046
LCS 570-205046/2-A	Lab Control Sample	Total/NA	Water	8015B	205046
LCSD 570-205046/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	205046

General Chemistry

Prep Batch: 206690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80406-1	Outfall011_20211230_Grab	Total/NA	Water	1664A	
MB 570-206690/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-206690/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-206690/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	
440-294004-H-1-A MS	Matrix Spike	Total/NA	Water	1664A	
440-294004-H-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	1664A	

Analysis Batch: 206809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80406-1	Outfall011_20211230_Grab	Total/NA	Water	1664A	206690
MB 570-206690/1-A	Method Blank	Total/NA	Water	1664A	206690
LCS 570-206690/2-A	Lab Control Sample	Total/NA	Water	1664A	206690
LCSD 570-206690/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	206690

General Chemistry (Continued)

Analysis Batch: 206809 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-294004-H-1-A MS	Matrix Spike	Total/NA	Water	1664A	206690
440-294004-H-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	1664A	206690

Analysis Batch: 663757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80406-1	Outfall011_20211230_Grab	Total/NA	Water	SM 2510B	
MB 440-663757/3	Method Blank	Total/NA	Water	SM 2510B	
LCS 440-663757/4	Lab Control Sample	Total/NA	Water	SM 2510B	
570-80129-N-1 DU	Duplicate	Total/NA	Water	SM 2510B	

Analysis Batch: 664723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80406-1	Outfall011_20211230_Grab	Total/NA	Water	SM 2540F	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80406-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 COMP

Client Sample ID: Outfall011_20211230_Grab
Lab Sample ID: 570-80406-1
Date Collected: 12/30/21 10:00
Matrix: Water
Date Received: 12/30/21 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	663938	01/07/22 05:24	N1A	IRV 2
	Instrument ID: GCMS13									
Total/NA	Analysis	8015B		1	5 mL	5 mL	205878	01/06/22 17:28	P1R	ECL 2
	Instrument ID: GC1									
Total/NA	Prep	3510C			267.4 mL	2.5 mL	205046	01/03/22 10:17	UFLU	ECL 1
Total/NA	Analysis	8015B		1			205738	01/06/22 13:13	N1A	ECL 1
	Instrument ID: GC93A									
Total/NA	Prep	1664A			959 mL	1000 mL	206690	01/11/22 09:06	UWEZ	ECL 1
Total/NA	Analysis	1664A		1			206809	01/11/22 09:06	USUL	ECL 1
	Instrument ID: ICPMS05									
Total/NA	Analysis	SM 2510B		1			663757	01/04/22 11:54	VY3D	IRV 2
	Instrument ID: COND13									
Total/NA	Analysis	SM 2540F		1	1000 mL	1000 mL	664723	01/18/22 13:03	W1BQ	IRV 2
	Instrument ID: NOEQUIP									

Client Sample ID: TB-20211230
Lab Sample ID: 570-80406-3
Date Collected: 12/30/21 10:00
Matrix: Water
Date Received: 12/30/21 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	663938	01/07/22 05:53	N1A	IRV 2
	Instrument ID: GCMS13									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80406-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 COMP

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
624.1		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
624.1		Water	1,2-Dichloro-1,1,2-trifluoroethane
624.1		Water	cis-1,2-Dichloroethene
624.1		Water	Cyclohexane
624.1		Water	Naphthalene
624.1		Water	Xylenes, Total

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80406-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 COMP

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	IRV 2
8015B	Gasoline Range Organics - (GC)	SW846	ECL 2
8015B	Diesel Range Organics (DRO) (GC)	SW846	ECL 1
1664A	HEM and SGT-HEM	1664A	ECL 1
SM 2510B	Conductivity, Specific Conductance	SM	IRV 2
SM 2540F	Solids, Settleable	SM	IRV 2
Subcontract	9223- Colilert 18 - E. Coli - level 4 required	None	Enthalpy
1664A	HEM and SGT-HEM (Aqueous)	1664A	ECL 1
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ECL 1
5030C	Purge and Trap	SW846	ECL 2

Protocol References:

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80406-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 COMP

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80406-1	Outfall011_20211230_Grab	Water	12/30/21 10:00	12/30/21 15:50
570-80406-3	TB-20211230	Water	12/30/21 10:00	12/30/21 15:50

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 456202
Report Level: IV
Report Date: 01/25/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDES SSFL Outfalls #44024446

Authorized for release by:

Quynhgiao Le

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	Lab Job #: Project No: Location: Date Received:	456202 BOEING NPDES SSFL Boeing NPDES SSFL Outfalls #44024446 12/30/21

Sample ID	Lab ID	Collected	Matrix
OUTFALL011_20211230_GRAB (570-80406-1)	456202-001	12/30/21 10:00	Water

ENTHALPY ANALYTICAL

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Virendra Patel	Lab Job Number: 456202 Project No: BOEING NPDES SSFL Location: Boeing NPDES SSFL Outfalls #44024446 Date Received: 12/30/21

Total Coliform / E. coli by Quanti-Tray (SM 9223Bb):

This data package contains sample and QC results for one water sample, requested for the above referenced project on 12/30/21. The sample was received cold and intact.

No analytical problems were encountered.

Chain of Custody

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

49202

Chain of Custody Record

&702+(3+/+1&

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148456.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-80406-1
Address: 931 W. Barkley Ave, ,	Due Date Requested: 1/12/2022			
City: Orange	TAT Requested (days):			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (9223- Colliert 18 - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall011_20211230_Grab (570-80406-1)	12/30/21	10:00 Pacific		Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/30/21	ECI		12/30/21 1845	EA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 5.6/5.0

Ver 06/08/2021

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Eurofins Calscience LLC Project: Boeing NPDES SSFL Outfall

Date Received: 12/30/21 Sampler's Name Present: ☑ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2) Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 5.6 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 5.0 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✔		
Are sample IDs present?	✔		
Are sampling dates & times present?	✔		
Is a relinquished signature present?	✔		
Are the tests required clearly indicated on the COC?	✔		
Are custody seals present?		✔	
If custody seals are present, were they intact?			✔
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	✔		
Did all samples arrive intact? If no, indicate in Section 4 below.	✔		
Did all bottle labels agree with COC? (ID, dates and times)	✔		
Were the samples collected in the correct containers for the required tests?	✔		
Are the containers labeled with the correct preservatives?	✔		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✔
Was a sufficient amount of sample submitted for the requested tests?	✔		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 12/30/21

Enthalpy Analytical, a subsidiary of Montrose Environmental Group, Inc.
931 W. Barkley Ave, Orange, CA 92868 • T: (714) 771-6900 • F: (714) 538-1209
www.enthalpy.com/socal

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 456202		**Project#:** BOEING NPDES SSFL	
Client: Eurofins Calscience Tustin		**Location:** Boeing NPDES SSFL Outfalls #44024446	
Field ID: OUTFALL011_20211230_GRAB (570-80406-1)	**Batch#:** 281040	**Analyzed:** 12/31/21 11:52	
Lab ID: 456202-001	**Sampled:** 12/30/21 10:00	**Prep:**	
Matrix: Water	**Received:** 12/30/21	**Analysis:** SM 9223Bb	
DilN Fac: 1.000	**Prepared:** 12/30/21 17:29	**Analyst:** SZL	

Analyte	Result	RL	Units
Coliform, E. Coli	**140**	1.0	MPN/100ml

Legend

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: [illegible] Prep Date/Time: 12/30/21 1729 QC Batch ID: 281040 Batch Page 1 of 1

Read Analyst: SL Read Date/Time 12/31/21 1152

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: ~~HK~~ HT510 [illegible] 12/30/21 Pipette Lot #: A103665 + A103909 + A103931

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 12/1/21 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: A Incubator In, Temp/Time: 35.1 1745 Incubator Out, Temp/Time: 35.1 1152

Fecal Coliform: Water Bath ID: N/A Water Bath In, Temp/Time: N/A Water Bath Out, Temp/Time: N/A

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts Large Wells	Total Coliform Counts Small Wells	MPN Table Value	Final Result, MPN	E. coli Counts Large Wells	E. coli Counts Small Wells	MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only) Large Wells	Fecal Coliform Counts Small Wells	MPN Table Value	Final Result, MPN	Comments
Eurofins Calscience		456202-001	1x	49	48	>2419.6	>2400	45	10	135.4	140					EF-01
↓		↓ -001	10x	49	41	1203.3	12000	10	1	12.1	120					↓ -01
		-001	100x	47	11	166.4	17000	3	0	3.1	3100					-01
		456203-001	1x	49	48	>2419.6	>2400	49	11	214.3	210					EF2-01
		↓ -001	10x	49	46	1986.3	20000	10	3	14.4	140					↓ -01
		-001	100x	48	13	201.4	20000	0	0	<1	<100					-01

[illegible] 1/5/22

[illegible] 1/5/22

Quality Control	Culture ID		TC Large Wells	TC Small Wells	MPN Table Value	Final Result, MPN	E. coli Large Wells	E. coli Small Wells	MPN Table Value	Final Result, MPN	FC Large Wells	FC Small Wells	MPN Table Value	Final Result, MPN	Comments
Positive +/+ (E. Coli)	12/26/21		49	48	>2419.6	>2400	49	48	>2419.6	>2400					
Positive +/- (K. Pneumonia)	↓		49	48	>2419.6	>2400	0	0	<1	<1					
Negative -/- (P. Aeruginosa)			0	0	<1	<1	0	0	<1	<1					

Data Entered By: [illegible] 1/5/22 Data Reviewed By:

80406

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80406 Chain of Custody

WYR7RS9L

Client Name/Address	Project	Analysis Required	Field Readings
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 011 Grab		
Eurofins Calscience Irvine Contact. Virendra Patel EC# 44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218			
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)		
Sampler: Mark Dominick	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		

Field Readings: (Include units)
Time of Readings: 0855
DO 5.45 mg/L
pH 7.90 pH unit
Temp 46.7 °C/°F
TRC 0.0 mg/L
Field readings QC
Checked by:
Date/Time: 0955
Meter serial #

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	MST-Bacteroidales, Human (SAM348-357) Source Molecular in Miami Lakes, FL	E. coli (SM9221) Enthalpy Analytical Orange CA	Settleable Solids (E160.5 (SM2540F))	Conductivity (SM2510B / E120.1)	Oil & Grease (E1664A-HEM)	VOCs + VOCs PP + xylenes, Freon 11, Freon 113, Freon 123A, Cyclohexane, cis-1 2-DCE (E624)	VOCs only A+A+2CVE (E624)	TPH: gas (GRO(C4-C12)) (SW8015B)	TPH: diesel/jet fuel (DRO (C13-C28)) (SW8015B)	Comments
Outfall 011	Outfall011_20211230_Grab	12/30/2021 1000	WM	125mL Sterile Poly	1	None	5	No	X									Deliver to lab ASAP 8 hr hold time
			WM	125mL Sterile Poly	3	$Na_2S_2O_3$	10	No		X								Deliver to lab ASAP 8 hr hold time Need x, 10x, 100x dilutions
			WM	1 L Glass Amber	2	HCl	15	No					X					
			WM	40 mL VOA	3	HCl	45	No						X				
			WM	40 mL VOA	3	None	55	No							X			
			WM	40 mL VOA	3	HCl	60	No								X		
			WM	1 L Glass Amber	2	None	65	No									X	
			WM	1 L Poly	1	None	70	No			X							
			WM	500 mL Poly	1	None	75	No				X						
	Outfall011_20211230_Grab_Extra	12/30/2021 1000	WM	1 L Glass Amber	2	HCl	15	No					H					Hold
			WM	40 mL VOA	3	HCl	45	No						H				Hold
			WM	40 mL VOA	3	None	55	No							H			Hold
			WM	500 mL Poly	1	None	75	No				H						Hold
Trip Blanks	TB-20211230	12/30/2021 1000	WQ	40 mL VOA	2	HCl	45	No						X				
			WQ	40 mL VOA	2	None	55	No							X			

Legend: A=Annual, R=Routine, Q=Quarterly

Relinquished By	Date/Time:	Company	Received By	Date/Time:
[signature]	12-30-2021/1345	H&A	[signature]	12/30/21 13:45
[signature]	12/30/21 1550		[signature]	12/30/21 1550

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|3 5 SCS

1/25/2022 (Rev. 1)

2019-2020 Rainy Season
Version 5

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148851 1
Client Contact: Shipping/Receiving	Phone	E Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest		Accreditations Required (See note): State Program - California		Job #: 570-80406-1
Address: 2841 Dow Avenue	Due Date Requested: 1/12/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 COMP	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2540F/ Solids, Settleable	624.1_LL/624_Prep_3D PP+xyl+f113,11,123A+cyclohex+A+A+2CVE	2510B	Total Number of containers	Special Instructions/Note
			Preservation Code:								
Outfall011_20211230_Grab (570-80406-1)	12/30/21	10 00 Pacific		Water			X	X	X	2	Analyze on "Closed System only"

ROH 1/4/22

Preservation Codes
A HCL
B NaOH
C Zn Acetate
D Nitric Acid
E NaHSO4
F MeOH
G Amchlor
H - Ascorbic Acid
I Ice
J DI Water
K EDTA
L - EDA
M Hexane
N - None
O AsNaO2
P - Na2O4S
Q Na2SO3
R Na2S2O3
S H2SO4
T TSP Dodecahydrate
U Acetone
V MCAA
W pH 4-5
Z other (specify)
Other:

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2

Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 01/04/22 1725	Company: ECI	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by: Olga Ornelas	Date/Time: 01/04/22 1725	Company: ECT
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 2.9/2.4 IR-90

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148948 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80406-1
Address: 2841 Dow Avenue,	Due Date Requested: 1/12/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 COMP	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B NaOH	N None
C Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	624.1_LL/624_Prep_3D PP+xyl+fr113,11,123A+cyclohex+A+A+2CVE (Hold)	2510B (Hold)	624.1_LL/624_Prep_3D PP+xyl+fr113,11,123A+cyclohex+A+A+2CVE	Total Number of containers	Special Instructions/Note:
Preservation Code:											
Outfall011_20211230_Grab_Extra (570-80406-2)	12/30/21	10 00 Pacific		Water			X	X		6	Analyze on "Closed System only"
TB-20211230 (570-80406-3)	12/30/21	10 00 Pacific		Water					X	4	Analyze on "Closed System only"

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements: JK-89 1.4/1.4

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
	01/05/22	EQ			
Relinquished by:	Date/Time:	Company	Received by: Olga Cinelas	Date/Time 01/05/22 1130	Company ECT
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks.

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80406-1

Login Number: 80406
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: 570-80406-1

Login Number: 80406
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 01/04/22 06:15 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80406-1

Login Number: 80406
List Number: 3
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 01/05/22 01:21 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80408-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp
Revision: 2

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/15/2022 2:30:55 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 5
Detection Summary 7
Client Sample Results 8
Surrogate Summary 26
QC Sample Results 28
QC Association Summary 51
Lab Chronicle 58
Certification Summary 60
Method Summary 61
Sample Summary 62
Chain of Custody 63
Receipt Checklists 71

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
BA	Relative percent difference out of control
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

GC Semi VOA

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
PI	Primary and confirm results varied by > than 40% RPD

HPLC/IC

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Metals

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80408-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80408-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 1/24/2022. The report (revision 1) is being revised due to: The results were revised for EPA 200.8 metals confrimation.

Report revision history
Revision 1 - 02/142022 - Reason - The results were revised for EPA 200.8 metals confirmation. The results confirmation results are being reported along with the original data set.

Receipt
The samples were received on 12/30/2021 3:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.9º C, 3.0º C and 3.5º C.

GC/MS VOA
Method 8260B SIM: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-205613.

Method 8260B SIM: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: Outfall011_20211230_Comp (570-80408-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method 625.1 SIM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 570-205520 and analytical batch 570-205774 recovered outside control limits for the following analytes: Benzidine.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall011_20211230_Comp_F (570-80408-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method 200.8: Results for the following sample have been revised from those originally reported. It is suspected that the prep analyst inadvertently switched the sample during the digestion procedure. The sample has been redigested to confirm results. Therefore, sample results have been revised and reported.

Outfall011_20211230_Comp (570-80408-1)

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall011_20211230_Comp_F (570-80408-3). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with

Job ID: 570-80408-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

insufficient time to filter within the HT.

01/06/21 @ 15:40 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall011_20211230_Comp_F (570-80408-3). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with insufficient time to filter within the HT.

01/06/21 @ 16:17 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method SM5210B: All the dilutions failed to deplete the method-required 2 mgO2/L for the following samples: Outfall011_20211230_Comp (570-80408-1) and (570-80408-M-1 DU). Only a "less than" result could be calculated from the least dilute preparation.

Method 180.1: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: Outfall011_20211230_Comp (570-80408-1).

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 570-205252. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 608LL

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-205520. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 625.1 Sim

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Butyl benzyl phthalate	0.68	J,DX	6.0	0.68	ug/L	1		625.1 SIM	Total/NA
Chloride	3.4		2.0	0.72	mg/L	2		300.0	Total/NA
Fluoride	0.10	J,DX	0.20	0.092	mg/L	2		300.0	Total/NA
Nitrate as N	3.7		0.20	0.048	mg/L	2		300.0	Total/NA
Sulfate	3.4		2.0	0.47	mg/L	2		300.0	Total/NA
Perchlorate	0.95	J,DX	2.0	0.91	ug/L	1		314.0	Total/NA
Nitrate Nitrite as N	3.7		0.20	0.071	mg/L	1		NO2NO3 Calc	Total/NA
Barium	43		10	2.2	ug/L	1		200.7 Rev 4.4	Total Recoverable
Boron	53		50	25	ug/L	1		200.7 Rev 4.4	Total Recoverable
Chromium	6.1		5.0	2.5	ug/L	1		200.7 Rev 4.4	Total Recoverable
Cobalt	2.9	J,DX	10	2.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Iron	5100		100	50	ug/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	100		20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Vanadium	17		10	2.1	ug/L	1		200.7 Rev 4.4	Total Recoverable
Zinc	28		20	12	ug/L	1		200.7 Rev 4.4	Total Recoverable
Copper	4.6		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	3.5		1.0	0.50	ug/L	1		200.8	Total Recoverable
Hardness, as CaCO3	41		0.91	0.17	mg/L	1		SM 2340B	Total Recoverable
Turbidity	160	BU	2.0	0.80	NTU	20		180.1	Total/NA
Cr (III)	0.0099	J,DX	0.050	0.0069	mg/L	1		218.6 CR3	Total/NA
Total Dissolved Solids	80		10	3.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	110		10	5.0	mg/L	1		SM 2540D	Total/NA
Ammonia (as N)	0.199	J,DX	0.200	0.100	mg/L	1		SM 4500 NH3 G	Total/NA
Carbon, Total Organic	10		0.50	0.026	mg/L	1		SM 5310D	Total/NA

Client Sample ID: Outfall011_20211230_Comp_F
Lab Sample ID: 570-80408-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	9.9	J,DX	10	2.2	ug/L	1		200.7 Rev 4.4	Dissolved
Boron	46	J,DX	50	25	ug/L	1		200.7 Rev 4.4	Dissolved
Iron	140		100	50	ug/L	1		200.7 Rev 4.4	Dissolved
Copper	2.6		2.0	0.50	ug/L	1		200.8	Dissolved
Hardness, as CaCO3	31		0.91	0.17	mg/L	1		SM 2340B	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1
Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		2.0	1.1	ug/L			01/05/22 18:59	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dichlorobutane (Surr)	*125*		*67 - 133*		*01/05/22 18:59*	*2*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1
Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.24	0.16	ug/L		01/05/22 06:03	01/05/22 18:53	1
1,2-Dichlorobenzene	ND		0.24	0.16	ug/L		01/05/22 06:03	01/05/22 18:53	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.24	0.084	ug/L		01/05/22 06:03	01/05/22 18:53	1
1,3-Dichlorobenzene	ND		0.24	0.15	ug/L		01/05/22 06:03	01/05/22 18:53	1
1,4-Dichlorobenzene	ND		0.24	0.15	ug/L		01/05/22 06:03	01/05/22 18:53	1
2,4,6-Trichlorophenol	ND		1.2	0.081	ug/L		01/05/22 06:03	01/05/22 18:53	1
2,4-Dichlorophenol	ND		1.2	0.12	ug/L		01/05/22 06:03	01/05/22 18:53	1
2,4-Dimethylphenol	ND		0.24	0.16	ug/L		01/05/22 06:03	01/05/22 18:53	1
2,4-Dinitrophenol	ND		6.0	1.2	ug/L		01/05/22 06:03	01/05/22 18:53	1
2,4-Dinitrotoluene	ND		0.24	0.13	ug/L		01/05/22 06:03	01/05/22 18:53	1
2,6-Dinitrotoluene	ND		0.24	0.16	ug/L		01/05/22 06:03	01/05/22 18:53	1
2-Chloronaphthalene	ND		0.24	0.16	ug/L		01/05/22 06:03	01/05/22 18:53	1
2-Chlorophenol	ND		0.24	0.099	ug/L		01/05/22 06:03	01/05/22 18:53	1
2-Nitrophenol	ND		6.0	1.7	ug/L		01/05/22 06:03	01/05/22 18:53	1
3,3'-Dichlorobenzidine	ND		6.0	1.9	ug/L		01/05/22 06:03	01/05/22 18:53	1
4,6-Dinitro-2-methylphenol	ND		6.0	4.8	ug/L		01/05/22 06:03	01/05/22 18:53	1
4-Bromophenyl phenyl ether	ND		0.24	0.093	ug/L		01/05/22 06:03	01/05/22 18:53	1
4-Chloro-3-methylphenol	ND		1.2	0.14	ug/L		01/05/22 06:03	01/05/22 18:53	1
4-Chlorophenyl phenyl ether	ND		0.24	0.11	ug/L		01/05/22 06:03	01/05/22 18:53	1
4-Nitrophenol	ND		6.0	1.4	ug/L		01/05/22 06:03	01/05/22 18:53	1
Acenaphthene	ND		0.24	0.10	ug/L		01/05/22 06:03	01/05/22 18:53	1
Acenaphthylene	ND		0.24	0.10	ug/L		01/05/22 06:03	01/05/22 18:53	1
Anthracene	ND		0.24	0.087	ug/L		01/05/22 06:03	01/05/22 18:53	1
Benzidine	ND	BA	6.0	2.7	ug/L		01/05/22 06:03	01/05/22 18:53	1
Benzo[a]anthracene	ND		0.24	0.084	ug/L		01/05/22 06:03	01/05/22 18:53	1
Benzo[a]pyrene	ND		0.24	0.087	ug/L		01/05/22 06:03	01/05/22 18:53	1
Benzo[b]fluoranthene	ND		0.24	0.12	ug/L		01/05/22 06:03	01/05/22 18:53	1
Benzo[g,h,i]perylene	ND		0.24	0.15	ug/L		01/05/22 06:03	01/05/22 18:53	1
Benzo[k]fluoranthene	ND		0.24	0.093	ug/L		01/05/22 06:03	01/05/22 18:53	1
bis (2-chloroisopropyl) ether	ND		0.24	0.11	ug/L		01/05/22 06:03	01/05/22 18:53	1
Bis(2-chloroethoxy)methane	ND		0.24	0.17	ug/L		01/05/22 06:03	01/05/22 18:53	1
Bis(2-chloroethyl)ether	ND		0.24	0.12	ug/L		01/05/22 06:03	01/05/22 18:53	1
Bis(2-ethylhexyl) phthalate	ND		6.0	2.2	ug/L		01/05/22 06:03	01/05/22 18:53	1
Butyl benzyl phthalate	**0.68**	**J,DX**	6.0	0.68	ug/L		01/05/22 06:03	01/05/22 18:53	1
Chrysene	ND		0.24	0.070	ug/L		01/05/22 06:03	01/05/22 18:53	1
Dibenz(a,h)anthracene	ND		0.24	0.17	ug/L		01/05/22 06:03	01/05/22 18:53	1
Diethyl phthalate	ND		2.4	0.16	ug/L		01/05/22 06:03	01/05/22 18:53	1
Dimethyl phthalate	ND		2.4	0.087	ug/L		01/05/22 06:03	01/05/22 18:53	1
Di-n-butyl phthalate	ND		2.4	0.83	ug/L		01/05/22 06:03	01/05/22 18:53	1
Di-n-octyl phthalate	ND		6.0	0.77	ug/L		01/05/22 06:03	01/05/22 18:53	1
Fluoranthene	ND		0.24	0.12	ug/L		01/05/22 06:03	01/05/22 18:53	1
Fluorene	ND		0.24	0.097	ug/L		01/05/22 06:03	01/05/22 18:53	1
Hexachlorobenzene	ND		0.24	0.11	ug/L		01/05/22 06:03	01/05/22 18:53	1
Hexachlorobutadiene	ND		0.24	0.20	ug/L		01/05/22 06:03	01/05/22 18:53	1
Hexachlorocyclopentadiene	ND		0.24	0.12	ug/L		01/05/22 06:03	01/05/22 18:53	1
Hexachloroethane	ND		0.24	0.18	ug/L		01/05/22 06:03	01/05/22 18:53	1
Indeno[1,2,3-cd]pyrene	ND		0.24	0.15	ug/L		01/05/22 06:03	01/05/22 18:53	1
Isophorone	ND		0.24	0.11	ug/L		01/05/22 06:03	01/05/22 18:53	1
Naphthalene	ND		0.24	0.12	ug/L		01/05/22 06:03	01/05/22 18:53	1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Client Sample ID: Outfall011_20211230_Comp **Lab Sample ID: 570-80408-1**
Date Collected: 12/30/21 11:00 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		0.24	0.12	ug/L		01/05/22 06:03	01/05/22 18:53	1
N-Nitrosodimethylamine	ND		0.24	0.17	ug/L		01/05/22 06:03	01/05/22 18:53	1
N-Nitrosodi-n-propylamine	ND		0.24	0.075	ug/L		01/05/22 06:03	01/05/22 18:53	1
N-Nitrosodiphenylamine	ND		0.24	0.12	ug/L		01/05/22 06:03	01/05/22 18:53	1
Pentachlorophenol	ND		1.2	0.13	ug/L		01/05/22 06:03	01/05/22 18:53	1
Phenanthrene	ND		0.24	0.089	ug/L		01/05/22 06:03	01/05/22 18:53	1
Phenol	ND		0.24	0.091	ug/L		01/05/22 06:03	01/05/22 18:53	1
Pyrene	ND		0.24	0.096	ug/L		01/05/22 06:03	01/05/22 18:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*70*		*28 - 127*	*01/05/22 06:03*	*01/05/22 18:53*	*1*
2-Fluorobiphenyl (Surr)	*47*		*31 - 120*	*01/05/22 06:03*	*01/05/22 18:53*	*1*
2-Fluorophenol	*37*		*17 - 120*	*01/05/22 06:03*	*01/05/22 18:53*	*1*
Nitrobenzene-d5	*56*		*27 - 120*	*01/05/22 06:03*	*01/05/22 18:53*	*1*
Phenol-d6 (Surr)	*24*		*10 - 120*	*01/05/22 06:03*	*01/05/22 18:53*	*1*
p-Terphenyl-d14 (Surr)	*56*		*45 - 120*	*01/05/22 06:03*	*01/05/22 18:53*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1
Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00070	ug/L		01/04/22 08:37	01/05/22 20:56	1
alpha-BHC	ND		0.0013	0.00080	ug/L		01/04/22 08:37	01/05/22 20:56	1
beta-BHC	ND		0.0020	0.0017	ug/L		01/04/22 08:37	01/05/22 20:56	1
delta-BHC	ND		0.0013	0.0011	ug/L		01/04/22 08:37	01/05/22 20:56	1
gamma-BHC (Lindane)	ND		0.0013	0.00090	ug/L		01/04/22 08:37	01/05/22 20:56	1
Chlordane (technical)	ND		0.010	0.0065	ug/L		01/04/22 08:37	01/05/22 20:56	1
4,4'-DDD	ND		0.0013	0.00080	ug/L		01/04/22 08:37	01/05/22 20:56	1
4,4'-DDE	ND		0.0013	0.00050	ug/L		01/04/22 08:37	01/05/22 20:56	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		01/04/22 08:37	01/05/22 20:56	1
Dieldrin	ND		0.0013	0.00050	ug/L		01/04/22 08:37	01/05/22 20:56	1
Endosulfan I	ND		0.0013	0.00070	ug/L		01/04/22 08:37	01/05/22 20:56	1
Endosulfan II	ND		0.0013	0.00050	ug/L		01/04/22 08:37	01/05/22 20:56	1
Endosulfan sulfate	ND		0.0013	0.00060	ug/L		01/04/22 08:37	01/05/22 20:56	1
Endrin	ND		0.0013	0.00070	ug/L		01/04/22 08:37	01/05/22 20:56	1
Endrin aldehyde	ND		0.010	0.0051	ug/L		01/04/22 08:37	01/05/22 20:56	1
Heptachlor	ND		0.0013	0.00070	ug/L		01/04/22 08:37	01/05/22 20:56	1
Heptachlor epoxide	ND		0.0013	0.00040	ug/L		01/04/22 08:37	01/05/22 20:56	1
Toxaphene	ND		0.10	0.013	ug/L		01/04/22 08:37	01/05/22 20:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*73*		*20 - 139*	*01/04/22 08:37*	*01/05/22 20:56*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1
Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		01/04/22 08:37	01/06/22 17:20	1
Aroclor 1221	ND		0.10	0.044	ug/L		01/04/22 08:37	01/06/22 17:20	1
Aroclor 1232	ND		0.10	0.044	ug/L		01/04/22 08:37	01/06/22 17:20	1
Aroclor 1242	ND		0.10	0.044	ug/L		01/04/22 08:37	01/06/22 17:20	1
Aroclor 1248	ND		0.10	0.044	ug/L		01/04/22 08:37	01/06/22 17:20	1
Aroclor 1254	ND		0.10	0.052	ug/L		01/04/22 08:37	01/06/22 17:20	1
Aroclor 1260	ND		0.10	0.052	ug/L		01/04/22 08:37	01/06/22 17:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*33*	*PI*	*20 - 154*	*01/04/22 08:37*	*01/06/22 17:20*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1
Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.40	0.039	ug/L			12/30/21 21:36	2

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1
Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3.4**		2.0	0.72	mg/L			12/31/21 03:59	2
Nitrite as N	ND		0.20	0.036	mg/L			12/31/21 03:59	2
Fluoride	**0.10**	**J,DX**	0.20	0.092	mg/L			12/31/21 03:59	2
Nitrate as N	**3.7**		0.20	0.048	mg/L			12/31/21 03:59	2
Sulfate	**3.4**		2.0	0.47	mg/L			12/31/21 03:59	2

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 314.0 - Perchlorate (IC)

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1
Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	0.95	J,DX	2.0	0.91	ug/L			01/03/22 14:06	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1
Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	3.7		0.20	0.071	mg/L			01/03/22 16:39	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1
Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/18/22 17:17	01/19/22 12:44	1
Barium	**43**		10	2.2	ug/L		01/18/22 17:17	01/19/22 12:44	1
Beryllium	ND		2.0	0.44	ug/L		01/18/22 17:17	01/19/22 12:44	1
Boron	**53**		50	25	ug/L		01/18/22 17:17	01/19/22 12:44	1
Chromium	**6.1**		5.0	2.5	ug/L		01/18/22 17:17	01/19/22 12:44	1
Cobalt	**2.9**	**J,DX**	10	2.8	ug/L		01/18/22 17:17	01/19/22 12:44	1
Iron	**5100**		100	50	ug/L		01/18/22 17:17	01/19/22 12:44	1
Manganese	**100**		20	6.8	ug/L		01/18/22 17:17	01/19/22 12:44	1
Nickel	ND		10	5.0	ug/L		01/18/22 17:17	01/19/22 12:44	1
Vanadium	**17**		10	2.1	ug/L		01/18/22 17:17	01/20/22 12:46	1
Zinc	**28**		20	12	ug/L		01/18/22 17:17	01/19/22 12:44	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: Outfall011_20211230_Comp_F
Lab Sample ID: 570-80408-3
Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/06/22 17:20	01/07/22 21:39	1
Barium	**9.9**	**J,DX**	10	2.2	ug/L		01/06/22 17:20	01/07/22 21:39	1
Beryllium	ND		2.0	0.44	ug/L		01/06/22 17:20	01/07/22 21:39	1
Boron	**46**	**J,DX**	50	25	ug/L		01/06/22 17:20	01/07/22 21:39	1
Chromium	ND		5.0	2.5	ug/L		01/06/22 17:20	01/07/22 21:39	1
Cobalt	ND		10	2.8	ug/L		01/06/22 17:20	01/07/22 21:39	1
Iron	**140**		100	50	ug/L		01/06/22 17:20	01/07/22 21:39	1
Manganese	ND		20	6.8	ug/L		01/06/22 17:20	01/07/22 21:39	1
Nickel	ND		10	5.0	ug/L		01/06/22 17:20	01/07/22 21:39	1
Vanadium	ND		10	2.1	ug/L		01/06/22 17:20	01/07/22 21:39	1
Zinc	ND		20	12	ug/L		01/06/22 17:20	01/07/22 21:39	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1
Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		02/11/22 10:22	02/11/22 14:38	1
Cadmium	ND		1.0	0.25	ug/L		02/11/22 10:22	02/11/22 14:38	1
Copper	**4.6**		2.0	0.50	ug/L		02/11/22 10:22	02/11/22 14:38	1
Lead	**3.5**		1.0	0.50	ug/L		02/11/22 10:22	02/11/22 14:38	1
Antimony	ND		2.0	0.50	ug/L		02/11/22 10:22	02/11/22 14:38	1
Selenium	ND		2.0	0.50	ug/L		02/11/22 10:22	02/11/22 14:38	1
Thallium	ND		1.0	0.20	ug/L		02/11/22 10:22	02/11/22 14:38	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall011_20211230_Comp_F
Lab Sample ID: 570-80408-3
Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:47	1
Cadmium	ND		1.0	0.25	ug/L		01/06/22 17:16	01/07/22 14:47	1
Copper	**2.6**		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:47	1
Lead	ND		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:47	1
Antimony	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:47	1
Selenium	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:47	1
Thallium	ND		1.0	0.20	ug/L		01/06/22 17:16	01/07/22 14:47	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 245.1 - Mercury (CVAA)

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1
Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/17/22 17:42	01/18/22 16:18	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall011_20211230_Comp_F
Lab Sample ID: 570-80408-3
Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.25	0.12	ug/L		01/19/22 17:58	01/20/22 20:13	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1
Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	41		0.91	0.17	mg/L			01/21/22 13:30	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Client Sample ID: Outfall011_20211230_Comp_F
Lab Sample ID: 570-80408-3
Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	31		0.91	0.17	mg/L			01/11/22 17:20	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

General Chemistry

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1
Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	**160**	**BU**	2.0	0.80	NTU			01/19/22 18:30	20
Cr (III)	**0.0099**	**J,DX**	0.050	0.0069	mg/L			01/21/22 12:27	1
Total Dissolved Solids	**80**		10	3.0	mg/L			01/05/22 10:09	1
Total Suspended Solids	**110**		10	5.0	mg/L			01/05/22 14:00	1
Cyanide, Total	ND		5.0	2.5	ug/L		01/07/22 11:02	01/07/22 15:13	1
Ammonia (as N)	**0.199**	**J,DX**	0.200	0.100	mg/L			01/07/22 13:12	1
Carbon, Total Organic	**10**		0.50	0.026	mg/L			01/18/22 15:33	1
MBAS	ND		0.30	0.15	mg/L		12/30/21 22:00	12/31/21 09:06	1
Biochemical Oxygen Demand	ND		3.1	1.8	mg/L			12/31/21 13:20	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	14DCBTN (67-133)						
570-80408-1	Outfall011_20211230_Comp	125						
LCS 570-205613/4	Lab Control Sample	99						
LCSD 570-205613/5	Lab Control Sample Dup	103						
MB 570-205613/8	Method Blank	114						

Surrogate Legend

14DCBTN = 1,4-Dichlorobutane (Surr)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	TBP (28-127)	FBP (31-120)	2FP (17-120)	NBZ (27-120)	PHL6 (10-120)	TPHd14 (45-120)	
570-80408-1	Outfall011_20211230_Comp	70	47	37	56	24	56	
LCS 570-205520/2-A	Lab Control Sample	85	59	49	65	32	80	
LCSD 570-205520/3-A	Lab Control Sample Dup	81	65	50	67	33	79	
MB 570-205520/1-A	Method Blank	91	64	50	71	31	72	

Surrogate Legend

TBP = 2,4,6-Tribromophenol
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL6 = Phenol-d6 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	TCX1 (20-139)						
570-80408-1	Outfall011_20211230_Comp	73						
LCS 570-205252/2-A	Lab Control Sample	56						
LCSD 570-205252/3-A	Lab Control Sample Dup	63						
MB 570-205252/1-A	Method Blank	75						

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)						
570-80408-1	Outfall011_20211230_Comp	33 PI						
LCS 570-205252/4-A	Lab Control Sample	36						
LCSD 570-205252/5-A	Lab Control Sample Dup	44						
MB 570-205252/1-A	Method Blank	67						

Surrogate Legend

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-205613/8
Matrix: Water
Analysis Batch: 205613

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.55	ug/L			01/05/22 13:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dichlorobutane (Surr)	*114*		*67 - 133*		*01/05/22 13:09*	*1*

Lab Sample ID: LCS 570-205613/4
Matrix: Water
Analysis Batch: 205613

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			20.0	20.7		ug/L		104	75 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dichlorobutane (Surr)	*99*		*67 - 133*

Lab Sample ID: LCSD 570-205613/5
Matrix: Water
Analysis Batch: 205613

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			20.0	20.2		ug/L		101	75 - 120	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dichlorobutane (Surr)	*103*		*67 - 133*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-205520/1-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205520

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.20	0.13	ug/L		01/05/22 06:03	01/05/22 17:08	1
1,2-Dichlorobenzene	ND		0.20	0.13	ug/L		01/05/22 06:03	01/05/22 17:08	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.20	0.069	ug/L		01/05/22 06:03	01/05/22 17:08	1
1,3-Dichlorobenzene	ND		0.20	0.13	ug/L		01/05/22 06:03	01/05/22 17:08	1
1,4-Dichlorobenzene	ND		0.20	0.13	ug/L		01/05/22 06:03	01/05/22 17:08	1
2,4,6-Trichlorophenol	ND		1.0	0.067	ug/L		01/05/22 06:03	01/05/22 17:08	1
2,4-Dichlorophenol	ND		1.0	0.097	ug/L		01/05/22 06:03	01/05/22 17:08	1
2,4-Dimethylphenol	ND		0.20	0.13	ug/L		01/05/22 06:03	01/05/22 17:08	1
2,4-Dinitrophenol	ND		5.0	0.99	ug/L		01/05/22 06:03	01/05/22 17:08	1
2,4-Dinitrotoluene	ND		0.20	0.11	ug/L		01/05/22 06:03	01/05/22 17:08	1
2,6-Dinitrotoluene	ND		0.20	0.13	ug/L		01/05/22 06:03	01/05/22 17:08	1
2-Chloronaphthalene	ND		0.20	0.14	ug/L		01/05/22 06:03	01/05/22 17:08	1
2-Chlorophenol	ND		0.20	0.082	ug/L		01/05/22 06:03	01/05/22 17:08	1
2-Nitrophenol	ND		5.0	1.4	ug/L		01/05/22 06:03	01/05/22 17:08	1
3,3'-Dichlorobenzidine	ND		5.0	1.6	ug/L		01/05/22 06:03	01/05/22 17:08	1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: MB 570-205520/1-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205520

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		5.0	4.0	ug/L		01/05/22 06:03	01/05/22 17:08	1
4-Bromophenyl phenyl ether	ND		0.20	0.077	ug/L		01/05/22 06:03	01/05/22 17:08	1
4-Chloro-3-methylphenol	ND		1.0	0.12	ug/L		01/05/22 06:03	01/05/22 17:08	1
4-Chlorophenyl phenyl ether	ND		0.20	0.090	ug/L		01/05/22 06:03	01/05/22 17:08	1
4-Nitrophenol	ND		5.0	1.1	ug/L		01/05/22 06:03	01/05/22 17:08	1
Acenaphthene	ND		0.20	0.086	ug/L		01/05/22 06:03	01/05/22 17:08	1
Acenaphthylene	ND		0.20	0.084	ug/L		01/05/22 06:03	01/05/22 17:08	1
Anthracene	ND		0.20	0.072	ug/L		01/05/22 06:03	01/05/22 17:08	1
Benzidine	ND		5.0	2.3	ug/L		01/05/22 06:03	01/05/22 17:08	1
Benzo[a]anthracene	ND		0.20	0.070	ug/L		01/05/22 06:03	01/05/22 17:08	1
Benzo[a]pyrene	ND		0.20	0.072	ug/L		01/05/22 06:03	01/05/22 17:08	1
Benzo[b]fluoranthene	ND		0.20	0.10	ug/L		01/05/22 06:03	01/05/22 17:08	1
Benzo[g,h,i]perylene	ND		0.20	0.13	ug/L		01/05/22 06:03	01/05/22 17:08	1
Benzo[k]fluoranthene	ND		0.20	0.077	ug/L		01/05/22 06:03	01/05/22 17:08	1
bis (2-chloroisopropyl) ether	ND		0.20	0.092	ug/L		01/05/22 06:03	01/05/22 17:08	1
Bis(2-chloroethoxy)methane	ND		0.20	0.15	ug/L		01/05/22 06:03	01/05/22 17:08	1
Bis(2-chloroethyl)ether	ND		0.20	0.098	ug/L		01/05/22 06:03	01/05/22 17:08	1
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		01/05/22 06:03	01/05/22 17:08	1
Butyl benzyl phthalate	ND		5.0	0.56	ug/L		01/05/22 06:03	01/05/22 17:08	1
Chrysene	ND		0.20	0.058	ug/L		01/05/22 06:03	01/05/22 17:08	1
Dibenz(a,h)anthracene	ND		0.20	0.14	ug/L		01/05/22 06:03	01/05/22 17:08	1
Diethyl phthalate	ND		2.0	0.13	ug/L		01/05/22 06:03	01/05/22 17:08	1
Dimethyl phthalate	ND		2.0	0.072	ug/L		01/05/22 06:03	01/05/22 17:08	1
Di-n-butyl phthalate	ND		2.0	0.69	ug/L		01/05/22 06:03	01/05/22 17:08	1
Di-n-octyl phthalate	ND		5.0	0.64	ug/L		01/05/22 06:03	01/05/22 17:08	1
Fluoranthene	ND		0.20	0.096	ug/L		01/05/22 06:03	01/05/22 17:08	1
Fluorene	ND		0.20	0.080	ug/L		01/05/22 06:03	01/05/22 17:08	1
Hexachlorobenzene	ND		0.20	0.094	ug/L		01/05/22 06:03	01/05/22 17:08	1
Hexachlorobutadiene	ND		0.20	0.17	ug/L		01/05/22 06:03	01/05/22 17:08	1
Hexachlorocyclopentadiene	ND		0.20	0.098	ug/L		01/05/22 06:03	01/05/22 17:08	1
Hexachloroethane	ND		0.20	0.15	ug/L		01/05/22 06:03	01/05/22 17:08	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.12	ug/L		01/05/22 06:03	01/05/22 17:08	1
Isophorone	ND		0.20	0.088	ug/L		01/05/22 06:03	01/05/22 17:08	1
Naphthalene	ND		0.20	0.098	ug/L		01/05/22 06:03	01/05/22 17:08	1
Nitrobenzene	ND		0.20	0.097	ug/L		01/05/22 06:03	01/05/22 17:08	1
N-Nitrosodimethylamine	ND		0.20	0.14	ug/L		01/05/22 06:03	01/05/22 17:08	1
N-Nitrosodi-n-propylamine	ND		0.20	0.062	ug/L		01/05/22 06:03	01/05/22 17:08	1
N-Nitrosodiphenylamine	ND		0.20	0.096	ug/L		01/05/22 06:03	01/05/22 17:08	1
Pentachlorophenol	ND		1.0	0.11	ug/L		01/05/22 06:03	01/05/22 17:08	1
Phenanthrene	ND		0.20	0.074	ug/L		01/05/22 06:03	01/05/22 17:08	1
Phenol	ND		0.20	0.076	ug/L		01/05/22 06:03	01/05/22 17:08	1
Pyrene	ND		0.20	0.080	ug/L		01/05/22 06:03	01/05/22 17:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*91*		*28 - 127*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
2-Fluorobiphenyl (Surr)	*64*		*31 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
2-Fluorophenol	*50*		*17 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
Nitrobenzene-d5	*71*		*27 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: MB 570-205520/1-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205520

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d6 (Surr)	31		10 - 120	01/05/22 06:03	01/05/22 17:08	1
p-Terphenyl-d14 (Surr)	72		45 - 120	01/05/22 06:03	01/05/22 17:08	1

Lab Sample ID: LCS 570-205520/2-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205520

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	20.0	11.5		ug/L		57	57 - 130
1,2-Dichlorobenzene	20.0	13.0		ug/L		65	41 - 100
1,2-Diphenylhydrazine(as Azobenzene)	20.0	13.4		ug/L		67	60 - 115
1,3-Dichlorobenzene	20.0	12.7		ug/L		64	39 - 100
1,4-Dichlorobenzene	20.0	13.0		ug/L		65	40 - 100
2,4,6-Trichlorophenol	20.0	16.3		ug/L		81	52 - 129
2,4-Dichlorophenol	20.0	14.3		ug/L		71	53 - 122
2,4-Dimethylphenol	20.0	14.1		ug/L		70	42 - 120
2,4-Dinitrophenol	20.0	14.4		ug/L		72	1 - 173
2,4-Dinitrotoluene	20.0	16.5		ug/L		82	48 - 127
2,6-Dinitrotoluene	20.0	16.9		ug/L		84	68 - 137
2-Chloronaphthalene	20.0	13.0		ug/L		65	65 - 120
2-Chlorophenol	20.0	15.7		ug/L		78	36 - 120
2-Nitrophenol	20.0	15.9		ug/L		79	45 - 167
3,3'-Dichlorobenzidine	20.0	17.3		ug/L		87	8 - 213
4,6-Dinitro-2-methylphenol	20.0	14.3		ug/L		72	53 - 130
4-Bromophenyl phenyl ether	20.0	14.5		ug/L		73	65 - 120
4-Chloro-3-methylphenol	20.0	14.9		ug/L		75	41 - 128
4-Chlorophenyl phenyl ether	20.0	14.2		ug/L		71	38 - 145
4-Nitrophenol	20.0	8.68		ug/L		43	13 - 129
Acenaphthene	20.0	13.5		ug/L		67	60 - 132
Acenaphthylene	20.0	15.4		ug/L		77	54 - 126
Anthracene	20.0	16.5		ug/L		83	43 - 120
Benzidine	20.0	3.04	J,DX	ug/L		15	10 - 124
Benzo[a]anthracene	20.0	18.1		ug/L		91	42 - 133
Benzo[a]pyrene	20.0	19.4		ug/L		97	32 - 148
Benzo[b]fluoranthene	20.0	17.2		ug/L		86	42 - 140
Benzo[g,h,i]perylene	20.0	15.9		ug/L		80	1 - 195
Benzo[k]fluoranthene	20.0	17.2		ug/L		86	25 - 146
bis (2-chloroisopropyl) ether	20.0	17.2		ug/L		86	63 - 139
Bis(2-chloroethoxy)methane	20.0	13.5		ug/L		67	49 - 165
Bis(2-chloroethyl)ether	20.0	14.9		ug/L		75	43 - 126
Bis(2-ethylhexyl) phthalate	20.0	20.2		ug/L		101	29 - 137
Butyl benzyl phthalate	20.0	19.3		ug/L		97	1 - 140
Chrysene	20.0	15.8		ug/L		79	44 - 140
Dibenz(a,h)anthracene	20.0	15.7		ug/L		78	1 - 200
Diethyl phthalate	20.0	15.7		ug/L		79	1 - 120
Dimethyl phthalate	20.0	14.5		ug/L		72	1 - 120
Di-n-butyl phthalate	20.0	18.1		ug/L		90	8 - 120
Di-n-octyl phthalate	20.0	21.9		ug/L		109	19 - 132

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCS 570-205520/2-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205520

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoranthene			20.0	17.4		ug/L		87	43 - 121		
Fluorene			20.0	14.5		ug/L		72	70 - 120		
Hexachlorobenzene			20.0	14.9		ug/L		75	8 - 142		
Hexachlorobutadiene			20.0	10.9		ug/L		54	38 - 120		
Hexachlorocyclopentadiene			20.0	14.1		ug/L		70	20 - 137		
Hexachloroethane			20.0	12.3		ug/L		61	55 - 120		
Indeno[1,2,3-cd]pyrene			20.0	15.1		ug/L		76	1 - 151		
Isophorone			20.0	15.1		ug/L		76	47 - 180		
Naphthalene			20.0	12.0		ug/L		60	36 - 120		
Nitrobenzene			20.0	12.7		ug/L		64	54 - 158		
N-Nitrosodimethylamine			20.0	11.8		ug/L		59	30 - 100		
N-Nitrosodi-n-propylamine			20.0	17.6		ug/L		88	14 - 198		
N-Nitrosodiphenylamine			20.0	20.6		ug/L		103	75 - 135		
Pentachlorophenol			20.0	15.1		ug/L		76	38 - 152		
Phenanthrene			20.0	14.7		ug/L		73	65 - 120		
Phenol			20.0	6.85		ug/L		34	17 - 120		
Pyrene			20.0	16.2		ug/L		81	70 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*85*		*28 - 127*
2-Fluorobiphenyl (Surr)	*59*		*31 - 120*
2-Fluorophenol	*49*		*17 - 120*
Nitrobenzene-d5	*65*		*27 - 120*
Phenol-d6 (Surr)	*32*		*10 - 120*
p-Terphenyl-d14 (Surr)	*80*		*45 - 120*

Lab Sample ID: LCSD 570-205520/3-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205520

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene			20.0	11.6		ug/L		58	57 - 130	1	30
1,2-Dichlorobenzene			20.0	12.8		ug/L		64	41 - 100	1	20
1,2-Diphenylhydrazine(as Azobenzene)			20.0	12.9		ug/L		65	60 - 115	3	30
1,3-Dichlorobenzene			20.0	11.3		ug/L		57	39 - 100	12	20
1,4-Dichlorobenzene			20.0	12.4		ug/L		62	40 - 100	5	20
2,4,6-Trichlorophenol			20.0	16.7		ug/L		84	52 - 129	3	35
2,4-Dichlorophenol			20.0	14.7		ug/L		74	53 - 122	3	30
2,4-Dimethylphenol			20.0	14.5		ug/L		72	42 - 120	3	35
2,4-Dinitrophenol			20.0	16.3		ug/L		82	1 - 173	13	79
2,4-Dinitrotoluene			20.0	16.0		ug/L		80	48 - 127	3	25
2,6-Dinitrotoluene			20.0	16.9		ug/L		84	68 - 137	0	29
2-Chloronaphthalene			20.0	13.3		ug/L		66	65 - 120	2	15
2-Chlorophenol			20.0	16.0		ug/L		80	36 - 120	2	37
2-Nitrophenol			20.0	15.8		ug/L		79	45 - 167	0	33
3,3'-Dichlorobenzidine			20.0	17.3		ug/L		86	8 - 213	1	65
4,6-Dinitro-2-methylphenol			20.0	14.3		ug/L		71	53 - 130	0	122
4-Bromophenyl phenyl ether			20.0	14.3		ug/L		71	65 - 120	2	26

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-205520/3-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205520

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Chloro-3-methylphenol			20.0	14.6		ug/L		73	41 - 128	2	44
4-Chlorophenyl phenyl ether			20.0	14.1		ug/L		71	38 - 145	1	36
4-Nitrophenol			20.0	8.78		ug/L		44	13 - 129	1	79
Acenaphthene			20.0	13.9		ug/L		69	60 - 132	3	29
Acenaphthylene			20.0	16.0		ug/L		80	54 - 126	4	45
Anthracene			20.0	15.7		ug/L		79	43 - 120	5	40
Benzidine			20.0	12.8	BA	ug/L		64	10 - 124	123	40
Benzo[a]anthracene			20.0	16.9		ug/L		84	42 - 133	7	32
Benzo[a]pyrene			20.0	17.9		ug/L		90	32 - 148	8	43
Benzo[b]fluoranthene			20.0	16.1		ug/L		80	42 - 140	6	43
Benzo[g,h,i]perylene			20.0	15.5		ug/L		78	1 - 195	3	61
Benzo[k]fluoranthene			20.0	16.2		ug/L		81	25 - 146	6	38
bis (2-chloroisopropyl) ether			20.0	17.0		ug/L		85	63 - 139	1	46
Bis(2-chloroethoxy)methane			20.0	13.5		ug/L		68	49 - 165	0	32
Bis(2-chloroethyl)ether			20.0	15.9		ug/L		79	43 - 126	6	65
Bis(2-ethylhexyl) phthalate			20.0	19.7		ug/L		98	29 - 137	3	50
Butyl benzyl phthalate			20.0	18.6		ug/L		93	1 - 140	4	36
Chrysene			20.0	14.4		ug/L		72	44 - 140	9	53
Dibenz(a,h)anthracene			20.0	15.5		ug/L		78	1 - 200	1	75
Diethyl phthalate			20.0	15.2		ug/L		76	1 - 120	3	60
Dimethyl phthalate			20.0	14.8		ug/L		74	1 - 120	2	110
Di-n-butyl phthalate			20.0	17.0		ug/L		85	8 - 120	6	28
Di-n-octyl phthalate			20.0	21.0		ug/L		105	19 - 132	4	42
Fluoranthene			20.0	16.0		ug/L		80	43 - 121	9	40
Fluorene			20.0	14.3		ug/L		72	70 - 120	1	23
Hexachlorobenzene			20.0	14.5		ug/L		73	8 - 142	3	33
Hexachlorobutadiene			20.0	10.5		ug/L		53	38 - 120	3	38
Hexachlorocyclopentadiene			20.0	15.2		ug/L		76	20 - 137	8	20
Hexachloroethane			20.0	12.1		ug/L		60	55 - 120	2	32
Indeno[1,2,3-cd]pyrene			20.0	14.9		ug/L		75	1 - 151	1	60
Isophorone			20.0	14.6		ug/L		73	47 - 180	4	56
Naphthalene			20.0	12.1		ug/L		61	36 - 120	1	39
Nitrobenzene			20.0	13.0		ug/L		65	54 - 158	2	37
N-Nitrosodimethylamine			20.0	10.9		ug/L		55	30 - 100	8	20
N-Nitrosodi-n-propylamine			20.0	17.3		ug/L		87	14 - 198	1	52
N-Nitrosodiphenylamine			20.0	18.5		ug/L		92	75 - 135	11	20
Pentachlorophenol			20.0	14.2		ug/L		71	38 - 152	6	52
Phenanthrene			20.0	14.1		ug/L		71	65 - 120	4	24
Phenol			20.0	6.94		ug/L		35	17 - 120	1	39
Pyrene			20.0	15.7		ug/L		78	70 - 120	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol	*81*		*28 - 127*
2-Fluorobiphenyl (Surr)	*65*		*31 - 120*
2-Fluorophenol	*50*		*17 - 120*
Nitrobenzene-d5	*67*		*27 - 120*
Phenol-d6 (Surr)	*33*		*10 - 120*
p-Terphenyl-d14 (Surr)	*79*		*45 - 120*

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-205252/1-A
Matrix: Water
Analysis Batch: 205595

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205252

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00070	ug/L		01/04/22 08:37	01/05/22 19:31	1
alpha-BHC	ND		0.0013	0.00080	ug/L		01/04/22 08:37	01/05/22 19:31	1
beta-BHC	ND		0.0020	0.0017	ug/L		01/04/22 08:37	01/05/22 19:31	1
delta-BHC	ND		0.0013	0.0011	ug/L		01/04/22 08:37	01/05/22 19:31	1
gamma-BHC (Lindane)	ND		0.0013	0.00090	ug/L		01/04/22 08:37	01/05/22 19:31	1
Chlordane (technical)	ND		0.010	0.0065	ug/L		01/04/22 08:37	01/05/22 19:31	1
4,4'-DDD	ND		0.0013	0.00080	ug/L		01/04/22 08:37	01/05/22 19:31	1
4,4'-DDE	ND		0.0013	0.00050	ug/L		01/04/22 08:37	01/05/22 19:31	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		01/04/22 08:37	01/05/22 19:31	1
Dieldrin	ND		0.0013	0.00050	ug/L		01/04/22 08:37	01/05/22 19:31	1
Endosulfan I	ND		0.0013	0.00070	ug/L		01/04/22 08:37	01/05/22 19:31	1
Endosulfan II	ND		0.0013	0.00050	ug/L		01/04/22 08:37	01/05/22 19:31	1
Endosulfan sulfate	ND		0.0013	0.00060	ug/L		01/04/22 08:37	01/05/22 19:31	1
Endrin	ND		0.0013	0.00070	ug/L		01/04/22 08:37	01/05/22 19:31	1
Endrin aldehyde	ND		0.010	0.0051	ug/L		01/04/22 08:37	01/05/22 19:31	1
Heptachlor	ND		0.0013	0.00070	ug/L		01/04/22 08:37	01/05/22 19:31	1
Heptachlor epoxide	ND		0.0013	0.00040	ug/L		01/04/22 08:37	01/05/22 19:31	1
Toxaphene	ND		0.10	0.013	ug/L		01/04/22 08:37	01/05/22 19:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*75*		*20 - 139*	*01/04/22 08:37*	*01/05/22 19:31*	*1*

Lab Sample ID: LCS 570-205252/2-A
Matrix: Water
Analysis Batch: 205595

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205252

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.0333	0.0263		ug/L		79	42 - 140
alpha-BHC	0.0333	0.0235		ug/L		70	37 - 140
beta-BHC	0.0333	0.0271		ug/L		81	17 - 147
delta-BHC	0.0333	0.0268		ug/L		80	19 - 140
gamma-BHC (Lindane)	0.0333	0.0251		ug/L		75	32 - 140
4,4'-DDD	0.0333	0.0295		ug/L		89	31 - 141
4,4'-DDE	0.0333	0.0274		ug/L		82	30 - 145
4,4'-DDT	0.0333	0.0310		ug/L		93	25 - 160
Dieldrin	0.0333	0.0286		ug/L		86	36 - 146
Endosulfan I	0.0333	0.0259		ug/L		78	45 - 153
Endosulfan II	0.0333	0.0284		ug/L		85	1 - 202
Endosulfan sulfate	0.0333	0.0281		ug/L		84	26 - 144
Endrin	0.0333	0.0291		ug/L		87	30 - 147
Endrin aldehyde	0.0333	0.0211	PI	ug/L		63	60 - 140
Heptachlor	0.0333	0.0281		ug/L		84	34 - 140
Heptachlor epoxide	0.0333	0.0273		ug/L		82	37 - 142

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*56*		*20 - 139*

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: LCSD 570-205252/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 205595
Prep Batch: 205252

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin			0.0333	0.0265		ug/L		80	42 - 140	1	35
alpha-BHC			0.0333	0.0253		ug/L		76	37 - 140	7	36
beta-BHC			0.0333	0.0275		ug/L		82	17 - 147	1	44
delta-BHC			0.0333	0.0276		ug/L		83	19 - 140	3	52
gamma-BHC (Lindane)			0.0333	0.0267		ug/L		80	32 - 140	6	39
4,4'-DDD			0.0333	0.0286		ug/L		86	31 - 141	3	39
4,4'-DDE			0.0333	0.0254		ug/L		76	30 - 145	7	35
4,4'-DDT			0.0333	0.0306		ug/L		92	25 - 160	1	42
Dieldrin			0.0333	0.0277		ug/L		83	36 - 146	3	49
Endosulfan I			0.0333	0.0247		ug/L		74	45 - 153	5	28
Endosulfan II			0.0333	0.0275		ug/L		82	1 - 202	3	53
Endosulfan sulfate			0.0333	0.0282		ug/L		85	26 - 144	0	38
Endrin			0.0333	0.0280		ug/L		84	30 - 147	4	48
Endrin aldehyde			0.0333	0.0216	PI	ug/L		65	60 - 140	3	30
Heptachlor			0.0333	0.0306		ug/L		92	34 - 140	9	43
Heptachlor epoxide			0.0333	0.0257		ug/L		77	37 - 142	6	26

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*63*		*20 - 139*

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 570-205252/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 205833
Prep Batch: 205252

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		01/04/22 08:37	01/06/22 09:06	1
Aroclor 1221	ND		0.10	0.044	ug/L		01/04/22 08:37	01/06/22 09:06	1
Aroclor 1232	ND		0.10	0.044	ug/L		01/04/22 08:37	01/06/22 09:06	1
Aroclor 1242	ND		0.10	0.044	ug/L		01/04/22 08:37	01/06/22 09:06	1
Aroclor 1248	ND		0.10	0.044	ug/L		01/04/22 08:37	01/06/22 09:06	1
Aroclor 1254	ND		0.10	0.052	ug/L		01/04/22 08:37	01/06/22 09:06	1
Aroclor 1260	ND		0.10	0.052	ug/L		01/04/22 08:37	01/06/22 09:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*67*		*20 - 154*	*01/04/22 08:37*	*01/06/22 09:06*	*1*

Lab Sample ID: LCS 570-205252/4-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 205833
Prep Batch: 205252

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016			0.133	0.123		ug/L		92	50 - 140
Aroclor 1260			0.133	0.0947	J,DX	ug/L		71	8 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*36*		*20 - 154*

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: LCSD 570-205252/5-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 205833
Prep Batch: 205252

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016			0.133	0.149		ug/L		112	50 - 140	19	36
Aroclor 1260			0.133	0.115		ug/L		86	8 - 140	19	38

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*44*		*20 - 154*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 570-204701/6
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204701

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.20	0.019	ug/L			12/30/21 12:34	1

Lab Sample ID: LCS 570-204701/7
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204701

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			50.0	50.4		ug/L		101	95 - 107		

Lab Sample ID: LCSD 570-204701/8
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204701

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent			50.0	50.1		ug/L		100	95 - 107	1	20

Lab Sample ID: 570-80408-1 MS
Client Sample ID: Outfall011_20211230_Comp
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204701

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent	ND		50.0	50.8		ug/L		102	85 - 121		

Lab Sample ID: 570-80408-1 MSD
Client Sample ID: Outfall011_20211230_Comp
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204701

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND		50.0	51.5		ug/L		103	85 - 121	1	25

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-204681/34
Matrix: Water
Analysis Batch: 204681

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			12/30/21 23:13	1
Fluoride	ND		0.10	0.046	mg/L			12/30/21 23:13	1
Sulfate	ND		1.0	0.24	mg/L			12/30/21 23:13	1

Lab Sample ID: MB 570-204681/5
Matrix: Water
Analysis Batch: 204681

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			12/30/21 11:01	1
Fluoride	ND		0.10	0.046	mg/L			12/30/21 11:01	1
Sulfate	ND		1.0	0.24	mg/L			12/30/21 11:01	1

Lab Sample ID: LCS 570-204681/35
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	48.5		mg/L		97	90 - 110
Fluoride	2.50	2.73		mg/L		109	90 - 110
Sulfate	50.0	49.1		mg/L		98	90 - 110

Lab Sample ID: LCS 570-204681/6
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	48.6		mg/L		97	90 - 110
Fluoride	2.50	2.73		mg/L		109	90 - 110
Sulfate	50.0	49.1		mg/L		98	90 - 110

Lab Sample ID: LCSD 570-204681/36
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50.0	48.8		mg/L		98	90 - 110	1	15
Fluoride	2.50	2.75		mg/L		110	90 - 110	1	15
Sulfate	50.0	49.3		mg/L		99	90 - 110	0	15

Lab Sample ID: LCSD 570-204681/7
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50.0	48.8		mg/L		98	90 - 110	0	15
Fluoride	2.50	2.73		mg/L		109	90 - 110	0	15
Sulfate	50.0	49.3		mg/L		99	90 - 110	0	15

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 570-80272-K-1 MS
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	6.4		50.0	51.1		mg/L		89	80 - 120		
Fluoride	ND		2.50	2.61		mg/L		104	80 - 120		
Sulfate	3.6		50.0	49.6		mg/L		92	80 - 120		

Lab Sample ID: 570-80272-K-1 MSD
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	6.4		50.0	51.6		mg/L		90	80 - 120	1	20
Fluoride	ND		2.50	2.61		mg/L		104	80 - 120	0	20
Sulfate	3.6		50.0	50.0		mg/L		93	80 - 120	1	20

Lab Sample ID: MB 570-204682/34
Matrix: Water
Analysis Batch: 204682

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			12/30/21 23:13	1
Nitrate as N	ND		0.10	0.024	mg/L			12/30/21 23:13	1

Lab Sample ID: MB 570-204682/5
Matrix: Water
Analysis Batch: 204682

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			12/30/21 11:01	1
Nitrate as N	ND		0.10	0.024	mg/L			12/30/21 11:01	1

Lab Sample ID: LCS 570-204682/35
Matrix: Water
Analysis Batch: 204682

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	2.50	2.44		mg/L		97	90 - 110
Nitrate as N	5.00	4.95		mg/L		99	90 - 110

Lab Sample ID: LCS 570-204682/6
Matrix: Water
Analysis Batch: 204682

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	2.37		mg/L		95	90 - 110
Nitrate as N	5.00	4.97		mg/L		99	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 570-204682/36
Matrix: Water
Analysis Batch: 204682

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	2.36		mg/L		95	90 - 110	3	15
Nitrate as N			5.00	4.91		mg/L		98	90 - 110	1	15

Lab Sample ID: LCSD 570-204682/7
Matrix: Water
Analysis Batch: 204682

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	2.35		mg/L		94	90 - 110	1	15
Nitrate as N			5.00	4.95		mg/L		99	90 - 110	0	15

Lab Sample ID: 570-80272-K-1 MS
Matrix: Water
Analysis Batch: 204682

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N	ND		2.50	2.48		mg/L		99	80 - 120		
Nitrate as N	5.1		5.00	9.99		mg/L		98	80 - 120		

Lab Sample ID: 570-80272-K-1 MSD
Matrix: Water
Analysis Batch: 204682

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	ND		2.50	2.53		mg/L		101	80 - 120	2	20
Nitrate as N	5.1		5.00	10.1		mg/L		100	80 - 120	1	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-205091/6
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/03/22 13:07	1

Lab Sample ID: LCS 570-205091/7
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			25.0	24.3		ug/L		97	85 - 115		

Lab Sample ID: LCSD 570-205091/8
Matrix: Water
Analysis Batch: 205091

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	23.6		ug/L		94	85 - 115	3	15

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: 570-80231-E-1 MS
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate	ND		50.0	52.0		ug/L		104	80 - 120		

Lab Sample ID: 570-80231-E-1 MSD
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		50.0	51.9		ug/L		104	80 - 120	0	15

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-664761/1-A
Matrix: Water
Analysis Batch: 664862

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664761

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/18/22 17:17	01/19/22 12:33	1
Barium	ND		10	2.2	ug/L		01/18/22 17:17	01/19/22 12:33	1
Beryllium	ND		2.0	0.44	ug/L		01/18/22 17:17	01/19/22 12:33	1
Boron	ND		50	25	ug/L		01/18/22 17:17	01/19/22 12:33	1
Chromium	ND		5.0	2.5	ug/L		01/18/22 17:17	01/19/22 12:33	1
Cobalt	ND		10	2.8	ug/L		01/18/22 17:17	01/19/22 12:33	1
Iron	ND		100	50	ug/L		01/18/22 17:17	01/19/22 12:33	1
Manganese	ND		20	6.8	ug/L		01/18/22 17:17	01/19/22 12:33	1
Nickel	ND		10	5.0	ug/L		01/18/22 17:17	01/19/22 12:33	1
Zinc	ND		20	12	ug/L		01/18/22 17:17	01/19/22 12:33	1

Lab Sample ID: MB 440-664761/1-A
Matrix: Water
Analysis Batch: 665013

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664761

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vanadium	ND		10	2.1	ug/L		01/18/22 17:17	01/20/22 12:41	1

Lab Sample ID: LCS 440-664761/2-A
Matrix: Water
Analysis Batch: 664862

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664761

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	531		ug/L		106	85 - 115
Barium	500	522		ug/L		104	85 - 115
Beryllium	500	539		ug/L		108	85 - 115
Boron	500	528		ug/L		106	85 - 115
Chromium	500	528		ug/L		106	85 - 115
Cobalt	500	531		ug/L		106	85 - 115
Iron	500	498		ug/L		100	85 - 115
Manganese	500	530		ug/L		106	85 - 115
Nickel	500	544		ug/L		109	85 - 115
Zinc	500	547		ug/L		109	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-664761/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total Recoverable
Analysis Batch: 665013
Prep Batch: 664761

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Vanadium			500	553		ug/L		111	85 - 115		

Lab Sample ID: 570-80408-1 MS
Client Sample ID: Outfall011_20211230_Comp
Matrix: Water
Prep Type: Total Recoverable
Analysis Batch: 664862
Prep Batch: 664761

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic	ND		500	530		ug/L		106	70 - 130		
Barium	43		500	573		ug/L		106	70 - 130		
Beryllium	ND		500	542		ug/L		108	70 - 130		
Boron	53		500	598		ug/L		109	70 - 130		
Chromium	6.1		500	545		ug/L		108	70 - 130		
Cobalt	2.9	J,DX	500	537		ug/L		107	70 - 130		
Iron	5100		500	6560	BB	ug/L		298	70 - 130		
Manganese	100		500	636		ug/L		107	70 - 130		
Nickel	ND		500	548		ug/L		110	70 - 130		
Zinc	28		500	571		ug/L		109	70 - 130		

Lab Sample ID: 570-80408-1 MS
Client Sample ID: Outfall011_20211230_Comp
Matrix: Water
Prep Type: Total Recoverable
Analysis Batch: 665013
Prep Batch: 664761

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Vanadium	17		500	541		ug/L		105	70 - 130		

Lab Sample ID: 570-80408-1 MSD
Client Sample ID: Outfall011_20211230_Comp
Matrix: Water
Prep Type: Total Recoverable
Analysis Batch: 664862
Prep Batch: 664761

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	534		ug/L		107	70 - 130	1	20
Barium	43		500	574		ug/L		106	70 - 130	0	20
Beryllium	ND		500	542		ug/L		108	70 - 130	0	20
Boron	53		500	599		ug/L		109	70 - 130	0	20
Chromium	6.1		500	546		ug/L		108	70 - 130	0	20
Cobalt	2.9	J,DX	500	537		ug/L		107	70 - 130	0	20
Iron	5100		500	6710	BB	ug/L		328	70 - 130	2	20
Manganese	100		500	637		ug/L		107	70 - 130	0	20
Nickel	ND		500	548		ug/L		110	70 - 130	0	20
Zinc	28		500	573		ug/L		109	70 - 130	0	20

Lab Sample ID: 570-80408-1 MSD
Client Sample ID: Outfall011_20211230_Comp
Matrix: Water
Prep Type: Total Recoverable
Analysis Batch: 665013
Prep Batch: 664761

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vanadium	17		500	543		ug/L		105	70 - 130	0	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 440-663928/1-C
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663949

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/06/22 17:20	01/07/22 21:20	1
Barium	ND		10	2.2	ug/L		01/06/22 17:20	01/07/22 21:20	1
Beryllium	ND		2.0	0.44	ug/L		01/06/22 17:20	01/07/22 21:20	1
Boron	ND		50	25	ug/L		01/06/22 17:20	01/07/22 21:20	1
Chromium	ND		5.0	2.5	ug/L		01/06/22 17:20	01/07/22 21:20	1
Cobalt	ND		10	2.8	ug/L		01/06/22 17:20	01/07/22 21:20	1
Iron	ND		100	50	ug/L		01/06/22 17:20	01/07/22 21:20	1
Manganese	ND		20	6.8	ug/L		01/06/22 17:20	01/07/22 21:20	1
Nickel	ND		10	5.0	ug/L		01/06/22 17:20	01/07/22 21:20	1
Vanadium	ND		10	2.1	ug/L		01/06/22 17:20	01/07/22 21:20	1
Zinc	ND		20	12	ug/L		01/06/22 17:20	01/07/22 21:20	1

Lab Sample ID: LCS 440-663928/2-C
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663949

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	474		ug/L		95	85 - 115
Barium	500	471		ug/L		94	85 - 115
Beryllium	500	468		ug/L		94	85 - 115
Boron	500	462		ug/L		92	85 - 115
Chromium	500	473		ug/L		95	85 - 115
Cobalt	500	472		ug/L		94	85 - 115
Iron	500	486		ug/L		97	85 - 115
Manganese	500	466		ug/L		93	85 - 115
Nickel	500	468		ug/L		94	85 - 115
Vanadium	500	468		ug/L		94	85 - 115
Zinc	500	472		ug/L		94	85 - 115

Lab Sample ID: 570-80532-R-1-D MS
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663949

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		500	497		ug/L		99	70 - 130
Barium	16		500	508		ug/L		98	70 - 130
Beryllium	ND		500	495		ug/L		99	70 - 130
Boron	56		500	545		ug/L		98	70 - 130
Chromium	12		500	496		ug/L		97	70 - 130
Cobalt	ND		500	495		ug/L		99	70 - 130
Iron	160		500	530		ug/L		74	70 - 130
Manganese	ND		500	488		ug/L		98	70 - 130
Nickel	ND		500	490		ug/L		98	70 - 130
Vanadium	ND		500	496		ug/L		99	70 - 130
Zinc	19	J,DX	500	513		ug/L		99	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 570-80532-R-1-E MSD
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663949

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	496		ug/L		99	70 - 130	0	20
Barium	16		500	506		ug/L		98	70 - 130	0	20
Beryllium	ND		500	495		ug/L		99	70 - 130	0	20
Boron	56		500	545		ug/L		98	70 - 130	0	20
Chromium	12		500	494		ug/L		96	70 - 130	0	20
Cobalt	ND		500	494		ug/L		99	70 - 130	0	20
Iron	160		500	524		ug/L		73	70 - 130	1	20
Manganese	ND		500	486		ug/L		97	70 - 130	0	20
Nickel	ND		500	489		ug/L		98	70 - 130	0	20
Vanadium	ND		500	495		ug/L		99	70 - 130	0	20
Zinc	19	J,DX	500	515		ug/L		99	70 - 130	0	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-666888/1-A
Matrix: Water
Analysis Batch: 666924

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 666888

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		02/11/22 10:22	02/11/22 14:24	1
Cadmium	ND		1.0	0.25	ug/L		02/11/22 10:22	02/11/22 14:24	1
Copper	ND		2.0	0.50	ug/L		02/11/22 10:22	02/11/22 14:24	1
Lead	ND		1.0	0.50	ug/L		02/11/22 10:22	02/11/22 14:24	1
Antimony	ND		2.0	0.50	ug/L		02/11/22 10:22	02/11/22 14:24	1
Selenium	ND		2.0	0.50	ug/L		02/11/22 10:22	02/11/22 14:24	1
Thallium	ND		1.0	0.20	ug/L		02/11/22 10:22	02/11/22 14:24	1

Lab Sample ID: LCS 440-666888/2-A
Matrix: Water
Analysis Batch: 666924

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 666888

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	68.3		ug/L		85	85 - 115
Cadmium	80.0	74.2		ug/L		93	85 - 115
Copper	80.0	72.3		ug/L		90	85 - 115
Lead	80.0	76.6		ug/L		96	85 - 115
Antimony	80.0	76.3		ug/L		95	85 - 115
Selenium	80.0	73.8		ug/L		92	85 - 115
Thallium	80.0	76.5		ug/L		96	85 - 115

Lab Sample ID: 440-295271-A-1-B MS ^5
Matrix: Water
Analysis Batch: 666924

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 666888

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	4.9	J,DX	80.0	69.2		ug/L		80	70 - 130
Cadmium	ND		80.0	74.8		ug/L		93	70 - 130
Copper	ND		80.0	74.8		ug/L		94	70 - 130
Lead	ND		80.0	75.5		ug/L		94	70 - 130

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 440-295271-A-1-B MS ^5
Matrix: Water
Analysis Batch: 666924

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 666888

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	9.5	J,DX	80.0	88.9		ug/L		99	70 - 130
Selenium	19		80.0	89.3		ug/L		88	70 - 130
Thallium	ND		80.0	73.3		ug/L		92	70 - 130

Lab Sample ID: 440-295271-A-1-C MSD ^5
Matrix: Water
Analysis Batch: 666924

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 666888

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	4.9	J,DX	80.0	70.2		ug/L		82	70 - 130	1	20
Cadmium	ND		80.0	74.3		ug/L		93	70 - 130	1	20
Copper	ND		80.0	74.9		ug/L		94	70 - 130	0	20
Lead	ND		80.0	74.2		ug/L		93	70 - 130	2	20
Antimony	9.5	J,DX	80.0	87.0		ug/L		97	70 - 130	2	20
Selenium	19		80.0	90.1		ug/L		89	70 - 130	1	20
Thallium	ND		80.0	72.7		ug/L		91	70 - 130	1	20

Lab Sample ID: MB 440-663928/1-B
Matrix: Water
Analysis Batch: 664013

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663947

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Cadmium	ND		1.0	0.25	ug/L		01/06/22 17:16	01/07/22 14:30	1
Copper	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Lead	ND		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Antimony	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Selenium	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Thallium	ND		1.0	0.20	ug/L		01/06/22 17:16	01/07/22 14:30	1

Lab Sample ID: LCS 440-663928/2-B
Matrix: Water
Analysis Batch: 664013

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663947

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	78.5		ug/L		98	85 - 115
Cadmium	80.0	79.3		ug/L		99	85 - 115
Copper	80.0	81.3		ug/L		102	85 - 115
Lead	80.0	79.4		ug/L		99	85 - 115
Antimony	80.0	89.2		ug/L		111	85 - 115
Selenium	80.0	75.7		ug/L		95	85 - 115
Thallium	80.0	78.1		ug/L		98	85 - 115

Lab Sample ID: 570-80544-C-2-C MS
Matrix: Water
Analysis Batch: 664013

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663947

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	79.2		ug/L		99	70 - 130
Cadmium	ND		80.0	80.4		ug/L		100	70 - 130

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-80544-C-2-C MS
Matrix: Water
Analysis Batch: 664013

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663947

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Copper	3.5		80.0	87.2		ug/L		105	70 - 130
Lead	ND		80.0	81.1		ug/L		101	70 - 130
Antimony	1.3	J,DX	80.0	92.0		ug/L		113	70 - 130
Selenium	ND		80.0	79.8		ug/L		100	70 - 130
Thallium	ND		80.0	80.4		ug/L		101	70 - 130

Lab Sample ID: 570-80544-C-2-D MSD
Matrix: Water
Analysis Batch: 664013

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663947

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	79.1		ug/L		99	70 - 130	0	20
Cadmium	ND		80.0	80.5		ug/L		101	70 - 130	0	20
Copper	3.5		80.0	86.8		ug/L		104	70 - 130	1	20
Lead	ND		80.0	80.6		ug/L		101	70 - 130	1	20
Antimony	1.3	J,DX	80.0	91.5		ug/L		113	70 - 130	1	20
Selenium	ND		80.0	77.7		ug/L		97	70 - 130	3	20
Thallium	ND		80.0	79.5		ug/L		99	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-207907/1-A
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 207907

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/17/22 17:41	01/18/22 15:52	1

Lab Sample ID: LCS 570-207907/2-A
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 207907

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	10.9		ug/L		109	85 - 115

Lab Sample ID: LCSD 570-207907/3-A
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 207907

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	10.0	11.0		ug/L		110	85 - 115	0	10

Lab Sample ID: 440-293904-A-1-C MS
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 207907

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		10.0	8.83		ug/L		88	70 - 130

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 440-293904-A-1-D MSD
Matrix: Water
Analysis Batch: 208127

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 207907

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	8.90		ug/L		89	70 - 130	1	10

Lab Sample ID: MB 570-208358/1-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 208361

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/19/22 17:58	01/20/22 19:43	1

Lab Sample ID: LCS 570-208358/2-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 208361

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			10.0	9.71		ug/L		97	85 - 115		

Lab Sample ID: LCSD 570-208358/3-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 208361

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			10.0	9.72		ug/L		97	85 - 115	0	10

Lab Sample ID: 570-80124-C-3-I MS
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		10.0	9.27		ug/L		93	70 - 130		

Lab Sample ID: 570-80124-C-3-L MSD
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	9.28		ug/L		93	70 - 130	0	10

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 440-664889/6
Matrix: Water
Analysis Batch: 664889

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	ND		0.10	0.05	NTU			01/19/22 18:28	1

Method: 180.1 - Turbidity, Nephelometric (Continued)

Lab Sample ID: MRL 440-664889/5
Matrix: Water
Analysis Batch: 664889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	0.100	0.10		NTU		90	50 - 150

Lab Sample ID: 570-80231-I-1 DU
Matrix: Water
Analysis Batch: 664889

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Turbidity	0.40		0.35		NTU		10	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-663692/1
Matrix: Water
Analysis Batch: 663692

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	3.0	mg/L			01/05/22 10:09	1

Lab Sample ID: LCS 440-663692/2
Matrix: Water
Analysis Batch: 663692

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	946		mg/L		95	90 - 110

Lab Sample ID: 440-293710-B-1 DU
Matrix: Water
Analysis Batch: 663692

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	47000		46600		mg/L		1	5

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-663834/1
Matrix: Water
Analysis Batch: 663834

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			01/05/22 14:00	1

Lab Sample ID: LCS 440-663834/2
Matrix: Water
Analysis Batch: 663834

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	1000	984		mg/L		98	85 - 115

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: 570-80560-A-3 DU
Matrix: Water
Analysis Batch: 663834

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	48			50.0		mg/L				4	5

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 440-663989/1-A
Matrix: Water
Analysis Batch: 664019

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 663989

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L		01/07/22 11:02	01/07/22 15:12	1

Lab Sample ID: LCS 440-663989/2-A
Matrix: Water
Analysis Batch: 664019

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 663989

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			100	96.7		ug/L		97	80 - 120		

Lab Sample ID: 570-80124-G-1-C MS
Matrix: Water
Analysis Batch: 664019

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 663989

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total	ND		100	98.9		ug/L		99	75 - 125		

Lab Sample ID: 570-80124-G-1-D MSD
Matrix: Water
Analysis Batch: 664019

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 663989

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		100	99.7		ug/L		100	75 - 125	1	20

Method: SM 4500 NH3 G - Ammonia

Lab Sample ID: MB 440-664022/10
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.200	0.100	mg/L			01/07/22 11:11	1

Lab Sample ID: LCS 440-664022/11
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia (as N)			5.00	5.370		mg/L		107	90 - 110		

Method: SM 4500 NH3 G - Ammonia (Continued)

Lab Sample ID: MRL 440-664022/9
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia (as N)			0.200	0.1950	J,DX	mg/L		98	50 - 150		

Lab Sample ID: 570-80545-H-1 MS
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia (as N)	0.845		5.00	5.760		mg/L		98	90 - 110		

Lab Sample ID: 570-80545-H-1 MSD
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.845		5.00	5.710		mg/L		97	90 - 110	1	15

Method: SM 5310D - Organic Carbon, Total (TOC)

Lab Sample ID: MB 570-208181/35
Matrix: Water
Analysis Batch: 208181

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon, Total Organic	ND		0.50	0.026	mg/L			01/18/22 09:00	1

Lab Sample ID: LCS 570-208181/67
Matrix: Water
Analysis Batch: 208181

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Carbon, Total Organic			5.00	4.94		mg/L		99	85 - 115		

Lab Sample ID: LCSD 570-208181/68
Matrix: Water
Analysis Batch: 208181

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon, Total Organic			5.00	5.06		mg/L		101	85 - 115	3	20

Lab Sample ID: 440-294124-B-1 MS
Matrix: Water
Analysis Batch: 208181

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Carbon, Total Organic	0.45	J,DX	5.00	3.63		mg/L		64	31 - 145		

Method: SM 5310D - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 440-294124-B-1 MSD
Matrix: Water
Analysis Batch: 208181

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon, Total Organic	0.45	J,DX	5.00	3.33		mg/L		58	31 - 145	9	20

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 570-204906/5-A
Matrix: Water
Analysis Batch: 204896

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204906

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.30	0.15	mg/L		12/30/21 22:00	12/31/21 08:58	1

Lab Sample ID: LCS 570-204906/6-A
Matrix: Water
Analysis Batch: 204896

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204906

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
MBAS	1.00	1.07		mg/L		107	85 - 111

Lab Sample ID: LCSD 570-204906/7-A
Matrix: Water
Analysis Batch: 204896

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204906

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MBAS	1.00	1.09		mg/L		109	85 - 111	2	7

Lab Sample ID: 570-80340-B-1-A MS
Matrix: Water
Analysis Batch: 204896

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 204906

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
MBAS	ND		1.00	1.23		mg/L		123	75 - 125

Lab Sample ID: 570-80340-B-1-B MSD
Matrix: Water
Analysis Batch: 204896

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 204906

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MBAS	ND		1.00	1.22		mg/L		122	75 - 125	1	12

Method: SM5210B - BOD, 5 Day

Lab Sample ID: SCB 570-204933/2
Matrix: Water
Analysis Batch: 204933

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	SCB Result	SCB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	0.735	J,DX	0.83	0.49	mg/L			12/31/21 12:15	1

Method: SM5210B - BOD, 5 Day (Continued)

Lab Sample ID: USB 570-204933/1
Matrix: Water
Analysis Batch: 204933

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		0.83	0.49	mg/L			12/31/21 12:15	1

Lab Sample ID: LCS 570-204933/3
Matrix: Water
Analysis Batch: 204933

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Biochemical Oxygen Demand			198	193		mg/L		98	84.6 - 115.4		

Lab Sample ID: 570-80408-1 DU
Matrix: Water
Analysis Batch: 204933

Client Sample ID: Outfall011_20211230_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Biochemical Oxygen Demand	ND			2.19	J,DX	mg/L				NC	25

GC/MS VOA

Analysis Batch: 205613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	8260B SIM	
MB 570-205613/8	Method Blank	Total/NA	Water	8260B SIM	
LCS 570-205613/4	Lab Control Sample	Total/NA	Water	8260B SIM	
LCSD 570-205613/5	Lab Control Sample Dup	Total/NA	Water	8260B SIM	

GC/MS Semi VOA

Prep Batch: 205520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	625	
MB 570-205520/1-A	Method Blank	Total/NA	Water	625	
LCS 570-205520/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-205520/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 205774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	625.1 SIM	205520
MB 570-205520/1-A	Method Blank	Total/NA	Water	625.1 SIM	205520
LCS 570-205520/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	205520
LCSD 570-205520/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	205520

GC Semi VOA

Prep Batch: 205252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	608	
MB 570-205252/1-A	Method Blank	Total/NA	Water	608	
LCS 570-205252/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 570-205252/4-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-205252/3-A	Lab Control Sample Dup	Total/NA	Water	608	
LCSD 570-205252/5-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 205595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	608.3	205252
MB 570-205252/1-A	Method Blank	Total/NA	Water	608.3	205252
LCS 570-205252/2-A	Lab Control Sample	Total/NA	Water	608.3	205252
LCSD 570-205252/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	205252

Analysis Batch: 205833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	608.3	205252
MB 570-205252/1-A	Method Blank	Total/NA	Water	608.3	205252
LCS 570-205252/4-A	Lab Control Sample	Total/NA	Water	608.3	205252
LCSD 570-205252/5-A	Lab Control Sample Dup	Total/NA	Water	608.3	205252

HPLC/IC

Analysis Batch: 204681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	300.0	
MB 570-204681/34	Method Blank	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 204681 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-204681/5	Method Blank	Total/NA	Water	300.0	
LCS 570-204681/35	Lab Control Sample	Total/NA	Water	300.0	
LCS 570-204681/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-204681/36	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 570-204681/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80272-K-1 MS	Matrix Spike	Total/NA	Water	300.0	
570-80272-K-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 204682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	300.0	
MB 570-204682/34	Method Blank	Total/NA	Water	300.0	
MB 570-204682/5	Method Blank	Total/NA	Water	300.0	
LCS 570-204682/35	Lab Control Sample	Total/NA	Water	300.0	
LCS 570-204682/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-204682/36	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 570-204682/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80272-K-1 MS	Matrix Spike	Total/NA	Water	300.0	
570-80272-K-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 204701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	218.6	
MB 570-204701/6	Method Blank	Total/NA	Water	218.6	
LCS 570-204701/7	Lab Control Sample	Total/NA	Water	218.6	
LCSD 570-204701/8	Lab Control Sample Dup	Total/NA	Water	218.6	
570-80408-1 MS	Outfall011_20211230_Comp	Total/NA	Water	218.6	
570-80408-1 MSD	Outfall011_20211230_Comp	Total/NA	Water	218.6	

Analysis Batch: 205091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	314.0	
MB 570-205091/6	Method Blank	Total/NA	Water	314.0	
LCS 570-205091/7	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-205091/8	Lab Control Sample Dup	Total/NA	Water	314.0	
570-80231-E-1 MS	Matrix Spike	Total/NA	Water	314.0	
570-80231-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	

Analysis Batch: 205169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	NO2NO3 Calc	

Metals

Prep Batch: 207907

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	245.1	
MB 570-207907/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-207907/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-207907/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
440-293904-A-1-C MS	Matrix Spike	Total/NA	Water	245.1	

Metals (Continued)

Prep Batch: 207907 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-293904-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 208127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	245.1	207907
MB 570-207907/1-A	Method Blank	Total/NA	Water	245.1	207907
LCS 570-207907/2-A	Lab Control Sample	Total/NA	Water	245.1	207907
LCSD 570-207907/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	207907
440-293904-A-1-C MS	Matrix Spike	Total/NA	Water	245.1	207907
440-293904-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	207907

Filtration Batch: 208358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-3	Outfall011_20211230_Comp_F	Dissolved	Water	Filtration	
MB 570-208358/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-80124-C-3-I MS	Matrix Spike	Dissolved	Water	Filtration	
570-80124-C-3-L MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

Prep Batch: 208361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-3	Outfall011_20211230_Comp_F	Dissolved	Water	245.1	208358
MB 570-208358/1-B	Method Blank	Dissolved	Water	245.1	208358
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	245.1	208358
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	208358
570-80124-C-3-I MS	Matrix Spike	Dissolved	Water	245.1	208358
570-80124-C-3-L MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	208358

Analysis Batch: 208671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-3	Outfall011_20211230_Comp_F	Dissolved	Water	245.1	208361
MB 570-208358/1-B	Method Blank	Dissolved	Water	245.1	208361
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	245.1	208361
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	208361
570-80124-C-3-I MS	Matrix Spike	Dissolved	Water	245.1	208361
570-80124-C-3-L MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	208361

Analysis Batch: 663736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-3	Outfall011_20211230_Comp_F	Dissolved	Water	SM 2340B	

Filtration Batch: 663928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-3	Outfall011_20211230_Comp_F	Dissolved	Water	FILTRATION	
MB 440-663928/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-663928/1-C	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663928/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-663928/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
570-80532-R-1-D MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80532-R-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Metals (Continued)

Filtration Batch: 663928 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-C-2-C MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80544-C-2-D MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Prep Batch: 663947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-3	Outfall011_20211230_Comp_F	Dissolved	Water	200.2	663928
MB 440-663928/1-B	Method Blank	Dissolved	Water	200.2	663928
LCS 440-663928/2-B	Lab Control Sample	Dissolved	Water	200.2	663928
570-80544-C-2-C MS	Matrix Spike	Dissolved	Water	200.2	663928
570-80544-C-2-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663928

Analysis Batch: 663948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total Recoverable	Water	SM 2340B	

Prep Batch: 663949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-3	Outfall011_20211230_Comp_F	Dissolved	Water	200.2	663928
MB 440-663928/1-C	Method Blank	Dissolved	Water	200.2	663928
LCS 440-663928/2-C	Lab Control Sample	Dissolved	Water	200.2	663928
570-80532-R-1-D MS	Matrix Spike	Dissolved	Water	200.2	663928
570-80532-R-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663928

Analysis Batch: 664013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-3	Outfall011_20211230_Comp_F	Dissolved	Water	200.8	663947
MB 440-663928/1-B	Method Blank	Dissolved	Water	200.8	663947
LCS 440-663928/2-B	Lab Control Sample	Dissolved	Water	200.8	663947
570-80544-C-2-C MS	Matrix Spike	Dissolved	Water	200.8	663947
570-80544-C-2-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	663947

Analysis Batch: 664049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-3	Outfall011_20211230_Comp_F	Dissolved	Water	200.7 Rev 4.4	663949
MB 440-663928/1-C	Method Blank	Dissolved	Water	200.7 Rev 4.4	663949
LCS 440-663928/2-C	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	663949
570-80532-R-1-D MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	663949
570-80532-R-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	663949

Prep Batch: 664761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total Recoverable	Water	200.2	
MB 440-664761/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664761/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80408-1 MS	Outfall011_20211230_Comp	Total Recoverable	Water	200.2	
570-80408-1 MSD	Outfall011_20211230_Comp	Total Recoverable	Water	200.2	

Analysis Batch: 664862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total Recoverable	Water	200.7 Rev 4.4	664761
MB 440-664761/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	664761

Metals (Continued)

Analysis Batch: 664862 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-664761/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	664761
570-80408-1 MS	Outfall011_20211230_Comp	Total Recoverable	Water	200.7 Rev 4.4	664761
570-80408-1 MSD	Outfall011_20211230_Comp	Total Recoverable	Water	200.7 Rev 4.4	664761

Analysis Batch: 665013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total Recoverable	Water	200.7 Rev 4.4	664761
MB 440-664761/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	664761
LCS 440-664761/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	664761
570-80408-1 MS	Outfall011_20211230_Comp	Total Recoverable	Water	200.7 Rev 4.4	664761
570-80408-1 MSD	Outfall011_20211230_Comp	Total Recoverable	Water	200.7 Rev 4.4	664761

Prep Batch: 666888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total Recoverable	Water	200.2	
MB 440-666888/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-666888/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
440-295271-A-1-B MS ^5	Matrix Spike	Total Recoverable	Water	200.2	
440-295271-A-1-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 666924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total Recoverable	Water	200.8	666888
MB 440-666888/1-A	Method Blank	Total Recoverable	Water	200.8	666888
LCS 440-666888/2-A	Lab Control Sample	Total Recoverable	Water	200.8	666888
440-295271-A-1-B MS ^5	Matrix Spike	Total Recoverable	Water	200.8	666888
440-295271-A-1-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	200.8	666888

General Chemistry

Analysis Batch: 204896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	SM 5540C	204906
MB 570-204906/5-A	Method Blank	Total/NA	Water	SM 5540C	204906
LCS 570-204906/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	204906
LCSD 570-204906/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	204906
570-80340-B-1-A MS	Matrix Spike	Total/NA	Water	SM 5540C	204906
570-80340-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5540C	204906

Prep Batch: 204906

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	SM 5540C	
MB 570-204906/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-204906/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-204906/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	
570-80340-B-1-A MS	Matrix Spike	Total/NA	Water	SM 5540C	
570-80340-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5540C	

Analysis Batch: 204933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	SM5210B	

General Chemistry (Continued)

Analysis Batch: 204933 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
SCB 570-204933/2	Method Blank	Total/NA	Water	SM5210B	
USB 570-204933/1	Method Blank	Total/NA	Water	SM5210B	
LCS 570-204933/3	Lab Control Sample	Total/NA	Water	SM5210B	
570-80408-1 DU	Outfall011_20211230_Comp	Total/NA	Water	SM5210B	

Analysis Batch: 208181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	SM 5310D	
MB 570-208181/35	Method Blank	Total/NA	Water	SM 5310D	
LCS 570-208181/67	Lab Control Sample	Total/NA	Water	SM 5310D	
LCSD 570-208181/68	Lab Control Sample Dup	Total/NA	Water	SM 5310D	
440-294124-B-1 MS	Matrix Spike	Total/NA	Water	SM 5310D	
440-294124-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310D	

Analysis Batch: 208759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	218.6 CR3	

Analysis Batch: 663692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	SM 2540C	
MB 440-663692/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-663692/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-293710-B-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 663834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	SM 2540D	
MB 440-663834/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-663834/2	Lab Control Sample	Total/NA	Water	SM 2540D	
570-80560-A-3 DU	Duplicate	Total/NA	Water	SM 2540D	

Prep Batch: 663989

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	Distill/CN	
MB 440-663989/1-A	Method Blank	Total/NA	Water	Distill/CN	
LCS 440-663989/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
570-80124-G-1-C MS	Matrix Spike	Total/NA	Water	Distill/CN	
570-80124-G-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	Distill/CN	

Analysis Batch: 664019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	SM 4500 CN E	663989
MB 440-663989/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	663989
LCS 440-663989/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	663989
570-80124-G-1-C MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	663989
570-80124-G-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	663989

Analysis Batch: 664022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	SM 4500 NH3 G	

General Chemistry (Continued)

Analysis Batch: 664022 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-664022/10	Method Blank	Total/NA	Water	SM 4500 NH3 G	
LCS 440-664022/11	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
MRL 440-664022/9	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
570-80545-H-1 MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 G	
570-80545-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 G	

Analysis Batch: 664889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	180.1	
MB 440-664889/6	Method Blank	Total/NA	Water	180.1	
MRL 440-664889/5	Lab Control Sample	Total/NA	Water	180.1	
570-80231-I-1 DU	Duplicate	Total/NA	Water	180.1	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Client Sample ID: Outfall011_20211230_Comp
Date Collected: 12/30/21 11:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80408-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		2	25 mL	25 mL	205613	01/05/22 18:59	AH8S	ECL 2
	Instrument ID: GCMSFFF									
Total/NA	Prep	625			828.7 mL	2 mL	205520	01/05/22 06:03	H1SH	ECL 1
Total/NA	Analysis	625.1 SIM		1			205774	01/05/22 18:53	ULLI	ECL 1
	Instrument ID: GCMSJJJ									
Total/NA	Prep	608			1500 mL	1 mL	205252	01/04/22 08:37	OAJ3	ECL 1
Total/NA	Analysis	608.3		1			205833	01/06/22 17:20	UJ3K	ECL 1
	Instrument ID: GC31									
Total/NA	Prep	608			1500 mL	1 mL	205252	01/04/22 08:37	OAJ3	ECL 1
Total/NA	Analysis	608.3		1			205595	01/05/22 20:56	UHHN	ECL 1
	Instrument ID: GC44									
Total/NA	Analysis	218.6		2			204701	12/30/21 21:36	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	300.0		2			204681	12/31/21 03:59	URMH	ECL 1
	Instrument ID: IC15									
Total/NA	Analysis	300.0		2	4 mL	1.0 mL	204682	12/31/21 03:59	URMH	ECL 1
	Instrument ID: IC15									
Total/NA	Analysis	314.0		1			205091	01/03/22 14:06	URMH	ECL 1
	Instrument ID: IC8									
Total/NA	Analysis	NO2NO3 Calc		1			205169	01/03/22 16:39	URMH	ECL 1
	Instrument ID: IC15									
Total Recoverable	Prep	200.2			25 mL	25 mL	664761	01/18/22 17:17		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			665013	01/20/22 12:46	K1UV	IRV 2
	Instrument ID: ICP10									
Total Recoverable	Prep	200.2			25 mL	25 mL	664761	01/18/22 17:17		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664862	01/19/22 12:44	P1R	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	666888	02/11/22 10:22		IRV 2
Total Recoverable	Analysis	200.8		1			666924	02/11/22 14:38	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Total/NA	Prep	245.1			50 mL	100 mL	207907	01/17/22 17:42	VWJ7	ECL 1
Total/NA	Analysis	245.1		1			208127	01/18/22 16:18	VWJ7	ECL 1
	Instrument ID: HG7									
Total Recoverable	Analysis	SM 2340B		1			663948	01/21/22 13:30	P1R	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	180.1		20			664889	01/19/22 18:30	W1BQ	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	218.6 CR3		1			208759	01/21/22 12:27	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	663692	01/05/22 10:09	VY3D	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540D		1	100 mL	1000 mL	663834	01/05/22 14:00	ZL7L	IRV 2
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Client Sample ID: Outfall011_20211230_Comp
Date Collected: 12/30/21 11:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80408-1
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	Distill/CN			50 mL	50 mL	663989	01/07/22 11:02	GG0B	IRV 2
Total/NA	Analysis	SM 4500 CN E		1			664019	01/07/22 15:13	GG0B	IRV 2
	Instrument ID: Genesys30-5									
Total/NA	Analysis	SM 4500 NH3 G		1	0.8 mL	8.0 mL	664022	01/07/22 13:12	GG0B	IRV 2
	Instrument ID: LACHAT01									
Total/NA	Analysis	SM 5310D		1	40 mL	40 mL	208181	01/18/22 15:33	CY2M	ECL 1
	Instrument ID: TOC12									
Total/NA	Prep	SM 5540C			100 mL	100 mL	204906	12/30/21 22:00	UAPD	ECL 1
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	204896	12/31/21 09:06	UAPD	ECL 1
	Instrument ID: UV9									
Total/NA	Analysis	SM5210B		1	80 mL	300 mL	204933		ZHU8	ECL 1
	Instrument ID: BOD2						(Start)	12/31/21 13:20		
							(End)	01/05/22 12:59		

Client Sample ID: Outfall011_20211230_Comp_F
Date Collected: 12/30/21 11:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80408-3
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			150 mL	150 mL	663928	01/06/22 15:10	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663949	01/06/22 17:20	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			664049	01/07/22 21:39	K1UV	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			150 mL	150 mL	663928	01/06/22 15:10	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663947	01/06/22 17:16	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664013	01/07/22 14:47	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	208358	01/19/22 17:49	UIAS	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	208361	01/19/22 17:58	VWJ7	ECL 4
Dissolved	Analysis	245.1		1			208671	01/20/22 20:13	VWJ7	ECL 1
	Instrument ID: HG7									
Dissolved	Analysis	SM 2340B		1			663736	01/11/22 17:20	P1R	IRV 2
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method	Method Description	Protocol	Laboratory
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	ECL 2
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	40CFR136A	ECL 1
608.3	Organochlorine Pesticides in Water	40CFR136A	ECL 1
608.3	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	ECL 1
218.6	Chromium, Hexavalent (Ion Chromatography)	EPA	ECL 1
300.0	Anions, Ion Chromatography	MCAWW	ECL 1
314.0	Perchlorate (IC)	EPA	ECL 1
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	ECL 1
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	ECL 1
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	IRV 2
180.1	Turbidity, Nephelometric	MCAWW	IRV 2
218.6 CR3	Chromium, Trivalent (Calculation)	EPA	ECL 1
SM 2540C	Solids, Total Dissolved (TDS)	SM	IRV 2
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 2
SM 4500 CN E	Cyanide, Total (Low Level)	SM	IRV 2
SM 4500 NH3 G	Ammonia	SM	IRV 2
SM 5310D	Organic Carbon, Total (TOC)	SM	ECL 1
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	ECL 1
SM5210B	BOD, 5 Day	SM	ECL 1
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	ECL 1
5030C	Purge and Trap	SW846	ECL 2
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	ECL 1
625	Liquid-Liquid Extraction	40CFR136A	ECL 1
Distill/CN	Distillation, Cyanide	None	IRV 2
Filtration	Sample Filtration	None	ECL 4
FILTRATION	Sample Filtration	None	IRV 2
SM 5540C	Preparation, Methylene Blue Active Substances (MBAS)	SM	ECL 1

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80408-1	Outfall011_20211230_Comp	Water	12/30/21 11:00	12/30/21 15:50
570-80408-3	Outfall011_20211230_Comp_F	Water	12/30/21 11:00	12/30/21 15:50

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80408 Chain of Custody

80408

Client Name/Address:
Haley & Aldrich
5333 Mission Center Rd Suite 300
San Diego, CA 92108

Eurofins Calscience Irvine Contact: Virendra Patel **ECI# 44024446**
17461 Derian Ave Suite #100
Irvine CA 92614
Tel 949-260-3218

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Sampler: Mark Dominick

Project:
Boeing-SSFL NPDES
Permit 2021
Annual Outfall [001, 002, 011, 018]
Outfall 011
Comp

Project Manager: Katherine Miller
520.289.8606, 520.904.6944 (cell)

Field Manager: Mark Dominick
978.234.5033, 818.599.0702 (cell)

ANALYSIS REQUIRED

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R/A: Total Recoverable Metals (E200.7): As, Ba, B, Be Co, Cr Fe, Mn Ni, V Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu Pb, Sb, Se Tl	R: TCDD (and all congeners) (E1613B)	R: BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	R: Surfactants (MBAS) (SM5540C/E425.1)	R/A: Cl- F- SO4, Nitrate-N, Nitrite-N NO3+NO2-N, Perchlorate (E300)	R: Turbidity TDS (SM2540C/E180.1)	R: TSS (160.2 (SM2540D))	R: Ammonia-N (E350.2)	A: Priority Pollutants-Pesticides+PCBs (E608)	A: Priority Pollutants-SVOCs (E625)	R: Total Recoverable Metals. Mercury (E245.1)	Comments
Outfall 011	Outfall011_20211230_Comp	12/30/2021 1100	WM	500 mL Poly	1	HNO_3	80	No	X										X	
			WM	1 L Glass Amber	2	None	110	No		X										
			WM	1 L Poly	1	None	115	No			X									
			WM	500 mL Poly	2	None	120	No				X								
			WM	500 mL Poly	2	None	125	No					X							48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X						48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X				
			WM	1 L Glass Amber	2	None	250	No									X			
			WM	1 L Glass Amber	2	None	175	No										X		
			WM	1 L Poly	1	None	185	No							X					
	Outfall011_20211230_Comp_Extra	12/30/2021 1100	WM	1 L Glass Amber	2	None	110	No		H										Hold
			WM	500 mL Poly	2	None	120	No				H								Hold
			WM	500 mL Poly	2	None	125	No					H							Hold
			WM	1 L Glass Amber	2	None	250	No									H			Hold
			WM	1 L Glass Amber	2	None	175	No										H		Hold

Legend. A=Annual, R=Routine

Relinquished By	Date/Time:	Company	Received By	Date/Time:
M Dominick	12-30-2021 1345	H&A	[signature]	ECI 12/30/21 1345
[signature]	12/30/21 1550		[signature]	12/30/21 1550

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__

2.6/3.5, 2.1/3.0, 2.0/2.9 SCS

2019-2020 Rainy Season
Version 5

80408

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 2021 Annual Outfall [001, 002, 011, 018] Outfall 011 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI# **44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Mark Dominick	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									R/A	R	R	R	A	A	A	A	R	QRSW	
									ANALYSIS REQUIRED										
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals. (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8) Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Comments
Outfall 011	Outfall011_20211230_Comp_F	12/30/2021	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG Bag to be opened in Mercury Prep using clean procedures.
	Outfall011_20211230_Comp	12/30/2021 1100 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~										X	Extract within 24-Hours of sampling at Weck Labs at QF001,002,011, or 018.
	Outfall011_20211230_Comp_Extra	12/30/2021 1100	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	2	None	255	No							H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	Turn-around time: (Check)
[signature]	12-30-2021/1345	H.A	[signature]	ECI 12/30/21 1345	24 Hour: ____ 72 Hour: ____ 10 Day: __X__
Relinquished By	Date/Time:	Company:	Received By	Date/Time:	48 Hour: ____ 5 Day: ____ Normal: ____
[signature]	12/30/21 1550		[signature]	12/30/21 1550	Sample Integrity: (Check)
Relinquished By	Date/Time:	Company:	Received By	Date/Time:	Intact: ____ On Ice: ____
					Store samples for 6 months.
					Data Requirements. (Check)
					No Level IV: ____ All Level IV: __X__

*Hand-delivered to ABC Labs by H.A

2/15/2022 (Rev. 2)

2019-2020 Rainy Season
Version 5

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-148778 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80408-3
Address: 13715 Rider Trail North	Due Date Requested: 1/28/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Comp	Project #: 44024446			
Site	SSOW#:			

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900 0/Evaporation Gross Alpha/Beta	906 0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11 00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	1/3/22 1321				
2						
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone. 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148812 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80408-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/14/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745	PO #:			
Phone:	WO #:			
Email:	Project #: ~~44024446~~ 570-80408			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Comp	SSOW#:			
Site:				

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note.
			Preservation Code:							
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11:00 Pacific		Water			X		1	Level IV needed
Outfall011_20211230_Comp_Extra (570-80408-2)	12/30/21	11 00 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/3/21 1532	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time.	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148833 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80408-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/18/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11 00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware
Outfall011_20211230_Comp_Extra (570-80408-2)	12/30/21	11 00 Pacific		Water				X	2	See QAS Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested. I II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/3/21 1730				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time.	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Eurofins Calscience Tustin
2841 Dow Avenue
Tustin CA 92780
Phone 949-261-1022 Fax 949-260-3297

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No 440-177693 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80408-1
Address: 7440 Lincoln Way, ,	Due Date Requested: 1/13/2022			
City: Garden Grove	TAT Requested (days):			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A HCL M Hexane
B - NaOH N None
C Zn Acetate O AsNaO2
D - Nitric Acid P Na2O4S
E NaHSO4 Q Na2SO3
F MeOH R Na2S2O3
G - Amchlor S H2SO4
H - Ascorbic Acid T TSP Dodecahydrate
I Ice U Acetone
J DI Water V MCAA
K EDTA W pH 4-5
L - EDA Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/ CL, SO4, F	300_ORGFMS/ Nitrate + Nitrite as N	NO2NO3_Calc_IC/ Nitrate-Nitrite as N	314.0/ Perchlorate	608.3_PCB_LL/608_Prep_PCB_LL PCBs	608.3_Pest_LL/608_Prep_LL Pesticides	625.1_SIM/625_Prep Priority pollutant list	8260B_SIM/5030C (MOD) 1,4-Dioxane only	218.6_CR3/ Trivalent Chromium	218.6_ORGFM/ Chromium, Hexavalent	SM5210B_BODCalc/ Biological Oxygen Demand - 5 Day	5540C/5540C_Prep Methylene Blue Active Substances (MBAS)	SM5310D/ Total Organic Carbon	Total Number of containers	Special Instructions/Note
			Preservation Code:																		
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11 00 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/17/22	ECT		1/17/22 1446	ECT
2		1/17/22 1427	ECT		1-17-2022 14:27	ECT
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.
Δ Yes Δ No		3.1/4.6 SC 6

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148851 1
Client Contact: Shipping/Receiving	Phone	E Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80408-1
Address: 2841 Dow Avenue,	Due Date Requested: 1/12/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Comp	Project #: 44024446			
Site	SSOW#:			

Preservation Codes

A HCL	M - Hexane
B NaOH	N - None
C Zn Acetate	O AsNaO2
D Nitric Acid	P Na2O4S
E NaHSO4	Q Na2SO3
F MeOH	R Na2S2O3
G Amchlor	S - H2SO4
H Ascorbic Acid	T TSP Dodecahydrate
I Ice	U Acetone
J DI Water	V MCAA
K EDTA	W - pH 4-5
L EDA	Z other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200 7/200 2 200.7 Outfall 001/002/011 Totals List	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	245.1/245.1_Prep Mercury	180.1/ Turbidity	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	4500_CN_E_LL/Distill_CN	SM5310B/ Organic Carbon, Total (TOC)	200.7/FILTRATION 200.7 Outfall 001/002/011 Diss List	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	245.1/FILTRATION Diss Mercury	Total Number of containers	Special Instructions/Note.
			Preservation Code:																		
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11 00 Pacific		Water			X	X	X	X	X	X	X	X	X	X				6	use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall011_20211230_Comp_F (570-80408-3)	12/30/21	11 00 Pacific		Water													X	X	X	3	Filter w/in 24 hours, Filter within 24 hours, use VOA vials from LL Hg Kit-Clean Hands

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment.

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	[signature]	01/04/22 1725	ECS			
	Relinquished by	Date/Time	Company	Received by: Olga Oinelas	01/04/22 1725	ECT
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks. 2-9/2-4 IR-90

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148851 2
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80408-1
Address: 2841 Dow Avenue,	Due Date Requested: 1/12/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A HCL	M Hexane
B NaOH	N None
C Zn Acetate	O AsNaO2
D Nitric Acid	P - Na2O4S
E NaHSO4	Q Na2SO3
F MeOH	R - Na2S2O3
G Amchlor	S H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I Ice	U Acetone
J DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2340B/Filtration_AC Diss hardness	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11 00 Pacific		Water				6	use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall011_20211230_Comp_F (570-80408-3)	12/30/21	11 00 Pacific		Water			X	3	Filter w/in 24 hours, Filter within 24 hours, use VOA vials from LL Hg Kit-Clean Hands

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	01/04/22 17X	EC			
2	Relinquished by	Date/Time	Company	Received by: Olga Oneles	01/04/22 1725	ECT
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80408-1

Login Number: 80408
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: 570-80408-1

Login Number: 80408
List Number: 4
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 01/04/22 06:15 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80408-2
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/28/2022 4:33:51 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Client Sample Results 6
Surrogate Summary 8
Isotope Dilution Summary 9
QC Sample Results 11
QC Association Summary 15
Lab Chronicle 16
Certification Summary 17
Method Summary 18
Sample Summary 19
Chain of Custody 20
Receipt Checklists 27

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80408-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80408-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80408-2

Comments
No additional comments.

Receipt
The samples were received on 12/30/2021 3:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.9º C, 3.0º C and 3.5º C.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: (CCV 320-559680/2) and (MB 320-556933/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000034	J,DX MB q	0.000051	0.00000080	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000036	J,DX MB	0.000051	0.00000083	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000042	J,DX MB q	0.000051	0.00000079	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000078	MB	0.000051	0.0000015	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000023	J,DX MB	0.000051	0.0000014	ug/L	1		1613B	Total/NA
OCDD	0.00045	MB	0.00010	0.0000041	ug/L	1		1613B	Total/NA
OCDF	0.000046	J,DX MB	0.00010	0.0000035	ug/L	1		1613B	Total/NA
Total HxCDD	0.000022	J,DX MB q	0.000051	0.00000079	ug/L	1		1613B	Total/NA
Total HxCDF	0.000013	J,DX MB q	0.000051	0.00000078	ug/L	1		1613B	Total/NA
Total HpCDD	0.00015	MB	0.000051	0.0000015	ug/L	1		1613B	Total/NA
Total HpCDF	0.000045	J,DX MB	0.000051	0.0000014	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1
Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000022	ug/L		01/10/22 05:25	01/18/22 00:50	1
2,3,7,8-TCDF	ND		0.000010	0.0000010	ug/L		01/10/22 05:25	01/18/22 00:50	1
1,2,3,7,8-PeCDD	ND		0.000051	0.0000017	ug/L		01/10/22 05:25	01/18/22 00:50	1
1,2,3,7,8-PeCDF	ND		0.000051	0.0000011	ug/L		01/10/22 05:25	01/18/22 00:50	1
2,3,4,7,8-PeCDF	ND		0.000051	0.0000012	ug/L		01/10/22 05:25	01/18/22 00:50	1
1,2,3,4,7,8-HxCDD	**0.0000034**	**J,DX MB q**	0.000051	0.00000080	ug/L		01/10/22 05:25	01/18/22 00:50	1
1,2,3,6,7,8-HxCDD	**0.0000036**	**J,DX MB**	0.000051	0.00000083	ug/L		01/10/22 05:25	01/18/22 00:50	1
1,2,3,7,8,9-HxCDD	**0.0000042**	**J,DX MB q**	0.000051	0.00000079	ug/L		01/10/22 05:25	01/18/22 00:50	1
1,2,3,4,7,8-HxCDF	ND		0.000051	0.00000088	ug/L		01/10/22 05:25	01/18/22 00:50	1
1,2,3,6,7,8-HxCDF	ND		0.000051	0.00000088	ug/L		01/10/22 05:25	01/18/22 00:50	1
1,2,3,7,8,9-HxCDF	ND		0.000051	0.00000087	ug/L		01/10/22 05:25	01/18/22 00:50	1
2,3,4,6,7,8-HxCDF	ND		0.000051	0.00000078	ug/L		01/10/22 05:25	01/18/22 00:50	1
1,2,3,4,6,7,8-HpCDD	**0.000078**	**MB**	0.000051	0.0000015	ug/L		01/10/22 05:25	01/18/22 00:50	1
1,2,3,4,6,7,8-HpCDF	**0.000023**	**J,DX MB**	0.000051	0.0000014	ug/L		01/10/22 05:25	01/18/22 00:50	1
1,2,3,4,7,8,9-HpCDF	ND		0.000051	0.0000015	ug/L		01/10/22 05:25	01/18/22 00:50	1
OCDD	**0.00045**	**MB**	0.00010	0.0000041	ug/L		01/10/22 05:25	01/18/22 00:50	1
OCDF	**0.000046**	**J,DX MB**	0.00010	0.0000035	ug/L		01/10/22 05:25	01/18/22 00:50	1
Total TCDD	ND		0.000010	0.0000022	ug/L		01/10/22 05:25	01/18/22 00:50	1
Total TCDF	ND		0.000010	0.0000010	ug/L		01/10/22 05:25	01/18/22 00:50	1
Total PeCDD	ND		0.000051	0.0000017	ug/L		01/10/22 05:25	01/18/22 00:50	1
Total PeCDF	ND		0.000051	0.0000011	ug/L		01/10/22 05:25	01/18/22 00:50	1
Total HxCDD	**0.000022**	**J,DX MB q**	0.000051	0.00000079	ug/L		01/10/22 05:25	01/18/22 00:50	1
Total HxCDF	**0.000013**	**J,DX MB q**	0.000051	0.00000078	ug/L		01/10/22 05:25	01/18/22 00:50	1
Total HpCDD	**0.00015**	**MB**	0.000051	0.0000015	ug/L		01/10/22 05:25	01/18/22 00:50	1
Total HpCDF	**0.000045**	**J,DX MB**	0.000051	0.0000014	ug/L		01/10/22 05:25	01/18/22 00:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*72*		*25 - 164*	*01/10/22 05:25*	*01/18/22 00:50*	*1*
13C-2,3,7,8-TCDF	*67*		*24 - 169*	*01/10/22 05:25*	*01/18/22 00:50*	*1*
13C-1,2,3,7,8-PeCDD	*65*		*25 - 181*	*01/10/22 05:25*	*01/18/22 00:50*	*1*
13C-1,2,3,7,8-PeCDF	*64*		*24 - 185*	*01/10/22 05:25*	*01/18/22 00:50*	*1*
13C-2,3,4,7,8-PeCDF	*71*		*21 - 178*	*01/10/22 05:25*	*01/18/22 00:50*	*1*
13C-1,2,3,4,7,8-HxCDD	*70*		*32 - 141*	*01/10/22 05:25*	*01/18/22 00:50*	*1*
13C-1,2,3,6,7,8-HxCDD	*74*		*28 - 130*	*01/10/22 05:25*	*01/18/22 00:50*	*1*
13C-1,2,3,4,7,8-HxCDF	*72*		*26 - 152*	*01/10/22 05:25*	*01/18/22 00:50*	*1*
13C-1,2,3,6,7,8-HxCDF	*70*		*26 - 123*	*01/10/22 05:25*	*01/18/22 00:50*	*1*
13C-1,2,3,7,8,9-HxCDF	*62*		*29 - 147*	*01/10/22 05:25*	*01/18/22 00:50*	*1*
13C-2,3,4,6,7,8-HxCDF	*68*		*28 - 136*	*01/10/22 05:25*	*01/18/22 00:50*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*69*		*23 - 140*	*01/10/22 05:25*	*01/18/22 00:50*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*73*		*28 - 143*	*01/10/22 05:25*	*01/18/22 00:50*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*73*		*26 - 138*	*01/10/22 05:25*	*01/18/22 00:50*	*1*
13C-OCDD	*63*		*17 - 157*	*01/10/22 05:25*	*01/18/22 00:50*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	81		35 - 197	01/10/22 05:25	01/18/22 00:50	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-80408-1	Outfall011_20211230_Comp	81
MB 320-556933/1-A	Method Blank	89
MB 320-556933/1-A - RA	Method Blank	95

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-556933/2-A	Lab Control Sample	82
LCSD 320-556933/3-A	Lab Control Sample Dup	87

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-80408-1	Outfall011_20211230_Comp	72	67	65	64	71	70	74	72
MB 320-556933/1-A	Method Blank	79	80	73	72	83	80	78	78
MB 320-556933/1-A - RA	Method Blank		111						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-80408-1	Outfall011_20211230_Comp	70	62	68	69	73	73	63
MB 320-556933/1-A	Method Blank	76	69	72	75	78	82	74
MB 320-556933/1-A - RA	Method Blank							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-556933/2-A	Lab Control Sample	73	72	65	64	75	69	68	69
LCSD 320-556933/3-A	Lab Control Sample Dup	76	75	68	67	76	71	73	70

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-556933/2-A	Lab Control Sample	64	61	63	63	65	70	64
LCSD 320-556933/3-A	Lab Control Sample Dup	68	60	65	63	67	70	61

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-556933/1-A
Matrix: Water
Analysis Batch: 558766

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556933

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000016	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,7,8-PeCDD	0.00000467	J,DX	0.000050	0.0000014	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,7,8-PeCDF	0.00000401	J,DX	0.000050	0.00000089	ug/L		01/10/22 05:25	01/17/22 19:15	1
2,3,4,7,8-PeCDF	0.00000412	J,DX	0.000050	0.00000090	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,7,8-HxCDD	0.00000550	J,DX q	0.000050	0.00000077	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,6,7,8-HxCDD	0.00000657	J,DX	0.000050	0.00000074	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,7,8,9-HxCDD	0.00000690	J,DX q	0.000050	0.00000073	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,7,8-HxCDF	0.00000382	J,DX q	0.000050	0.00000070	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,6,7,8-HxCDF	0.00000445	J,DX q	0.000050	0.00000072	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,7,8,9-HxCDF	0.00000579	J,DX	0.000050	0.00000067	ug/L		01/10/22 05:25	01/17/22 19:15	1
2,3,4,6,7,8-HxCDF	0.00000499	J,DX	0.000050	0.00000063	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,6,7,8-HpCDD	0.00000880	J,DX	0.000050	0.00000059	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,6,7,8-HpCDF	0.00000623	J,DX	0.000050	0.00000059	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,7,8,9-HpCDF	0.00000709	J,DX	0.000050	0.00000064	ug/L		01/10/22 05:25	01/17/22 19:15	1
OCDD	0.0000172	J,DX	0.00010	0.0000010	ug/L		01/10/22 05:25	01/17/22 19:15	1
OCDF	0.0000123	J,DX	0.00010	0.0000015	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total TCDD	0.00000271	J,DX q	0.000010	0.0000016	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total TCDF	0.00000188	J,DX q	0.000010	0.00000085	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total PeCDD	0.00000467	J,DX	0.000050	0.0000014	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total PeCDF	0.00000813	J,DX	0.000050	0.00000089	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total HxCDD	0.0000190	J,DX q	0.000050	0.00000073	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total HxCDF	0.0000205	J,DX q	0.000050	0.00000063	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total HpCDD	0.0000127	J,DX	0.000050	0.00000059	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total HpCDF	0.0000133	J,DX	0.000050	0.00000059	ug/L		01/10/22 05:25	01/17/22 19:15	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*79*		*25 - 164*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-2,3,7,8-TCDF	*80*		*24 - 169*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,7,8-PeCDD	*73*		*25 - 181*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,7,8-PeCDF	*72*		*24 - 185*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-2,3,4,7,8-PeCDF	*83*		*21 - 178*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,4,7,8-HxCDD	*80*		*32 - 141*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,6,7,8-HxCDD	*78*		*28 - 130*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,4,7,8-HxCDF	*78*		*26 - 152*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,6,7,8-HxCDF	*76*		*26 - 123*	*01/10/22 05:25*	*01/17/22 19:15*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-556933/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 558766 **Prep Batch: 556933**

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8,9-HxCDF	69		29 - 147	01/10/22 05:25	01/17/22 19:15	1
13C-2,3,4,6,7,8-HxCDF	72		28 - 136	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,4,6,7,8-HpCDD	75		23 - 140	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,4,6,7,8-HpCDF	78		28 - 143	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,4,7,8,9-HpCDF	82		26 - 138	01/10/22 05:25	01/17/22 19:15	1
13C-OCDD	74		17 - 157	01/10/22 05:25	01/17/22 19:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	89		35 - 197	01/10/22 05:25	01/17/22 19:15	1

Lab Sample ID: LCS 320-556933/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 558766 **Prep Batch: 556933**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000206		ug/L		103	67 - 158
2,3,7,8-TCDF	0.000200	0.000210	MB	ug/L		105	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.00114	MB	ug/L		114	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.00113	MB	ug/L		113	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.00103	MB	ug/L		103	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000989	MB	ug/L		99	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.00107	MB	ug/L		107	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.00105	MB	ug/L		105	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000988	MB	ug/L		99	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.00111	MB	ug/L		111	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.00107	MB	ug/L		107	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.00112	MB	ug/L		112	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.00109	MB	ug/L		109	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.00105	MB	ug/L		105	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000972	MB	ug/L		97	78 - 138
OCDD	0.00200	0.00199	MB	ug/L		99	78 - 144
OCDF	0.00200	0.00204	MB	ug/L		102	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	73		20 - 175
13C-2,3,7,8-TCDF	72		22 - 152
13C-1,2,3,7,8-PeCDD	65		21 - 227
13C-1,2,3,7,8-PeCDF	64		21 - 192
13C-2,3,4,7,8-PeCDF	75		13 - 328
13C-1,2,3,4,7,8-HxCDD	69		21 - 193
13C-1,2,3,6,7,8-HxCDD	68		25 - 163
13C-1,2,3,4,7,8-HxCDF	69		19 - 202
13C-1,2,3,6,7,8-HxCDF	64		21 - 159
13C-1,2,3,7,8,9-HxCDF	61		17 - 205
13C-2,3,4,6,7,8-HxCDF	63		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	63		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	65		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	70		20 - 186

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-556933/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 558766 **Prep Batch: 556933**

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-OCDD	64		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	82		31 - 191

Lab Sample ID: LCSD 320-556933/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 558766 **Prep Batch: 556933**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000197		ug/L		98	67 - 158	5	50
2,3,7,8-TCDF			0.000200	0.000209	MB	ug/L		104	75 - 158	1	50
1,2,3,7,8-PeCDD			0.00100	0.00112	MB	ug/L		112	70 - 142	2	50
1,2,3,7,8-PeCDF			0.00100	0.00113	MB	ug/L		113	80 - 134	0	50
2,3,4,7,8-PeCDF			0.00100	0.00103	MB	ug/L		103	68 - 160	0	50
1,2,3,4,7,8-HxCDD			0.00100	0.00102	MB	ug/L		102	70 - 164	3	50
1,2,3,6,7,8-HxCDD			0.00100	0.00104	MB	ug/L		104	76 - 134	3	50
1,2,3,7,8,9-HxCDD			0.00100	0.00102	MB	ug/L		102	64 - 162	3	50
1,2,3,4,7,8-HxCDF			0.00100	0.00101	MB	ug/L		101	72 - 134	2	50
1,2,3,6,7,8-HxCDF			0.00100	0.00108	MB	ug/L		108	84 - 130	2	50
1,2,3,7,8,9-HxCDF			0.00100	0.00112	MB	ug/L		112	78 - 130	5	50
2,3,4,6,7,8-HxCDF			0.00100	0.00110	MB	ug/L		110	70 - 156	2	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.00110	MB	ug/L		110	70 - 140	1	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.00106	MB	ug/L		106	82 - 122	1	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000988	MB	ug/L		99	78 - 138	2	50
OCDD			0.00200	0.00204	MB	ug/L		102	78 - 144	3	50
OCDF			0.00200	0.00207	MB	ug/L		104	63 - 170	2	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	76		20 - 175
13C-2,3,7,8-TCDF	75		22 - 152
13C-1,2,3,7,8-PeCDD	68		21 - 227
13C-1,2,3,7,8-PeCDF	67		21 - 192
13C-2,3,4,7,8-PeCDF	76		13 - 328
13C-1,2,3,4,7,8-HxCDD	71		21 - 193
13C-1,2,3,6,7,8-HxCDD	73		25 - 163
13C-1,2,3,4,7,8-HxCDF	70		19 - 202
13C-1,2,3,6,7,8-HxCDF	68		21 - 159
13C-1,2,3,7,8,9-HxCDF	60		17 - 205
13C-2,3,4,6,7,8-HxCDF	65		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	63		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	67		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	70		20 - 186
13C-OCDD	61		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	87		31 - 191

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-556933/1-A
Matrix: Water
Analysis Batch: 559680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556933

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	ND		0.000010	0.0000054	ug/L		01/10/22 05:25	01/21/22 13:35	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF - RA	*111*		*24 - 169*	*01/10/22 05:25*	*01/21/22 13:35*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD - RA	*95*		*35 - 197*	*01/10/22 05:25*	*01/21/22 13:35*	*1*

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Specialty Organics

Prep Batch: 556933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	1613B	
MB 320-556933/1-A - RA	Method Blank	Total/NA	Water	1613B	
MB 320-556933/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-556933/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-556933/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 558766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	1613B	556933
MB 320-556933/1-A	Method Blank	Total/NA	Water	1613B	556933
LCS 320-556933/2-A	Lab Control Sample	Total/NA	Water	1613B	556933
LCSD 320-556933/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	556933

Analysis Batch: 559680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-556933/1-A - RA	Method Blank	Total/NA	Water	1613B	556933

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1

Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			974.6 mL	20.0 uL	556933	01/10/22 05:25	FC	TAL SAC
Total/NA	Analysis	1613B		1			558766	01/18/22 00:50	GRB	TAL SAC
	Instrument ID: DFS 1									

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-29-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Kansas	NELAP	E-10375	10-31-21 *
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-23
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-21 *
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80408-1	Outfall011_20211230_Comp	Water	12/30/21 11:00	12/30/21 15:50

80408

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80408 Chain of Custody

									R/A	R	R	R	R/A	R	R	R	A	A	R					
Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108								Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 011 Comp	ANALYSIS REQUIRED															
Eurofins Calscience Irvine Contact: Virendra Patel **ECI# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218									Total Recoverable Metals. (E200.7): As, Ba, B, Be Co, Cr Fe, Mn Ni, V Zn Hardness as CaCO3 (E200.8) Ag, Cd, Cu Pb, Sb, Se Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- F- SO4, Nitrate-N, Nitrite-N NO3+NO2-N, Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals. Mercury (E245.1)				Comments
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.								Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)																
Sampler: Mark Dominick								Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)																
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD																
Outfall 011	OutfallD11_20211230_Comp	12/30/2021 1100	WM	500 mL Poly	1	HNO_3	80	No	X										X					
			WM	1 L Glass Amber	2	None	110	No		X														
			WM	1 L Poly	1	None	115	No			X													
			WM	500 mL Poly	2	None	120	No				X												
			WM	500 mL Poly	2	None	125	No					X											48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X										48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X								
			WM	1 L Glass Amber	2	None	250	No										X						
			WM	1 L Glass Amber	2	None	175	No											X					
			WM	1 L Poly	1	None	185	No							X									
	Outfall011_20211230_Comp_Extra	12/30/2021 1100	WM	1 L Glass Amber	2	None	110	No		H														Hold
			WM	500 mL Poly	2	None	120	No				H												Hold
			WM	500 mL Poly	2	None	125	No					H											Hold
			WM	1 L Glass Amber	2	None	250	No										H						Hold
			WM	1 L Glass Amber	2	None	175	No											H					Hold

Legend. A=Annual, R=Routine

Relinquished By	Date/Time:	Company	Received By	Date/Time:
Mark Dominick	12-30-2021 1345	H&A	[illegible]	ECI 12/30/21 1345
[illegible]	12/30/21 1550		Virendra Patel	12/30/21 1550

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|3 5, 2.1|3 0, 2.0|2.9 SCS

1/28/2022

2019-2020 Rainy Season
Version 5

80408

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 2021 Annual Outfall [001, 002, 011, 018] Outfall 011 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI# **44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Mark Dominick	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									R/A	R	R	R	A	A	A	A	R	QRSW	
									ANALYSIS REQUIRED										
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals. (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8) Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Comments
Outfall 011	Outfall011_20211230_Comp_F	12/30/2021	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG Bag to be opened in Mercury Prep using clean procedures.
	Outfall011_20211230_Comp	12/30/2021 1100 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~										X	Extract within 24-Hours of sampling at Weck Labs at OF001,002,011, or 018.
	Outfall011_20211230_Comp_Extra	12/30/2021 1100	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	2	None	255	No							H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By: Mark Dominick	Date/Time: 12-30-2021/1345	Company: H.A	Received By: EC1	Date/Time: 12/30/21 1345
Relinquished By:	Date/Time: 12/30/21 1550	Company:	Received By:	Date/Time: 12/30/21 1550
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV: _____ All Level IV: __X__

*Hand-delivered to ABC Labs by H.A

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-148778 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80408-3
Address: 13715 Rider Trail North	Due Date Requested: 1/28/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900 0/Evaporation Gross Alpha/Beta	906 0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137							Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11 00 Pacific		Water			X	X	X	X	X	X	X							2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		1/3/22 1321				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone. 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148812 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80408-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/14/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Comp	Project #: ~~44024446~~ 570-80408			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note.
			Preservation Code:							
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11:00 Pacific		Water			X		1	Level IV needed
Outfall011_20211230_Comp_Extra (570-80408-2)	12/30/21	11:00 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	1/3/21 1532				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time.	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148833 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80408-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/18/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11 00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware
Outfall011_20211230_Comp_Extra (570-80408-2)	12/30/21	11 00 Pacific		Water				X	2	See QAS Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested. I II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time: 1/3/21 1730	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 Tustin
2841 Dow Avenue
Tustin CA 92780
Phone 949-261-1022 Fax 949-260-3297

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No 440-177693 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin California	Page Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note) State Program - California		Job # 570-80408-1
Address 7440 Lincoln Way, ,	Due Date Requested 1/13/2022			
City: Garden Grove	TAT Requested (days):			
State, Zip. CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name Boeing NPDES SSFL Outfall - Outfall 011 Comp	Project #: 44024446			
Site:	SSOW#:			

Preservation Codes

A HCL	M Hexane
B - NaOH	N None
C Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E NaHSO4	Q Na2SO3
F MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I Ice	U Acetone
J DI Water	V MCAA
K EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/ CL, SO4, F	300_ORGFMS/ Nitrate + Nitrite as N	NO2NO3_Calc_IC/ Nitrate-Nitrite as N	314.0/ Perchlorate	608.3_PCB_LL/608_Prep_PCB_LL PCBs	608.3_Pest_LL/608_Prep_LL Pesticides	625.1_SIM/625_Prep Priority pollutant list	8260B_SIM/5030C (MOD) 1,4-Dioxane only	218.6_CR3/ Trivalent Chromium	218.6_ORGFM/ Chromium, Hexavalent	SM5210B_BODCalc/ Biological Oxygen Demand - 5 Day	5540C/5540C_Prep Methylene Blue Active Substances (MBAS)	SM5310D/ Total Organic Carbon	Total Number of containers	Special Instructions/Note
			Preservation Code:																		
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11 00 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Level 1 radioactive	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment.

	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by:	1/17/22	ECT		1/17/22 1446	ECT
Relinquished by:	1/17/22 1427	ECL		1-17-2022 14:27	ECL
Relinquished by:	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.
		3.1/4.6 SC 6

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148833.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80408-2
Address: 880 Riverside Parkway,	Due Date Requested: 1/18/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11:00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.
Outfall011_20211230_Comp_Extra (570-80408-2)	12/30/21	11:00 Pacific		Water				X	2	See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/3/21 1730			1/4/22 1200	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 1.9c

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80408-2

Login Number: 80408
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: 570-80408-2

Login Number: 80408
List Number: 3
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 01/04/22 03:42 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.9c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80408-3
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/2/2022 6:29:13 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 7
Client Sample Results 8
Tracer Carrier Summary 15
QC Sample Results 16
QC Association Summary 21
Lab Chronicle 22
Certification Summary 23
Method Summary 24
Sample Summary 25
Chain of Custody 26
Receipt Checklists 32

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80408-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 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: 570-80408-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80408-3

Comments
No additional comments.

Receipt
The samples were received on 12/30/2021 3:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.9º C, 3.0º C and 3.5º C.

RAD
Method 900.0: Gross alpha beta batch 545615
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall011_20211230_Comp (570-80408-1), (LCS 160-545615/2-A), (LCSB 160-545615/3-A), (MB 160-545615/1-A), (160-44379-A-1-C), (160-44379-A-1-F DU), (160-44379-A-1-D MS) and (160-44379-A-1-E MSBT)

Method 901.1: Gamma Prep Batch 160-545178
Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall011_20211230_Comp (570-80408-1) and (570-80408-X-1-C DU)

Job ID: 570-80408-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Method 903.0: Radium 226 batch 545606
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall011_20211230_Comp (570-80408-1), (LCS 160-545606/1-A), (LCSD 160-545606/2-A) and (MB 160-545606/15-A)

Method 904.0: Radium 228 batch 545613
The detection goal was not met. Sample was prepped at a reduced aliquot due to the presence of matrix interferences: Outfall011_20211230_Comp (570-80408-1). Analytical results are reported with the detection limit achieved.

Method 904.0: Radium 228 batch 545613
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall011_20211230_Comp (570-80408-1), (LCS 160-545613/1-A), (LCSD 160-545613/2-A) and (MB 160-545613/15-A)

Methods 904.0, 905: Radium 228 batch 545613
The method blank (MB) has activity above the MDC and RL. The following associated samples are below the reporting limit for the contaminant, therefore, re-analysis is not required. The data have been reported.

Outfall011_20211230_Comp (570-80408-1) and (MB 160-545613/15-A)

Method 905: Strontium 90 batch 546021
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall011_20211230_Comp (570-80408-1), (LCS 160-546021/1-A), (LCSD 160-546021/2-A) and (MB 160-546021/18-A)

Method 906.0: Tritium in liquid batch 160-544885
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
Outfall011_20211230_Comp (570-80408-1), (LCS 160-544885/2-A), (MB 160-544885/1-A), (570-80272-X-1-A), (570-80272-X-1-B DU), (570-80274-V-3-A) and (570-80274-V-3-B MS)

Methods A-01-R, U-02-RC: Isotopic Uranium Batch 160-544910:

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: 570-80408-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Outfall011_20211230_Comp (570-80408-1), (LCS 160-544910/2-A), (MB 160-544910/1-A), (570-80241-R-1-I) and (570-80241-R-1-J DU)

Method ExtChrom: Uranium Prep Batch 160-544910

The following sample was prepared at a reduced aliquot due to a discolored matrix and heavy sediment levels: Outfall011_20211230_Comp (570-80408-1).

Method LSC_Dist_Susp: Tritium Prep Batch 544885:

The following sample had an unclear matrix: Outfall011_20211230_Comp (570-80408-1). The sample was orange-tan in color and slightly cloudy.

Method PrecSep_0: Radium-228 Prep Batch 160-545613

The following samples were prepared at a reduced aliquot due to Matrix: Outfall011_20211230_Comp (570-80408-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-545606

The following samples were prepared at a reduced aliquot due to Matrix: Outfall011_20211230_Comp (570-80408-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-546021

The following samples were prepared at a reduced aliquot due to Matrix: Outfall011_20211230_Comp (570-80408-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1
Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	5.56		1.85	1.95	3.00	2.23	pCi/L	01/10/22 10:48	01/12/22 09:56	1
Gross Beta	4.75		0.965	1.08	4.00	1.08	pCi/L	01/10/22 10:48	01/12/22 09:56	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall011_20211230_Comp
Date Collected: 12/30/21 11:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80408-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-0.565	U	11.8	11.8	20.0	15.0	pCi/L	01/06/22 18:46	01/23/22 21:21	1
Potassium-40	-75.2	U	166	166		217	pCi/L	01/06/22 18:46	01/23/22 21:21	1

Method: 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall011_20211230_Comp
Date Collected: 12/30/21 11:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80408-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.253	U	0.189	0.190	1.00	0.276	pCi/L	01/10/22 09:32	02/01/22 08:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.0*		*40 - 110*	*01/10/22 09:32*	*02/01/22 08:05*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall011_20211230_Comp
Date Collected: 12/30/21 11:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80408-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.179	U G	0.764	0.764	1.00	1.33	pCi/L	01/10/22 10:30	01/20/22 13:13	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.0*		*40 - 110*	*01/10/22 10:30*	*01/20/22 13:13*	*1*
Y Carrier	*81.1*		*40 - 110*	*01/10/22 10:30*	*01/20/22 13:13*	*1*

Method: 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall011_20211230_Comp **Lab Sample ID: 570-80408-1**
Date Collected: 12/30/21 11:00 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.438	U	0.392	0.394	3.00	0.629	pCi/L	01/12/22 12:11	01/24/22 16:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*83.1*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:52*	*1*
Y Carrier	*92.7*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:52*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1
Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	243	U	214	215	500	342	pCi/L	01/05/22 09:41	01/06/22 11:30	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall011_20211230_Comp
Date Collected: 12/30/21 11:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80408-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.536		0.410	0.411	1.00	0.401	pCi/L	01/05/22 12:22	01/11/22 19:28	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*98.9*		*30 - 110*	*01/05/22 12:22*	*01/11/22 19:28*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
570-80408-1	Outfall011_20211230_Comp	74.0
LCS 160-545606/1-A	Lab Control Sample	97.0
LCSD 160-545606/2-A	Lab Control Sample Dup	93.7
MB 160-545606/15-A	Method Blank	98.7

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80408-1	Outfall011_20211230_Comp	74.0	81.1
LCS 160-545613/1-A	Lab Control Sample	97.0	82.6
LCSD 160-545613/2-A	Lab Control Sample Dup	93.7	78.9
MB 160-545613/15-A	Method Blank	98.7	78.1

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Sr	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80408-1	Outfall011_20211230_Comp	83.1	92.7
LCS 160-546021/1-A	Lab Control Sample	88.0	86.7
LCSD 160-546021/2-A	Lab Control Sample Dup	69.5	81.1
MB 160-546021/18-A	Method Blank	81.5	91.2

Tracer/Carrier Legend

Sr = Sr Carrier
Y = Y Carrier

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		U-232
Lab Sample ID	Client Sample ID	(30-110)
570-80241-R-1-J DU	Duplicate	90.1
570-80408-1	Outfall011_20211230_Comp	98.9
LCS 160-544910/2-A	Lab Control Sample	84.2
MB 160-544910/1-A	Method Blank	84.8

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-545615/1-A
Matrix: Water
Analysis Batch: 546017

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545615

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.7356	U	0.655	0.661	3.00	1.01	pCi/L	01/10/22 10:48	01/12/22 08:34	1
Gross Beta	-0.1274	U	0.486	0.486	4.00	0.876	pCi/L	01/10/22 10:48	01/12/22 08:34	1

Lab Sample ID: LCS 160-545615/2-A
Matrix: Water
Analysis Batch: 546017

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545615

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	59.38		8.42	3.00	2.04	pCi/L	117	75 - 125

Lab Sample ID: LCSB 160-545615/3-A
Matrix: Water
Analysis Batch: 546017

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545615

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.6	73.21		7.85	4.00	1.01	pCi/L	97	75 - 125

Lab Sample ID: 160-44379-A-1-D MS
Matrix: Water
Analysis Batch: 546017

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 545615

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	0.721	U G	50.6	39.76		6.98	3.00	3.21	pCi/L	77	60 - 140

Lab Sample ID: 160-44379-A-1-E MSBT
Matrix: Water
Analysis Batch: 546017

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 545615

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	3.15		75.6	78.76		8.42	4.00	0.883	pCi/L	100	60 - 140

Lab Sample ID: 160-44379-A-1-F DU
Matrix: Water
Analysis Batch: 546017

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 545615

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	0.721	U G	0.7489	U	1.46	3.00	2.59	pCi/L	0.01	1
Gross Beta	3.15		1.946		0.678	4.00	0.818	pCi/L	0.79	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-545178/1-A
Matrix: Water
Analysis Batch: 547775

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545178

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-1.605	U	10.0	10.0	20.0	12.1	pCi/L	01/06/22 18:46	01/23/22 21:39	1
Potassium-40	81.81		47.2	48.2		50.2	pCi/L	01/06/22 18:46	01/23/22 21:39	1

Lab Sample ID: LCS 160-545178/2-A
Matrix: Water
Analysis Batch: 547774

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545178

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium-241	135000	139000		16500		413	pCi/L	103	75 - 125
Cesium-137	42000	43410		5170	20.0	95.2	pCi/L	103	75 - 125

Lab Sample ID: 570-80408-1 DU
Matrix: Water
Analysis Batch: 547788

Client Sample ID: Outfall011_20211230_Comp
Prep Type: Total/NA
Prep Batch: 545178

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Cesium-137	-0.565	U	0.8025	U	9.95	20.0	12.1	pCi/L	0.06	1
Potassium-40	-75.2	U	68.17		43.9		50.2	pCi/L	0.68	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-545606/15-A
Matrix: Water
Analysis Batch: 549015

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545606

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.09421	U	0.134	0.134	1.00	0.226	pCi/L	01/10/22 09:32	02/01/22 08:06	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.7*		*40 - 110*	*01/10/22 09:32*	*02/01/22 08:06*	*1*

Lab Sample ID: LCS 160-545606/1-A
Matrix: Water
Analysis Batch: 549015

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545606

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	22.7	22.75		2.32	1.00	0.206	pCi/L	100	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*97.0*		*40 - 110*

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-545606/2-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 549015 **Prep Batch: 545606**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			22.7	22.76		2.36	1.00	0.225	pCi/L	100	75 - 125	0	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*93.7*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-545613/15-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 547233 **Prep Batch: 545613**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.013		0.576	0.583	1.00	0.867	pCi/L	01/10/22 10:30	01/20/22 13:15	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.7*		*40 - 110*	*01/10/22 10:30*	*01/20/22 13:15*	*1*
Y Carrier	*78.1*		*40 - 110*	*01/10/22 10:30*	*01/20/22 13:15*	*1*

Lab Sample ID: LCS 160-545613/1-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 547242 **Prep Batch: 545613**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			17.9	19.21		2.26	1.00	0.893	pCi/L	107	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*97.0*		*40 - 110*
Y Carrier	*82.6*		*40 - 110*

Lab Sample ID: LCSD 160-545613/2-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 547242 **Prep Batch: 545613**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			17.9	19.94		2.38	1.00	0.859	pCi/L	111	75 - 125	0.16	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*93.7*		*40 - 110*
Y Carrier	*78.9*		*40 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-546021/18-A
Matrix: Water
Analysis Batch: 547796

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 546021

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.4294		0.203	0.206	3.00	0.290	pCi/L	01/12/22 12:11	01/24/22 16:53	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*81.5*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:53*	*1*
Y Carrier	*91.2*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:53*	*1*

Lab Sample ID: LCS 160-546021/1-A
Matrix: Water
Analysis Batch: 547958

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 546021

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Strontium-90			7.56	7.562		0.824	3.00	0.290	pCi/L	100	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*88.0*		*40 - 110*
Y Carrier	*86.7*		*40 - 110*

Lab Sample ID: LCSD 160-546021/2-A
Matrix: Water
Analysis Batch: 547958

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 546021

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Strontium-90			7.56	6.786		0.827	3.00	0.408	pCi/L	90	75 - 125	0.47	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*69.5*		*40 - 110*
Y Carrier	*81.1*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-544885/1-A
Matrix: Water
Analysis Batch: 545183

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544885

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	166.7	U	220	221	500	369	pCi/L	01/05/22 09:41	01/06/22 09:14	1

Lab Sample ID: LCS 160-544885/2-A
Matrix: Water
Analysis Batch: 545183

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544885

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			2250	2063		389	500	384	pCi/L	92	75 - 125		

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 570-80274-V-3-B MS
Matrix: Water
Analysis Batch: 545183

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 544885

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium	-27.0	U	2240	2860		457	500	382	pCi/L	128	60 - 140		

Lab Sample ID: 570-80272-X-1-B DU
Matrix: Water
Analysis Batch: 545183

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 544885

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	-199	U		-45.05	U	201	500	365	pCi/L			0.39	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-544910/1-A
Matrix: Water
Analysis Batch: 545867

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544910

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.04306	U	0.06185	0.06193	1.00	0.0834	pCi/L	01/05/22 12:22	01/11/22 19:28	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*84.8*		*30 - 110*	*01/05/22 12:22*	*01/11/22 19:28*	*1*

Lab Sample ID: LCS 160-544910/2-A
Matrix: Water
Analysis Batch: 545868

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544910

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Uranium-234			12.7	12.61		1.40	1.00	0.104	pCi/L	99	75 - 125		
Uranium-238			13.0	12.29		1.37	1.00	0.0937	pCi/L	94	75 - 125		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*84.2*		*30 - 110*

Lab Sample ID: 570-80241-R-1-J DU
Matrix: Water
Analysis Batch: 545874

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 544910

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Total Uranium	0.0490	U		0.1267		0.09715	1.00	0.106	pCi/L			0.50	1

Tracer	*DU %Yield*	*DU Qualifier*	*Limits*
Uranium-232	*90.1*		*30 - 110*

Rad

Prep Batch: 544885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-544885/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-544885/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
570-80274-V-3-B MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	
570-80272-X-1-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 544910

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	ExtChrom	
MB 160-544910/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-544910/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
570-80241-R-1-J DU	Duplicate	Total/NA	Water	ExtChrom	

Prep Batch: 545178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-545178/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-545178/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-80408-1 DU	Outfall011_20211230_Comp	Total/NA	Water	Fill_Geo-0	

Prep Batch: 545606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	PrecSep-21	
MB 160-545606/15-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-545606/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-545606/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 545613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	PrecSep_0	
MB 160-545613/15-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-545613/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-545613/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 545615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	Evaporation	
MB 160-545615/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-545615/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-545615/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
160-44379-A-1-D MS	Matrix Spike	Total/NA	Water	Evaporation	
160-44379-A-1-E MSBT	Matrix Spike	Total/NA	Water	Evaporation	
160-44379-A-1-F DU	Duplicate	Total/NA	Water	Evaporation	

Prep Batch: 546021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80408-1	Outfall011_20211230_Comp	Total/NA	Water	PrecSep-7	
MB 160-546021/18-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-546021/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-546021/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1
Date Collected: 12/30/21 11:00
Matrix: Water
Date Received: 12/30/21 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			199.99 mL	1.0 g	545615	01/10/22 10:48	KG	TAL SL
Total/NA	Analysis	900.0		1			546037	01/12/22 09:56	FLC	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	545178	01/06/22 18:46	ZTH	TAL SL
Total/NA	Analysis	901.1		1			547770	01/23/22 21:21	JCB	TAL SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			500.11 mL	1.0 g	545606	01/10/22 09:32	LPS	TAL SL
Total/NA	Analysis	903.0		1			549015	02/01/22 08:05	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			500.11 mL	1.0 g	545613	01/10/22 10:30	LPS	TAL SL
Total/NA	Analysis	904.0		1			547233	01/20/22 13:13	ANW	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep-7			500.73 mL	1.0 g	546021	01/12/22 12:11	LPS	TAL SL
Total/NA	Analysis	905		1			547796	01/24/22 16:52	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	LSC_Dist_Susp			100.30 mL	1.0 g	544885	01/05/22 09:41	BAL	TAL SL
Total/NA	Analysis	906.0		1			545183	01/06/22 11:30	JLP	TAL SL
	Instrument ID: LSCAQUA									
Total/NA	Prep	ExtChrom			100.10 mL	1.0 mL	544910	01/05/22 12:22	MLO	TAL SL
Total/NA	Analysis	A-01-R		1			545875	01/11/22 19:28	CLP	TAL SL
	Instrument ID: ALPHAVISION									

Laboratory References:
TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80408-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	TAL SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	TAL SL

Protocol References:

DOE = U.S. Department of Energy
EPA = US Environmental Protection Agency
None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80408-1	Outfall011_20211230_Comp	Water	12/30/21 11:00	12/30/21 15:50

80408

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80408 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 011 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **ECI# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Mark Dominick	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

ANALYSIS REQUIRED

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals. (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl (R/A)	TCDD (and all congeners) (E1613B) (R)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc)) (R)	Surfactants (MBAS) (SM5540C/E425.1) (R)	Cl- F- SO4, Nitrate-N, Nitrite-N NO3+NO2-N, Perchlorate (E300) (R/A)	Turbidity TDS (SM2540C/E180.1) (R)	TSS (160.2 (SM2540D)) (R)	Ammonia-N (E350.2) (R)	Priority Pollutants-Pesticides+PCBs (E608) (A)	Priority Pollutants-SVOCs (E625) (A)	Total Recoverable Metals. Mercury (E245.1) (R)				Comments
Outfall 011	OutfallD11_20211230_Comp	12/30/2021 1100	WM	500 mL Poly	1	HNO_3	80	No	X											X				
			WM	1 L Glass Amber	2	None	110	No		X														
			WM	1 L Poly	1	None	115	No			X													
			WM	500 mL Poly	2	None	120	No				X												
			WM	500 mL Poly	2	None	125	No					X											48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X									48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X							
			WM	1 L Glass Amber	2	None	250	No									X						
			WM	1 L Glass Amber	2	None	175	No										X					
			WM	1 L Poly	1	None	185	No							X								
	Outfall011_20211230_Comp_Extra	12/30/2021 1100	WM	1 L Glass Amber	2	None	110	No		H													Hold
			WM	500 mL Poly	2	None	120	No				H											Hold
			WM	500 mL Poly	2	None	125	No					H										Hold
			WM	1 L Glass Amber	2	None	250	No										H					Hold
			WM	1 L Glass Amber	2	None	175	No											H				Hold

Legend. A=Annual, R=Routine

Relinquished By	Date/Time:	Company	Received By	Date/Time:
Mark Dominick	12-30-2021 1345	H&A	ECI	12/30/21 1345
ECI	12/30/21 1550		Virendra Patel	12/30/21 1550

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|3 5, 2.1|3 0, 2.0|2.9 SCS

2/2/2022

2019-2020 Rainy Season
Version 5

80408

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 2021 Annual Outfall [001, 002, 011, 018] Outfall 011 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI# **44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Mark Dominick	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									R/A	R	R	R	A	A	A	A	R	QRSW	
									ANALYSIS REQUIRED										
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals. (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8) Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Comments
Outfall 011	Outfall011_20211230_Comp_F	12/30/2021	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG Bag to be opened in Mercury Prep using clean procedures.
	Outfall011_20211230_Comp	12/30/2021 1100 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~										X	Extract within 24-Hours of sampling at Weck Labs at OF001,002,011, or 018.
	Outfall011_20211230_Comp_Extra	12/30/2021 1100	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	2	None	255	No							H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By: Mark Dominick	Date/Time: 12-30-2021/1345	Company: H.A	Received By: EC1	Date/Time: 12/30/21 1345
Relinquished By:	Date/Time: 12/30/21 1550		Received By:	Date/Time: 12/30/21 1550
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV: _____ All Level IV: __X__

*Hand-delivered to ABC Labs by H.A

2/2/2022

2019-2020 Rainy Season
Version 5

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-148778 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80408-3
Address: 13715 Rider Trail North	Due Date Requested: 1/28/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900 0/Evaporation Gross Alpha/Beta	906 0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11 00 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	1/3/22 1321				
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone. 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148812 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80408-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/14/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745	PO #:			
Phone:	WO #:			
Email:	Project #: ~~44024446~~ 570 - 80408			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Comp	SSOW#:			
Site:				

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note.
			Preservation Code:							
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11:00 Pacific		Water			X		1	Level IV needed
Outfall011_20211230_Comp_Extra (570-80408-2)	12/30/21	11 00 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	1/3/21 1532				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time.	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148833 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80408-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/18/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11 00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware
Outfall011_20211230_Comp_Extra (570-80408-2)	12/30/21	11 00 Pacific		Water				X	2	See QAS Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested. I II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time: 1/3/21 1730	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 Tustin
2841 Dow Avenue
Tustin CA 92780
Phone 949-261-1022 Fax 949-260-3297

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No 440-177693 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin California	Page Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note) State Program - California		Job # 570-80408-1
Address 7440 Lincoln Way, ,	Due Date Requested 1/13/2022			
City Garden Grove	TAT Requested (days):			
State, Zip. CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name Boeing NPDES SSFL Outfall - Outfall 011 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A HCL M Hexane
B - NaOH N None
C Zn Acetate O AsNaO2
D - Nitric Acid P Na2O4S
E NaHSO4 Q Na2SO3
F MeOH R Na2S2O3
G - Amchlor S H2SO4
H - Ascorbic Acid T TSP Dodecahydrate
I Ice U Acetone
J DI Water V MCAA
K EDTA W pH 4-5
L - EDA Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/ CL, SO4, F	300_ORGFMS/ Nitrate + Nitrite as N	NO2NO3_Calc_IC/ Nitrate-Nitrite as N	314.0/ Perchlorate	608.3_PCB_LL/608_Prep_PCB_LL PCBs	608.3_Pest_LL/608_Prep_LL Pesticides	625.1_SIM/625_Prep Priority pollutant list	8260B_SIM/5030C (MOD) 1,4-Dioxane only	218.6_CR3/ Trivalent Chromium	218.6_ORGFM/ Chromium, Hexavalent	SM5210B_BODCalc/ Biological Oxygen Demand - 5 Day	5540C/5540C_Prep Methylene Blue Active Substances (MBAS)	SM5310D/ Total Organic Carbon	Total Number of containers	Special Instructions/Note
			Preservation Code:																		
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11 00 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Level 1 radioactive	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment.

	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by:	1/17/22	ECT		1/17/22 1446	ECT
Relinquished by:	1/17/22 1427	ECL		1-17-2022 14:27	ECL
Relinquished by:	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.	3.1/4.6 SC 6

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80408-3

Login Number: 80408
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: 570-80408-3

Login Number: 80408
List Number: 2
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 01/04/22 11:10 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80408-4
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp
Revision: 1

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/8/2022 2:16:18 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Method Summary 6
Sample Summary 7
Subcontract Data 8
Chain of Custody 13
Receipt Checklists 19

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80408-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Job ID: 570-80408-4

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80408-4

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 1/30/2022. The report (revision 1) is being revised due to: The subcontract report was revised to report Monomethyl Hydrazine only..

Receipt
The samples were received on 12/30/2021 3:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.9º C, 3.0º C and 3.5º C.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Client Sample ID: Outfall011_20211230_Comp
Lab Sample ID: 570-80408-1

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Method	Method Description	Protocol	Laboratory
Subcontract	Weck-Hydrazine	None	Weck Lab

Protocol References:

None = None

Laboratory References:

Weck Lab = Weck Laboratories, Inc., 14859 E. Clark Avenue, City of Industry, CA 91745

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80408-1	Outfall011_20211230_Comp	Water	12/30/21 11:00	12/30/21 15:50

WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Work Orders:	2A04041	**Report Date:**	2/07/2022
		Received Date:	1/4/2022
Project:	570-80408-2	**Turnaround Time:**	Normal
		Phones:	(714) 895-5494
		Fax:	(714) 894-7501
Attn:	Virendra Patel	**P.O. #:**	570-80408-2
Client:	Eurofins Calscience - Garden Grove 7440 Lincoln Way Garden Grove, CA 92841-1432	**Billing Code:**	

Dear Virendra Patel,

Enclosed are the results of analyses for samples received 1/04/22 with the Chain-of-Custody document. The samples were received in good condition, at 4.6 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Sample Results

Sample: Outfall011_20211230_Comp (570-80408-1) — Sampled: 12/30/21 11:00 by Client

2A04041-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 8315M			**Instr:** LCMS03				
Batch ID: W2A0572 **Preparation:** Microextraction			**Prepared:** 01/10/22 11:10				**Analyst:** PJS
Monomethylhydrazine (MMH)	ND	0.31	2.0	ug/l	1	01/10/22	

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

Quality Control Results

Hydrazine by LCMS

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Blank (W2A0572-BLK1)					**Prepared & Analyzed: 01/10/22**						
Monomethylhydrazine (MMH)	ND	0.31	2.0	ug/l							
LCS (W2A0572-BS1)					**Prepared & Analyzed: 01/10/22**						
Monomethylhydrazine (MMH)	25.4	0.31	2.0	ug/l	20.0		127	50-150			
Matrix Spike (W2A0572-MS1)	**Source: 1L29088-01**				**Prepared & Analyzed: 01/10/22**						
Monomethylhydrazine (MMH)	20.4	0.31	2.0	ug/l	20.0	*ND*	102	50-150			
Matrix Spike Dup (W2A0572-MSD1)	**Source: 1L29088-01**				**Prepared & Analyzed: 01/10/22**						
Monomethylhydrazine (MMH)	20.6	0.31	2.0	ug/l	20.0	*ND*	103	50-150	0.8	30	

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

Notes and Definitions

Item	Definition
%REC	Percent Recovery
Dil	Dilution
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

Analyses Accreditation Summary

Analyte	CAS #	Not By NELAP	ANAB ISO 17025
EPA 8315M in Water			
Monomethylhydrazine (MMH)	60-34-4	✓	

Reviewed by:

Rahul R. Nair
Project Manager

ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • LACSD #10143 • NJ-DEP #CA015 • NV-DEP #NAC 445A • SCAQMD #93LA1006

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

2A04041

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California	
Address: 14859 E. Clark Avenue, ,	Due Date Requested: 1/14/2022		
City: City of Industry	TAT Requested (days):		
State, Zip: CA, 91745			
Phone:	PO #:		
Email:	WO #:		
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Comp	Project #: ~~44024446~~ 570-80408S		
Site:	SSOW#:		

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)
		Preservation Code:						
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11:00 Pacific		Water			X	
Outfall011_20211230_Comp_Extra (570-80408-2)	12/30/21	11:00 Pacific		Water				X

Analysis Requested

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under c maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to acc Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are r*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 1/3/21 1532	Company	Received by: Date/Time:

COC	COC matches sample labels?	☒	☐		
	Project Manager notified?	☐	☐	☒	
Receipt Information	Sample Temperature	4.6 °C			
	Samples received on ice?	☒	☐		
	Ice Type (Blue/Wet)	Wet			
	All samples intact?	☒	☐		
	Samples in proper containers?	☒	☐		
	Sufficient sample volume?	☒	☐		
	Samples intact?	☒	☐		
	Received within holding time?	☒	☐		
	Project Manager notified?	☐	☐	☒	
Sample Preservation Verification?	Sample labels checked for correct preservation?	☒	☐	☐	
	VOC Headspace: none, <6mm/<Pea size? 524.2, 524.3, 624.1, 8260, 1666 P/T, LUFT	☐	☐	☒	
	pH verified upon receipt? Metals <2; H2SO4 pres tests <2; 522<4; TOC <2; 608.3 5-9	☐	☐	☒	
	Free Chlorine Tested <0.1	☐	☐	☒	
	O&G pH <2 verified?	☐	☐	☐	pH paper Lot:
	pH adjusted for O&G	☐	☐	☐	pH Reading: Acid Lot# Amt added:
	Project Manager notified?	☐	☐	☒	

PM Comments

Sample Receipt Checklist Prepared by:

Signature: _____ Date: 01/04/22

80408

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80408 Chain of Custody

									R/A	R	R	R	R/A	R	R	R	A	A	R				
Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108								Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 011 Comp	ANALYSIS REQUIRED														
Eurofins Calscience Irvine Contact: Virendra Patel **ECI# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218									Total Recoverable Metals. (E200.7): As, Ba, B, Be Co, Cr Fe, Mn Ni, V Zn Hardness as CaCO3 (E200.8) Ag, Cd, Cu Pb, Sb, Se Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- F- SO4, Nitrate-N, Nitrite-N NO3+NO2-N, Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals. Mercury (E245.1)				Comments
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.								Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)															
Sampler: Mark Dominick								Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)															
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD															
Outfall 011	OutfallD11_20211230_Comp	12/30/2021 1100	WM	500 mL Poly	1	HNO_3	80	No	X														
			WM	1 L Glass Amber	2	None	110	No		X													
			WM	1 L Poly	1	None	115	No			X												
			WM	500 mL Poly	2	None	120	No				X											
			WM	500 mL Poly	2	None	125	No					X										48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X									48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X							
			WM	1 L Glass Amber	2	None	250	No									X						
			WM	1 L Glass Amber	2	None	175	No										X					
			WM	1 L Poly	1	None	185	No							X								
	Outfall011_20211230_Comp_Extra	12/30/2021 1100	WM	1 L Glass Amber	2	None	110	No		H													Hold
			WM	500 mL Poly	2	None	120	No				H											Hold
			WM	500 mL Poly	2	None	125	No					H										Hold
			WM	1 L Glass Amber	2	None	250	No										H					Hold
			WM	1 L Glass Amber	2	None	175	No											H				Hold

Legend. A=Annual, R=Routine

Relinquished By	Date/Time:	Company	Received By	Date/Time:
[signature]	12-30-2021 1345	Hal	[signature] ECI	12/30/21 1345
[signature]	12/30/21 1550		[signature]	12/30/21 1550

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|3 5, 2.1|3 0, 2.0|2.9 SCS

2019-2020 Rainy Season
Version 5

80408

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 2021 Annual Outfall [001, 002, 011, 018] Outfall 011 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI# **44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Mark Dominick	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									R/A	R	R	R	A	A	A	A	R	QRSW	
									ANALYSIS REQUIRED										
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals. (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8) Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Comments
Outfall 011	Outfall011_20211230_Comp_F	12/30/2021	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG Bag to be opened in Mercury Prep using clean procedures.
	Outfall011_20211230_Comp	12/30/2021 1100 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~										X	Extract within 24-Hours of sampling at Weck Labs at OF001,002,011, or 018.
	Outfall011_20211230_Comp_Extra	12/30/2021 1100	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	2	None	255	No							H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By: Mark Dominick	Date/Time: 12-30-2021/1345	Company: H.A	Received By:	Date/Time: ECI 12/30/21 1345
Relinquished By:	Date/Time: 12/30/21 1550	Company:	Received By:	Date/Time: 12/30/21 1550
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.
Data Requirements. (Check)
No Level IV: _____ All Level IV: __X__

*Hand-delivered to ABC Labs by H.A

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-148778 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80408-3
Address: 13715 Rider Trail North	Due Date Requested: 1/28/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900 0/Evaporation Gross Alpha/Beta	906 0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137							Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11 00 Pacific		Water			X	X	X	X	X	X	X							2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		1/3/22 1321				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone. 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148812 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80408-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/14/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745	PO #:			
Phone:	WO #:			
Email:	Project #: ~~44024446~~ 570-80408			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Comp	SSOW#:			
Site:				

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note.
			Preservation Code:							
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11:00 Pacific		Water			X		1	Level IV needed
Outfall011_20211230_Comp_Extra (570-80408-2)	12/30/21	11:00 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	1/3/21 1532				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time.	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148833 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80408-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/18/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11 00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware
Outfall011_20211230_Comp_Extra (570-80408-2)	12/30/21	11 00 Pacific		Water				X	2	See QAS Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested. I II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/3/21 1730				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time.	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Eurofins Calscience Tustin
2841 Dow Avenue
Tustin CA 92780
Phone 949-261-1022 Fax 949-260-3297

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No 440-177693 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin California	Page Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note) State Program - California		Job # 570-80408-1
Address 7440 Lincoln Way, ,	Due Date Requested 1/13/2022			
City Garden Grove	TAT Requested (days):			
State, Zip. CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name Boeing NPDES SSFL Outfall - Outfall 011 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A HCL M Hexane
B - NaOH N None
C Zn Acetate O AsNaO2
D - Nitric Acid P Na2O4S
E NaHSO4 Q Na2SO3
F MeOH R Na2S2O3
G - Amchlor S H2SO4
H - Ascorbic Acid T TSP Dodecahydrate
I Ice U Acetone
J DI Water V MCAA
K EDTA W pH 4-5
L - EDA Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/ CL, SO4, F	300_ORGFMS/ Nitrate + Nitrite as N	NO2NO3_Calc_IC/ Nitrate-Nitrite as N	314.0/ Perchlorate	608.3_PCB_LL/608_Prep_PCB_LL PCBs	608.3_Pest_LL/608_Prep_LL Pesticides	625.1_SIM/625_Prep Priority pollutant list	8260B_SIM/5030C (MOD) 1,4-Dioxane only	218.6_CR3/ Trivalent Chromium	218.6_ORGFM/ Chromium, Hexavalent	SM5210B_BODCalc/ Biological Oxygen Demand - 5 Day	5540C/5540C_Prep Methylene Blue Active Substances (MBAS)	SM5310D/ Total Organic Carbon	Total Number of containers	Special Instructions/Note
			Preservation Code:																		
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11 00 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Level 1 radioactive	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment.

	Relinquished by:	Date/Time:	Company	Received by	Date/Time:	Company
1		1/17/22	ECT		1/17/22 1446	ECT
2	Relinquished by	Date/Time: 1/17/22 1427	Company ECL	Received by	Date/Time: 1-17-2022 14:27	Company ECT
3	Relinquished by:	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.	3.1 / 4.6 SC 6

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80408-4

Login Number: 80408
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80408-5
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/2/2022 6:33:43 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Sample Summary 5
Subcontract Data 6
Chain of Custody 23
Receipt Checklists 29

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: 570-80408-5

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80408-5

Comments
No additional comments.

Receipt
The samples were received on 12/30/2021 3:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.9º C, 3.0º C and 3.5º C.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method Chronic-Selenestrum: This method was subcontracted to Aquatic Bioassay & Consulting. The subcontract laboratory certification is different from that of the facility issuing the final report.

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80408-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 011 Comp

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80408-1	Outfall011_20211230_Comp	Water	12/30/21 11:00	12/30/21 15:50

aquatic bioassay & consulting laboratories, inc

January 26, 2022

Mr. Virendra Patel
Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841-1432

Dear Mr. Patel:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013.* Results were as follows:

CLIENT:	Eurofins Calscience
SAMPLE I.D.:	Outfall 011
DATE RECEIVED:	4 Jan - 2022
ABC LAB. NO.:	CSE0122.013

CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY

IWC = 100.00 %

TST RESULT

GROWTH = FAIL % EFFECT = 29.68 %

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 13 Jan-22 12:48 (p 1 of 1)
Test Code/ID: CSE0122.013 / 20-8614-3971

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	18-2980-9323	**Test Type:**	Cell Growth	**Analyst:**		
Start Date:	06 Jan-22 11:02	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water	
Ending Date:	10 Jan-22 11:10	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable	
Test Length:	4d 0h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:** 7d
Sample ID:	21-2135-4547	**Code:**	CSE0122.013	**Project:**	Boeing-SSFL NPDES	
Sample Date:	30 Dec-21 11:00	**Material:**	Sample Water	**Source:**	Bioassay Report	
Receipt Date:	04 Jan-22 14:32	**CAS (PC):**		**Station:**	Outfall 011	
Sample Age:	7d 0h (0.5 °C)	**Client:**	Eurofins Calscience			

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result	S
08-9823-4114	Cell Density	TST-Welch's t Test	0.9869	100% failed cell density	1

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
08-9823-4114	Cell Density	Control CV	0.04028	<<	0.2	Yes	Passes Criteria
08-9823-4114	Cell Density	Control Resp	1.36E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	8	1.356E+6	1.310E+6	1.401E+6	1.295E+6	1.440E+6	1.930E+4	5.459E+4	4.03%	0.00%
100		8	9.531E+5	9.048E+5	1.001E+6	9.000E+5	1.079E+6	2.043E+4	5.779E+4	6.06%	29.68%

Cell Density Detail — MD5: 9B69B0272BCA68195FBB8289DACC00B2

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.310E+6	1.426E+6	1.358E+6	1.318E+6	1.295E+6	1.376E+6	1.321E+6	1.440E+6
100		9.390E+5	9.000E+5	9.800E+5	9.680E+5	9.170E+5	1.079E+6	9.310E+5	9.110E+5

CETIS Analytical Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	08-9823-4114	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	13 Jan-22 12:47	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:		**MD5 Hash:**	C45DDCF726D84D08414AAA7E29BCBB4	**Editor ID:**	
Batch ID:	18-2980-9323	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	06 Jan-22 11:02	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	10 Jan-22 11:10	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	4d 0h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 7d
Sample ID:	21-2135-4547	**Code:**	CSE0122.013	**Project:**	Boeing-SSFL NPDES
Sample Date:	30 Dec-21 11:00	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	04 Jan-22 14:32	**CAS (PC):**		**Station:**	Outfall 011
Sample Age:	7d 0h (0.5 °C)	**Client:**	Eurofins Calscience		

Data Transform	Alt Hyp	TST_b	Comparison Result
Untransformed	C*b < T	0.75	100% failed cell density endpoint

TST-Welch's t Test

Control	vs	Conc-%	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:25%)
Negative Control		100	-2.536	0.6955	12	CDF	0.9869	Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.04028	<<	0.2	Yes	Passes Criteria
Control Resp	1.36E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	6.476E+11	6.476E+11	1	204.9	<1.0E-05	Significant Effect
Error	4.424E+10	3.160E+09	14			
Total	6.919E+11		15			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Levene Equality of Variance Test	0.02625	8.862	0.8736	Equal Variances
	Mod Levene Equality of Variance Test	0.09865	8.862	0.7581	Equal Variances
	Variance Ratio F Test	1.121	8.885	0.8845	Equal Variances
Distribution	Anderson-Darling A2 Test	0.8015	3.878	0.0377	Normal Distribution
	D'Agostino Skewness Test	1.906	2.576	0.0566	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1749	0.2471	0.2165	Normal Distribution
	Shapiro-Wilk W Normality Test	0.8862	0.8408	0.0485	Normal Distribution

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	8	1.356E+6	1.310E+6	1.401E+6	1.340E+6	1.295E+6	1.440E+6	1.930E+4	4.03%	0.00%
100		8	9.531E+5	9.048E+5	1.001E+6	9.350E+5	9.000E+5	1.079E+6	2.043E+4	6.06%	29.68%

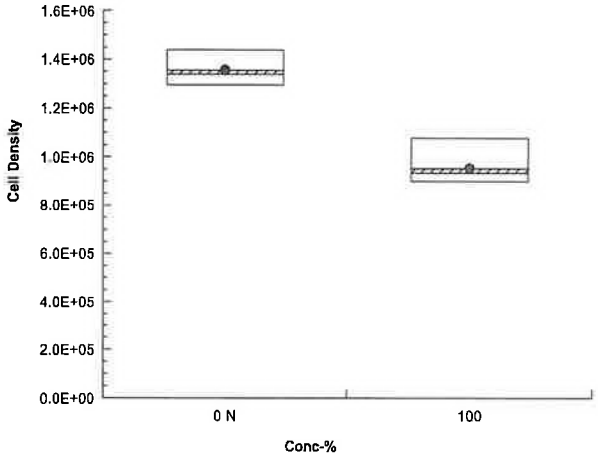
Cell Density Detail

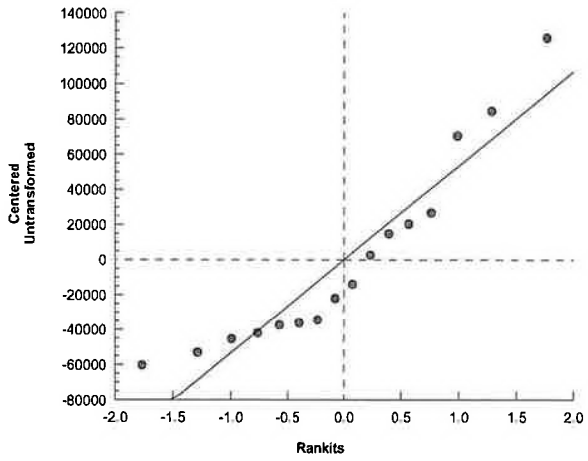
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.310E+6	1.426E+6	1.358E+6	1.318E+6	1.295E+6	1.376E+6	1.321E+6	1.440E+6
100		9.390E+5	9.000E+5	9.800E+5	9.680E+5	9.170E+5	1.079E+6	9.310E+5	9.110E+5

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	08-9823-4114	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	13 Jan-22 12:47	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:		**MD5 Hash:**	C45DDCF726D84D08414AAA7E29BCBB4	**Editor ID:**	

Graphics





Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	18-2980-9323	**Test Type:**	Cell Growth	**Analyst:**		
Start Date:	06 Jan-22 11:02	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water	
Ending Date:	10 Jan-22 11:10	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable	
Test Length:	4d 0h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:** 7d

Sample ID:	21-2135-4547	**Code:**	CSE0122.013	**Project:**	Boeing-SSFL NPDES
Sample Date:	30 Dec-21 11:00	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	04 Jan-22 14:32	**CAS (PC):**		**Station:**	Outfall 011
Sample Age:	7d 0h (0.5 °C)	**Client:**	Eurofins Calscience		

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	57	---	---	57	57	---	0	---	0
100		1	29	---	---	29	29	---	0	---	0
Overall		2	43	-134.9	220.9	29	57	14	19.8	46.04%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	469.2	458.2	480.2	460	484	1.774	8.871	1.89%	0
100		5	243.8	223.4	264.2	234	273	3.281	16.41	6.73%	0
Overall		10	356.5	271.1	441.9	234	484	37.77	119.4	33.50%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	109	---	---	109	109	---	0	---	0
100		1	73	---	---	73	73	---	0	---	0
Overall		2	91	-137.7	319.7	73	109	18	25.46	27.97%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.9	7.812	7.988	7.8	8	0.01414	0.0707	0.89%	0
100		5	7.94	7.829	8.051	7.9	8.1	0.01789	0.08944	1.13%	0
Overall		10	7.92	7.864	7.976	7.8	8.1	0.02494	0.07888	1.00%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
100		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
Overall		10	25.8	25.5	26.1	25	26	0.1333	0.4216	1.63%	0 (0%)

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		57					
100				29					

Conductivity-µmhos

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		460					
100				234					
0	N	2		467					
100				236					
0	N	3		468					
100				238					
0	N	4		467					
100				238					
0	N	5		484					
100				273					

Hardness (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		109					
100				73					

pH-Units

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.8					
100				7.9					
0	N	2		7.9					
100				7.9					
0	N	3		7.9					
100				7.9					
0	N	4		7.9					
100				7.9					
0	N	5		8					
100				8.1					

Temperature-°C

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		26					
100				26					
0	N	2		26					
100				26					
0	N	3		26					
100				26					
0	N	4		26					
100				26					
0	N	5		25					
100				25					

2/2/2022

Client Name/Address: Haley & Aldrich, 5333 Mission Center Rd Suite 300, San Diego, CA 92108	Project: Boeing-SSFL NPDES, Permit 2021, Annual Outfall [001, 002, 011, 018], Outfall 011, Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI# 44024446, 17461 Derian Ave Suite #100, Irvine CA 92614, Tel: 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller, 520.289.8606, 520.904.6944 (cell)
Sampler: Mark Dominick	Field Manager: Mark Dominick, 978.234.5033, 818.599.0702 (cell)

ANALYSIS REQUIRED

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl (R/A)	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)	Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura CA (R)	1,4-Dioxane (E624 (SW8260M_SIM)) (A)	Total Organic Carbon (415.2 (SM 5310B)) (A)	Monomethyl hydrazine (SW8315M/DV-WC-0077) (A)	Cr (VI), Total (E218.6) (A)	Total Dissolved Metals: Mercury (E245.1) (R)	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights CA (QRSW)	Comments
Outfall 011	Outfall011_20211230_Comp_F	12/30/2021	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall011_20211230_Comp	12/30/2021 /1100	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				x							Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~											~~Extract within 24-Hours of sampling at Weck Labs in Outfall 002, 011, or 018~~
	Outfall011_20211230_Comp_Extra	12/30/2021 /1100	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	2	None	255	No							H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
[signature]	12-30-2021 / 1345	H:A	EC!		Turn-around time: (Check) 24 Hour: ___ 72 Hour: ___ 10 Day: X 48 Hour: ___ 5 Day: ___ Normal: ___
[signature]	1-4-2022 / 1435	H:A	[signature]	01/04/22 ; 1432	Sample Integrity: (Check) Intact: ___ On Ice: ___
Relinquished By	Date/Time:	Company:	Received By	Date/Time:	Store samples for 6 months. Data Requirements: (Check) No Level IV: ___ All Level IV: X

Temp. deg. C = 0.5 (

*Hand-delivered to ABC Labs by H:A

Chlorine (mg/L) = <0.1

NH3 (mg/L) = <0.1

2019-2020 Rainy Season
Version 5

aquatic bioassay & consulting laboratories, inc

CHRONIC SELENASTRUM GROWTH BIOASSAY

DATE: 6 January - 2021

STANDARD TOXICANT: Cadmium Chloride

NOEC = 20.00 ug/l

IC25 = 66.20 ug/l
IC50 = 136.00 ug/l

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	04-0871-6453	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	06 Jan-22 11:04	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	10 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	4d 1h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	7d
Sample ID:	05-8955-1529	**Code:**	SEL010622	**Project:**	REF TOX		
Sample Date:	06 Jan-22 11:04	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant		
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX		
Sample Age:	---	**Client:**	Internal Lab				

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	S
17-9444-3655	Cell Density	Dunnett Multiple Comparison Test		20	40	28.28	11.4%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	µg/L	95% LCL	95% UCL	S
11-8061-4337	Cell Density	Linear Interpolation (ICPIN)		IC10	32.99	26.76	53.2	1
				IC15	39.48	30.44	64.2	
				IC20	52.55	29.97	73.88	
				IC25	66.2	42.73	89.41	
				IC40	107.9	89.09	123.8	
				IC50	136	120.6	153.4	

Test Acceptability

				TAC Limits			
Analysis ID	**Endpoint**	**Attribute**	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
11-8061-4337	Cell Density	Control CV	0.04156	<<	0.2	Yes	Passes Criteria
17-9444-3655	Cell Density	Control CV	0.04156	<<	0.2	Yes	Passes Criteria
11-8061-4337	Cell Density	Control Resp	1.76E+6	1000000	>>	Yes	Passes Criteria
17-9444-3655	Cell Density	Control Resp	1.76E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.762E+6	1.645E+6	1.879E+6	1.667E+6	1.845E+6	3.661E+4	7.322E+4	4.16%	0.00%
20		4	1.885E+6	1.579E+6	2.191E+6	1.656E+6	2.068E+6	9.618E+4	1.924E+5	10.20%	-6.99%
40		4	1.543E+6	1.325E+6	1.760E+6	1.419E+6	1.737E+6	6.832E+4	1.366E+5	8.86%	12.44%
80		4	1.276E+6	1.115E+6	1.436E+6	1.177E+6	1.391E+6	5.052E+4	1.010E+5	7.92%	27.61%
140		4	8.855E+5	7.462E+5	1.025E+6	7.730E+5	9.700E+5	4.378E+4	8.756E+4	9.89%	49.74%
180		4	6.262E+5	5.237E+5	7.288E+5	5.490E+5	6.930E+5	3.223E+4	6.445E+4	10.29%	64.46%

Cell Density Detail — MD5: 5D32D8382C52FB4CF0B1C96FCCD75F44

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.761E+6	1.667E+6	1.845E+6	1.775E+6
20		2.018E+6	2.068E+6	1.656E+6	1.799E+6
40		1.737E+6	1.419E+6	1.523E+6	1.492E+6
80		1.328E+6	1.206E+6	1.391E+6	1.177E+6
140		7.730E+5	9.370E+5	9.700E+5	8.620E+5
180		6.930E+5	6.630E+5	6.000E+5	5.490E+5

CETIS Analytical Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	17-9444-3655	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:58	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1
Edit Date:	23 Jan-22 16:55	**MD5 Hash:**	4FF39683B6F639A44296592E1864B33C	**Editor ID:**	000-189-126-0
Batch ID:	04-0871-6453	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	06 Jan-22 11:04	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	10 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	4d 1h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 7d
Sample ID:	05-8955-1529	**Code:**	SEL010622	**Project:**	REF TOX
Sample Date:	06 Jan-22 11:04	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	20	40	28.28	---	200300	11.37%

Dunnett Multiple Comparison Test

Control	vs	Conc-µg/L	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		20	-1.481	2.407	2E+05	6	CDF	0.9956	Non-Significant Effect
		40*	2.635	2.407	2E+05	6	CDF	0.0322	Significant Effect
		80*	5.847	2.407	2E+05	6	CDF	6.1E-05	Significant Effect
		140*	10.53	2.407	2E+05	6	CDF	2.7E-05	Significant Effect
		180*	13.65	2.407	2E+05	6	CDF	2.7E-05	Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control CV	0.04156	<<	0.2	Yes	Passes Criteria
Control Resp	1.76E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	4.944E+12	9.888E+11	5	71.42	<1.0E-05	Significant Effect
Error	2.492E+11	1.384E+10	18			
Total	5.193E+12		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	4.689	15.09	0.4549	Equal Variances
	Levene Equality of Variance Test	2.608	4.248	0.0607	Equal Variances
	Mod Levene Equality of Variance Test	1.896	4.248	0.1452	Equal Variances
Distribution	Anderson-Darling A2 Test	0.2084	3.878	0.9044	Normal Distribution
	D'Agostino Kurtosis Test	0.08814	2.576	0.9298	Normal Distribution
	D'Agostino Skewness Test	0.03132	2.576	0.9750	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	0.008749	9.21	0.9956	Normal Distribution
	Kolmogorov-Smirnov D Test	0.08117	0.2056	1.0000	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9814	0.884	0.9200	Normal Distribution

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.762E+6	1.645E+6	1.879E+6	1.768E+6	1.667E+6	1.845E+6	3.661E+4	4.16%	0.00%
20		4	1.885E+6	1.579E+6	2.191E+6	1.908E+6	1.656E+6	2.068E+6	9.618E+4	10.20%	-6.99%
40		4	1.543E+6	1.325E+6	1.760E+6	1.508E+6	1.419E+6	1.737E+6	6.832E+4	8.86%	12.44%
80		4	1.276E+6	1.115E+6	1.436E+6	1.267E+6	1.177E+6	1.391E+6	5.052E+4	7.92%	27.61%
140		4	8.855E+5	7.462E+5	1.025E+6	8.995E+5	7.730E+5	9.700E+5	4.378E+4	9.89%	49.74%
180		4	6.262E+5	5.237E+5	7.288E+5	6.315E+5	5.490E+5	6.930E+5	3.223E+4	10.29%	64.46%

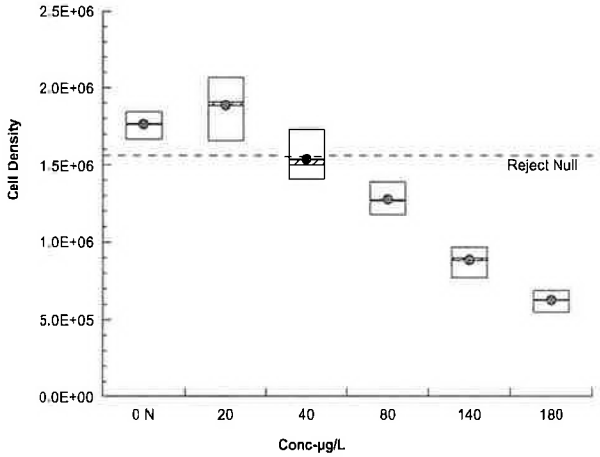
Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

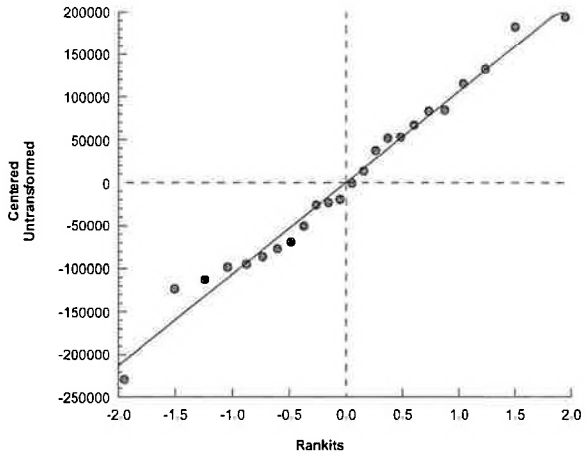
Analysis ID:	17-9444-3655	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:58	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1
Edit Date:	23 Jan-22 16:55	**MD5 Hash:**	4FF39683B6F639A44296592E1864B33C	**Editor ID:**	000-189-126-0

Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.761E+6	1.667E+6	1.845E+6	1.775E+6
20		2.018E+6	2.068E+6	1.656E+6	1.799E+6
40		1.737E+6	1.419E+6	1.523E+6	1.492E+6
80		1.328E+6	1.206E+6	1.391E+6	1.177E+6
140		7.730E+5	9.370E+5	9.700E+5	8.620E+5
180		6.930E+5	6.630E+5	6.000E+5	5.490E+5

Graphics





CETIS Analytical Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	11-8061-4337	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:58	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	23 Jan-22 16:55	**MD5 Hash:**	4FF39683B6F639A44296592E1864B33C	**Editor ID:**	000-189-126-0
Batch ID:	04-0871-6453	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	06 Jan-22 11:04	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	10 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	4d 1h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 7d
Sample ID:	05-8955-1529	**Code:**	SEL010622	**Project:**	REF TOX
Sample Date:	06 Jan-22 11:04	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.04156	<<	0.2	Yes	Passes Criteria
Control Resp	1.76E+6	1000000	>>	Yes	Passes Criteria

Point Estimates

Level	µg/L	95% LCL	95% UCL
IC10	32.99	26.76	53.2
IC15	39.48	30.44	64.2
IC20	52.55	29.97	73.88
IC25	66.2	42.73	89.41
IC40	107.9	89.09	123.8
IC50	136	120.6	153.4

Cell Density Summary

			Calculated Variate						Isotonic Variate	
Conc-µg/L	**Code**	**Count**	**Mean**	**Median**	**Min**	**Max**	**CV%**	**%Effect**	**Mean**	**%Effect**
0	N	4	1.762E+6	1.768E+6	1.667E+6	1.845E+6	4.16%	0.00%	1.824E+6	0.00%
20		4	1.885E+6	1.908E+6	1.656E+6	2.068E+6	10.20%	-6.99%	1.824E+6	0.00%
40		4	1.543E+6	1.508E+6	1.419E+6	1.737E+6	8.86%	12.44%	1.543E+6	15.40%
80		4	1.276E+6	1.267E+6	1.177E+6	1.391E+6	7.92%	27.61%	1.276E+6	30.06%
140		4	8.855E+5	8.995E+5	7.730E+5	9.700E+5	9.89%	49.74%	8.855E+5	51.44%
180		4	6.262E+5	6.315E+5	5.490E+5	6.930E+5	10.29%	64.46%	6.262E+5	65.66%

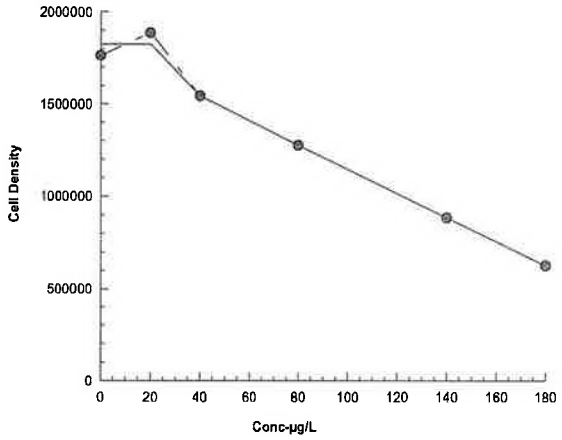
Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.761E+6	1.667E+6	1.845E+6	1.775E+6
20		2.018E+6	2.068E+6	1.656E+6	1.799E+6
40		1.737E+6	1.419E+6	1.523E+6	1.492E+6
80		1.328E+6	1.206E+6	1.391E+6	1.177E+6
140		7.730E+5	9.370E+5	9.700E+5	8.620E+5
180		6.930E+5	6.630E+5	6.000E+5	5.490E+5

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	11-8061-4337	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:58	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	23 Jan-22 16:55	**MD5 Hash:**	4FF39683B6F639A44296592E1864B33C	**Editor ID:**	000-189-126-0

Graphics



Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	04-0871-6453	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	06 Jan-22 11:04	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	10 Jan-22 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	4d 1h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	7d

Sample ID:	05-8955-1529	**Code:**	SEL010622	**Project:**	REF TOX
Sample Date:	06 Jan-22 11:04	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	57	---	---	57	57	---	0	---	0
20		1	57	---	---	57	57	---	0	---	0
40		1	57	---	---	57	57	---	0	---	0
80		1	60	---	---	60	60	---	0	---	0
140		1	49	---	---	49	49	---	0	---	0
180		1	51	---	---	51	51	---	0	---	0
Overall		6	55.17	50.74	59.59	49	60	1.721	4.215	7.64%	0 (0%)

Conductivity-µmhos

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	469.2	458.2	480.2	460	484	1.774	8.871	1.89%	0
20		5	481	466.3	495.7	474	502	2.362	11.81	2.46%	0
40		5	465.4	462.5	468.3	462	468	0.4604	2.302	0.49%	0
80		5	445.8	439.3	452.3	440	453	1.053	5.263	1.18%	0
140		5	431.4	427	435.8	426	435	0.7014	3.507	0.81%	0
180		5	397.8	388.9	406.7	391	409	1.438	7.19	1.81%	0
Overall		30	448.4	437.6	459.3	391	502	5.303	29.04	6.48%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	109	---	---	109	109	---	0	---	0
20		1	122	---	---	122	122	---	0	---	0
40		1	137	---	---	137	137	---	0	---	0
80		1	141	---	---	141	141	---	0	---	0
140		1	126	---	---	126	126	---	0	---	0
180		1	125	---	---	125	125	---	0	---	0
Overall		6	126.7	114.7	138.6	109	141	4.652	11.4	9.00%	0 (0%)

pH-Units

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.9	7.812	7.988	7.8	8	0.01414	0.0707	0.89%	0
20		5	7.82	7.658	7.982	7.7	8	0.02608	0.1304	1.67%	0
40		5	7.8	7.648	7.952	7.7	8	0.0245	0.1225	1.57%	0
80		5	7.78	7.618	7.942	7.7	8	0.02608	0.1304	1.68%	0
140		5	7.76	7.593	7.927	7.7	8	0.02683	0.1342	1.73%	0
180		5	7.76	7.593	7.927	7.7	8	0.02683	0.1342	1.73%	0
Overall		30	7.803	7.758	7.849	7.7	8	0.02222	0.1217	1.56%	0 (0%)

Temperature-°C

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
20		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
40		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
80		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
140		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
180		5	25.8	25.24	26.36	25	26	0.08944	0.4472	1.73%	0
Overall		30	25.8	25.65	25.95	25	26	0.07428	0.4068	1.58%	0 (0%)

Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		57					
20				57					
40				57					
80				60					
140				49					
180				51					

Conductivity-µmhos

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		460					
20				477					
40				467					
80				449					
140				426					
180				391					
0	N	2		467					
20				477					
40				462					
80				440					
140				430					
180				392					
0	N	3		468					
20				475					
40				465					
80				442					
140				433					
180				399					
0	N	4		467					
20				474					
40				465					
80				445					
140				435					
180				398					
0	N	5		484					
20				502					
40				468					
80				453					
140				433					
180				409					

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		109					
20				122					
40				137					
80				141					
140				126					
180				125					

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

pH-Units

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.8					
20				7.7					
40				7.7					
80				7.7					
140				7.7					
180				7.7					
0	N	2		7.9					
20				7.7					
40				7.7					
80				7.7					
140				7.7					
180				7.7					
0	N	3		7.9					
20				7.8					
40				7.8					
80				7.7					
140				7.7					
180				7.7					
0	N	4		7.9					
20				7.9					
40				7.8					
80				7.8					
140				7.7					
180				7.7					
0	N	5		8					
20				8					
40				8					
80				8					
140				8					
180				8					

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Temperature-°C

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		26					
20				26					
40				26					
80				26					
140				26					
180				26					
0	N	2		26					
20				26					
40				26					
80				26					
140				26					
180				26					
0	N	3		26					
20				26					
40				26					
80				26					
140				26					
180				26					
0	N	4		26					
20				26					
40				26					
80				26					
140				26					
180				26					
0	N	5		25					
20				25					
40				25					
80				25					
140				25					
180				25					

80408

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80408 Chain of Custody

									R/A	R	R	R	R/A	R	R	R	A	A	R				
Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108								Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 011 Comp	ANALYSIS REQUIRED														
Eurofins Calscience Irvine Contact: Virendra Patel **ECI# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218									Total Recoverable Metals. (E200.7): As, Ba, B, Be Co, Cr Fe, Mn Ni, V Zn Hardness as CaCO3 (E200.8) Ag, Cd, Cu Pb, Sb, Se Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- F- SO4, Nitrate-N, Nitrite-N NO3+NO2-N, Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals. Mercury (E245.1)				Comments
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.								Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)															
Sampler: Mark Dominick								Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)															
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD															
Outfall 011	OutfallD11_20211230_Comp	12/30/2021 1100	WM	500 mL Poly	1	HNO_3	80	No	X										X				
			WM	1 L Glass Amber	2	None	110	No		X													
			WM	1 L Poly	1	None	115	No			X												
			WM	500 mL Poly	2	None	120	No				X											
			WM	500 mL Poly	2	None	125	No					X										48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X									48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X							
			WM	1 L Glass Amber	2	None	250	No									X						
			WM	1 L Glass Amber	2	None	175	No										X					
			WM	1 L Poly	1	None	185	No							X								
	Outfall011_20211230_Comp_Extra	12/30/2021 1100	WM	1 L Glass Amber	2	None	110	No		H													Hold
			WM	500 mL Poly	2	None	120	No				H											Hold
			WM	500 mL Poly	2	None	125	No					H										Hold
			WM	1 L Glass Amber	2	None	250	No										H					Hold
			WM	1 L Glass Amber	2	None	175	No											H				Hold

Legend. A=Annual, R=Routine

Relinquished By	Date/Time:	Company	Received By	Date/Time:
[signature]	12-30-2021 1345	H&A	[signature] ECI	12/30/21 1345
[signature]	12/30/21 1550		[signature]	12/30/21 1550

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|3.5, 2.1|3.0, 2.0|2.9 SCS

2/2/2022

2019-2020 Rainy Season
Version 5

80408

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 2021 Annual Outfall [001, 002, 011, 018] Outfall 011 Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI# **44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: Mark Dominick	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									R/A	R	R	R	A	A	A	A	R	QRSW	
									ANALYSIS REQUIRED										
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals. (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8) Ag, Cd, Cu, Pb, Sb, Se, Tl	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura, CA	1,4-Dioxane (E624 (SW8260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals. Mercury (E245.1)	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Comments
Outfall 011	Outfall011_20211230_Comp_F	12/30/2021	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG Bag to be opened in Mercury Prep using clean procedures.
	Outfall011_20211230_Comp	12/30/2021 1100 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~										X	Extract within 24-Hours of sampling at Weck Labs at OF001,002,011, or 018.
	Outfall011_20211230_Comp_Extra	12/30/2021 1100	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	2	None	255	No							H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By: Mark Dominick	Date/Time: 12-30-2021/1345	Company: H.A	Received By:	Date/Time: ECI 12/30/21 1345
Relinquished By:	Date/Time: 12/30/21 1550	Company:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time: 12/30/21 1550

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements. (Check)
No Level IV: _____ All Level IV: __X__

*Hand-delivered to ABC Labs by H.A

2/2/2022

2019-2020 Rainy Season
Version 5

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-148778 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80408-3
Address: 13715 Rider Trail North	Due Date Requested: 1/28/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900 0/Evaporation Gross Alpha/Beta	906 0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137							Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11 00 Pacific		Water			X	X	X	X	X	X	X							2	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	1/3/22 1321				
2						
3						

Custody Seals Intact: Δ Yes Δ No | Custody Seal No | Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone. 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148812 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80408-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/14/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745	PO #:			
Phone:	WO #:			
Email:	Project #: ~~44024446~~ 570-80408			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Comp	SSOW#:			
Site:				

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine)/ Week-Hydrazine	SUB (Week-Hydrazine)/ Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note.
			Preservation Code:							
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11:00 Pacific		Water			X		1	Level IV needed
Outfall011_20211230_Comp_Extra (570-80408-2)	12/30/21	11:00 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	1/3/21 1532				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time.	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148833 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80408-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/18/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 011 Comp	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11 00 Pacific		Water			X		2	See QAS, Boeing_w/u to zero ug/L Use Boeing glassware
Outfall011_20211230_Comp_Extra (570-80408-2)	12/30/21	11 00 Pacific		Water				X	2	See QAS Boeing_w/u to zero ug/L Use Boeing glassware

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested. I II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	1/3/21 1730				
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 Tustin
2841 Dow Avenue
Tustin CA 92780
Phone 949-261-1022 Fax 949-260-3297

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No 440-177693 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin California	Page Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note) State Program - California		Job # 570-80408-1
Address 7440 Lincoln Way, ,	Due Date Requested 1/13/2022			
City Garden Grove	TAT Requested (days):			
State, Zip. CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name Boeing NPDES SSFL Outfall - Outfall 011 Comp	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A HCL M Hexane
B - NaOH N None
C Zn Acetate O AsNaO2
D - Nitric Acid P Na2O4S
E NaHSO4 Q Na2SO3
F MeOH R Na2S2O3
G - Amchlor S H2SO4
H - Ascorbic Acid T TSP Dodecahydrate
I Ice U Acetone
J DI Water V MCAA
K EDTA W pH 4-5
L - EDA Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/ CL, SO4, F	300_ORGFMS/ Nitrate + Nitrite as N	NO2NO3_Calc_IC/ Nitrate-Nitrite as N	314.0/ Perchlorate	608.3_PCB_LL/608_Prep_PCB_LL PCBs	608.3_Pest_LL/608_Prep_LL Pesticides	625.1_SIM/625_Prep Priority pollutant list	8260B_SIM/5030C (MOD) 1,4-Dioxane only	218.6_CR3/ Trivalent Chromium	218.6_ORGFM/ Chromium, Hexavalent	SM5210B_BODCalc/ Biological Oxygen Demand - 5 Day	5540C/5540C_Prep Methylene Blue Active Substances (MBAS)	SM5310D/ Total Organic Carbon	Total Number of containers	Special Instructions/Note
			Preservation Code:																		
Outfall011_20211230_Comp (570-80408-1)	12/30/21	11 00 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Level 1 radioactive	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment.

	Relinquished by:	Date/Time:	Company	Received by	Date/Time:	Company
1		1/17/22	ECT		1/17/22 1446	ECT
2		1/17/22 1427	ECL		1-17-2022 14:27	ECL
3						

Custody Seals Intact Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.	3.1 / 4.6 SC 6

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80408-5

Login Number: 80408
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	

LUMINULTRA®

15280 NW 79th Court, Suite 107 Miami Lakes, Florida 33016

ACCREDITED
CERT#4126.01

Fecal Host Quantification ID Test Results Report

Detection and quantification of the fecal host associated gene biomarker by quantitative Polymerase Chain Reaction (qPCR) DNA analytical technology

ND: Not Detected DNQ: Detected, Not Quantifiable ROQ: Detected, Quantifiable

Submitter: Haley and Aldrich
Report Generated: January 14, 2022

SM #	Sample ID	Date Collected	Time Collected	Analysis Requested	Ct, Rep1	Ct, Rep2	Marker Quantified	Results Qualifier	LOD (Limit of detection)	LOQ (Limit of Quantification)	Result Unit
SM22A04141	Outfall011_20211230_Grab	12/30/2021	10:00 AM	Human_HF183	34.14	34.96	1.02E+02	DNQ	7.50E+01	2.50E+02	copies per 100ml
SM22A04142	Outfall018_20220103_Grab	1/3/2022	9:20 AM	Human_HF183	35.5	ND	0.00E+00	ND	7.50E+01	2.50E+02	copies per 100ml

Reported Results Authorized By: Anda Quintero, Quality Manager

Results reported herein apply only to the sample matrices as received.
Results reported herein relate to the genetic material extracted from the sample matrix processed and included in the analysis.

Revision 2.1
Effective Date: 11/1/2021

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80140-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab
Revision: 1

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/25/2022 1:06:03 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 6
Client Sample Results 7
Surrogate Summary 13
QC Sample Results 14
QC Association Summary 27
Lab Chronicle 29
Certification Summary 30
Method Summary 31
Sample Summary 32
Subcontract Data 33
Chain of Custody 45
Receipt Checklists 48

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80140-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
BU	Analyzed out of holding time

General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80140-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80140-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 1/22/2022. The report (revision 1) is being revised due to: The clients office requested the Enthalpy final report to be revised to remove Total Coliform reporting..

Receipt
The samples were received on 12/27/2021 5:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.4º C.

Receipt Exceptions

The following sample was listed on the Chain of Custody (COC); however, no sample was received: TB-20211226 (570-80140-3).

GC/MS VOA
Method 624.1: The following sample(s) was analyzed outside of analytical holding time due to laboratory relocation and requiring method validations. Clients were notified of hold time issues. Outfall018_20211226_Grab (570-80140-1).

Method 624.1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 440-663938 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 624.1: The following sample was analyzed outside of analytical holding time due to laboratory oversight: TB-20211226 (570-80140-3).

Method 624.1: Reanalysis of the following sample was performed outside of the analytical holding time due to failure of quality control parameters in the initial analysis. TB-20211226 (570-80140-3)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 2540F: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: Outfall018_20211226_Grab (570-80140-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 1664A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-205772. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch. 1664

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep

Job ID: 570-80140-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80140-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Client Sample ID: Outfall018_20211226_Grab
Lab Sample ID: 570-80140-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C13-C28	0.21		0.050	0.036	mg/L	1		8015B	Total/NA
Specific Conductance	400		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: TB-20211226
Lab Sample ID: 570-80140-3

No Detections.

This Detection Summary does not include radiochemical test results.

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall018_20211226_Grab
Lab Sample ID: 570-80140-1
Date Collected: 12/26/21 15:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	BU	0.50	0.25	ug/L			01/07/22 04:55	1
1,1,2,2-Tetrachloroethane	ND	BU	0.50	0.20	ug/L			01/07/22 04:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	BU	2.0	0.33	ug/L			01/07/22 04:55	1
1,1,2-Trichloroethane	ND	BU	0.50	0.17	ug/L			01/07/22 04:55	1
1,1-Dichloroethane	ND	BU	0.50	0.39	ug/L			01/07/22 04:55	1
1,1-Dichloroethene	ND	BU	0.50	0.33	ug/L			01/07/22 04:55	1
1,2-Dichloro-1,1,2-trifluoroethane	ND	BU	2.0	0.58	ug/L			01/07/22 04:55	1
1,2-Dichlorobenzene	ND	BU	0.50	0.16	ug/L			01/07/22 04:55	1
1,2-Dichloroethane	ND	BU	0.50	0.15	ug/L			01/07/22 04:55	1
1,2-Dichloropropane	ND	BU	0.50	0.17	ug/L			01/07/22 04:55	1
1,3-Dichlorobenzene	ND	BU	0.50	0.16	ug/L			01/07/22 04:55	1
1,4-Dichlorobenzene	ND	BU	0.50	0.11	ug/L			01/07/22 04:55	1
2-Chloroethyl vinyl ether	ND	BU	2.0	1.1	ug/L			01/07/22 04:55	1
Acrolein	ND	BU	5.0	4.6	ug/L			01/07/22 04:55	1
Acrylonitrile	ND	BU	2.0	1.4	ug/L			01/07/22 04:55	1
Benzene	ND	BU	0.50	0.28	ug/L			01/07/22 04:55	1
Bromodichloromethane	ND	BU	0.50	0.19	ug/L			01/07/22 04:55	1
Bromoform	ND	BU	1.0	0.25	ug/L			01/07/22 04:55	1
Bromomethane	ND	BU	0.50	0.22	ug/L			01/07/22 04:55	1
Carbon tetrachloride	ND	BU	0.50	0.28	ug/L			01/07/22 04:55	1
Chlorobenzene	ND	BU	0.50	0.19	ug/L			01/07/22 04:55	1
Chloroethane	ND	BU	1.0	0.29	ug/L			01/07/22 04:55	1
Chloroform	ND	BU	0.50	0.19	ug/L			01/07/22 04:55	1
Chloromethane	ND	BU	0.50	0.30	ug/L			01/07/22 04:55	1
cis-1,2-Dichloroethene	ND	BU	0.50	0.21	ug/L			01/07/22 04:55	1
cis-1,3-Dichloropropene	ND	BU	0.50	0.30	ug/L			01/07/22 04:55	1
Cyclohexane	ND	BU	2.0	0.79	ug/L			01/07/22 04:55	1
Dibromochloromethane	ND	BU	0.50	0.15	ug/L			01/07/22 04:55	1
Ethylbenzene	ND	BU	0.50	0.25	ug/L			01/07/22 04:55	1
m,p-Xylene	ND	BU	1.0	0.17	ug/L			01/07/22 04:55	1
Methylene Chloride	ND	BU	2.0	0.57	ug/L			01/07/22 04:55	1
Naphthalene	ND	BU	1.0	0.33	ug/L			01/07/22 04:55	1
o-Xylene	ND	BU	0.50	0.15	ug/L			01/07/22 04:55	1
Tetrachloroethene	ND	BU	0.50	0.21	ug/L			01/07/22 04:55	1
Toluene	ND	BU	0.50	0.23	ug/L			01/07/22 04:55	1
trans-1,2-Dichloroethene	ND	BU	0.50	0.24	ug/L			01/07/22 04:55	1
trans-1,3-Dichloropropene	ND	BU	0.50	0.18	ug/L			01/07/22 04:55	1
Trichloroethene	ND	BU	0.50	0.17	ug/L			01/07/22 04:55	1
Trichlorofluoromethane	ND	BU	0.50	0.29	ug/L			01/07/22 04:55	1
Vinyl chloride	ND	BU	0.50	0.47	ug/L			01/07/22 04:55	1
Xylenes, Total	ND	BU	1.0	0.17	ug/L			01/07/22 04:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*60 - 140*		*01/07/22 04:55*	*1*
Dibromofluoromethane (Surr)	*109*		*60 - 140*		*01/07/22 04:55*	*1*
Toluene-d8 (Surr)	*109*		*60 - 140*		*01/07/22 04:55*	*1*

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: TB-20211226
Date Collected: 12/26/21 15:00
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80140-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
1,1,2,2-Tetrachloroethane	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	BU	2.0	0.50	ug/L			01/20/22 00:39	1
1,1,2-Trichloroethane	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
1,1-Dichloroethane	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
1,1-Dichloroethene	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
1,2-Dichloro-1,1,2-trifluoroethane	ND	BU	2.0	1.0	ug/L			01/20/22 00:39	1
1,2-Dichlorobenzene	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
1,2-Dichloroethane	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
1,2-Dichloropropane	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
1,3-Dichlorobenzene	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
1,4-Dichlorobenzene	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
Acrolein	ND	BU	5.0	2.5	ug/L			01/20/22 00:39	1
Acrylonitrile	ND	BU	2.0	1.0	ug/L			01/20/22 00:39	1
Benzene	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
Bromodichloromethane	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
Bromoform	ND	BU	1.0	0.40	ug/L			01/20/22 00:39	1
Bromomethane	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
Carbon tetrachloride	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
Chlorobenzene	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
Chloroethane	ND	BU	1.0	0.40	ug/L			01/20/22 00:39	1
Chloroform	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
Chloromethane	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
cis-1,2-Dichloroethene	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
cis-1,3-Dichloropropene	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
Cyclohexane	ND	BU	2.0	1.0	ug/L			01/20/22 00:39	1
Dibromochloromethane	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
Ethylbenzene	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
m,p-Xylene	ND	BU	1.0	0.50	ug/L			01/20/22 00:39	1
Methylene Chloride	ND	BU	2.0	0.88	ug/L			01/20/22 00:39	1
Naphthalene	ND	BU	1.0	0.40	ug/L			01/20/22 00:39	1
o-Xylene	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
Tetrachloroethene	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
Toluene	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
trans-1,2-Dichloroethene	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
trans-1,3-Dichloropropene	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
Trichloroethene	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
Trichlorofluoromethane	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
Vinyl chloride	ND	BU	0.50	0.25	ug/L			01/20/22 00:39	1
Xylenes, Total	ND	BU	1.0	0.50	ug/L			01/20/22 00:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*60 - 140*		*01/20/22 00:39*	*1*
Dibromofluoromethane (Surr)	*105*		*60 - 140*		*01/20/22 00:39*	*1*
Toluene-d8 (Surr)	*102*		*60 - 140*		*01/20/22 00:39*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80140-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Method: 624.1 - Volatile Organic Compounds (GC/MS) - RA

Client Sample ID: TB-20211226
Date Collected: 12/26/21 15:00
Date Received: 12/27/21 17:35

Lab Sample ID: 570-80140-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND	BU	2.0	1.0	ug/L			01/20/22 17:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*60 - 140*		*01/20/22 17:37*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 140*		*01/20/22 17:37*	*1*
Toluene-d8 (Surr)	*100*		*60 - 140*		*01/20/22 17:37*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80140-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Method: 8015B - Gasoline Range Organics - (GC)

Client Sample ID: Outfall018_20211226_Grab
Lab Sample ID: 570-80140-1
Date Collected: 12/26/21 15:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		50	30	ug/L			01/05/22 08:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*70*		*20 - 144*		*01/05/22 08:32*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80140-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Method: 8015B - Diesel Range Organics (DRO) (GC)

Client Sample ID: Outfall018_20211226_Grab
Lab Sample ID: 570-80140-1
Date Collected: 12/26/21 15:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C28	0.21		0.050	0.036	mg/L		12/29/21 10:02	12/30/21 20:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*117*		*53 - 151*	*12/29/21 10:02*	*12/30/21 20:34*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80140-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

General Chemistry

Client Sample ID: Outfall018_20211226_Grab
Lab Sample ID: 570-80140-1
Date Collected: 12/26/21 15:00
Matrix: Water
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	ND		1.1	0.54	mg/L		01/05/22 16:55	01/05/22 16:55	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	**400**		1.0	1.0	umhos/cm			01/04/22 11:54	1
Settleable Solids	ND	BU	0.10	0.10	mL/L/Hr			01/18/22 13:03	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Job ID: 570-80140-1

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)
570-80140-1	Outfall018_20211226_Grab	97	109	109
570-80140-3	TB-20211226	98	105	102
570-80140-3 - RA	TB-20211226	99	101	100
570-80528-G-1 MS	Matrix Spike	112	103	103
570-80528-I-1 MSD	Matrix Spike Duplicate	108	103	104
570-81144-A-1 MS	Matrix Spike	106	97	92
570-81144-C-1 MSD	Matrix Spike Duplicate	106	97	96
570-81928-A-1 MS	Matrix Spike	102	99	101
570-81928-B-1 MSD	Matrix Spike Duplicate	107	98	96
LCS 440-663938/1004	Lab Control Sample	109	98	99
LCS 440-663938/1005	Lab Control Sample	99	107	109
LCS 440-664848/1002	Lab Control Sample	103	104	103
LCS 440-664848/1003	Lab Control Sample	98	103	106
LCS 440-664976/1002	Lab Control Sample	103	101	95
MB 440-663938/6	Method Blank	100	107	111
MB 440-664848/4	Method Blank	94	109	108
MB 440-664976/4	Method Blank	93	112	107

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8015B - Gasoline Range Organics - (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		BFB1
Lab Sample ID	Client Sample ID	(20-144)
440-293584-D-1 MS	Matrix Spike	97
440-293584-D-1 MSD	Matrix Spike Duplicate	97
570-80140-1	Outfall018_20211226_Grab	70
LCS 570-205458/3	Lab Control Sample	98
LCSD 570-205458/4	Lab Control Sample Dup	93
MB 570-205458/5	Method Blank	72

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: 8015B - Diesel Range Organics (DRO) (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		OTCSN1
Lab Sample ID	Client Sample ID	(53-151)
570-80140-1	Outfall018_20211226_Grab	117
LCS 570-204429/4-A	Lab Control Sample	107
LCSD 570-204429/5-A	Lab Control Sample Dup	119
MB 570-204429/1-A	Method Blank	110

Surrogate Legend

OTCSN = n-Octacosane (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-663938/6
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/06/22 19:47	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/06/22 19:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			01/06/22 19:47	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/06/22 19:47	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/06/22 19:47	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/06/22 19:47	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	0.58	ug/L			01/06/22 19:47	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/06/22 19:47	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/06/22 19:47	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/06/22 19:47	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/06/22 19:47	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/06/22 19:47	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/06/22 19:47	1
Acrolein	ND		5.0	4.6	ug/L			01/06/22 19:47	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/06/22 19:47	1
Benzene	ND		0.50	0.28	ug/L			01/06/22 19:47	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/06/22 19:47	1
Bromoform	ND		1.0	0.25	ug/L			01/06/22 19:47	1
Bromomethane	ND		0.50	0.22	ug/L			01/06/22 19:47	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/06/22 19:47	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/06/22 19:47	1
Chloroethane	ND		1.0	0.29	ug/L			01/06/22 19:47	1
Chloroform	ND		0.50	0.19	ug/L			01/06/22 19:47	1
Chloromethane	ND		0.50	0.30	ug/L			01/06/22 19:47	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/06/22 19:47	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/06/22 19:47	1
Cyclohexane	ND		2.0	0.79	ug/L			01/06/22 19:47	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/06/22 19:47	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/06/22 19:47	1
m,p-Xylene	ND		1.0	0.17	ug/L			01/06/22 19:47	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/06/22 19:47	1
Naphthalene	ND		1.0	0.33	ug/L			01/06/22 19:47	1
o-Xylene	ND		0.50	0.15	ug/L			01/06/22 19:47	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/06/22 19:47	1
Toluene	ND		0.50	0.23	ug/L			01/06/22 19:47	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/06/22 19:47	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/06/22 19:47	1
Trichloroethene	ND		0.50	0.17	ug/L			01/06/22 19:47	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			01/06/22 19:47	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/06/22 19:47	1
Xylenes, Total	ND		1.0	0.17	ug/L			01/06/22 19:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*60 - 140*		*01/06/22 19:47*	*1*
Dibromofluoromethane (Surr)	*107*		*60 - 140*		*01/06/22 19:47*	*1*
Toluene-d8 (Surr)	*111*		*60 - 140*		*01/06/22 19:47*	*1*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-663938/1004
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,1,1-Trichloroethane			25.0	25.5		ug/L		102	69 - 151		
1,1,2,2-Tetrachloroethane			25.0	31.0		ug/L		124	68 - 136		
1,1,2-Trichloroethane			25.0	28.6		ug/L		114	75 - 136		
1,1-Dichloroethane			25.0	26.9		ug/L		108	71 - 143		
1,1-Dichloroethene			25.0	27.4		ug/L		109	19 - 212		
1,2-Dichlorobenzene			25.0	24.5		ug/L		98	59 - 174		
1,2-Dichloroethane			25.0	27.1		ug/L		108	72 - 137		
1,2-Dichloropropane			25.0	28.0		ug/L		112	19 - 181		
1,3-Dichlorobenzene			25.0	24.9		ug/L		100	75 - 144		
1,4-Dichlorobenzene			25.0	24.7		ug/L		99	59 - 174		
2-Chloroethyl vinyl ether			25.0	29.5		ug/L		118	10 - 252		
Acrolein			24.7	28.7		ug/L		116	50 - 150		
Acrylonitrile			250	300		ug/L		120	50 - 150		
Benzene			25.0	25.5		ug/L		102	75 - 125		
Bromodichloromethane			25.0	27.1		ug/L		108	50 - 140		
Bromoform			25.0	23.8		ug/L		95	57 - 156		
Bromomethane			25.0	28.2		ug/L		113	10 - 206		
Carbon tetrachloride			25.0	25.4		ug/L		101	65 - 125		
Chlorobenzene			25.0	24.9		ug/L		99	82 - 137		
Chloroethane			25.0	29.4		ug/L		118	42 - 202		
Chloroform			25.0	25.6		ug/L		102	68 - 121		
Chloromethane			25.0	31.6		ug/L		127	10 - 230		
cis-1,2-Dichloroethene			25.0	23.1		ug/L		93	60 - 140		
cis-1,3-Dichloropropene			25.0	28.7		ug/L		115	5 - 195		
Dibromochloromethane			25.0	25.7		ug/L		103	69 - 133		
Ethylbenzene			25.0	24.1		ug/L		97	75 - 134		
m,p-Xylene			25.0	23.5		ug/L		94	60 - 140		
Methylene Chloride			25.0	25.0		ug/L		100	10 - 205		
Naphthalene			25.0	23.6		ug/L		95	60 - 140		
o-Xylene			25.0	23.5		ug/L		94	60 - 140		
Tetrachloroethene			25.0	23.5		ug/L		94	70 - 130		
Toluene			25.0	24.8		ug/L		99	75 - 134		
trans-1,2-Dichloroethene			25.0	23.2		ug/L		93	70 - 130		
trans-1,3-Dichloropropene			25.0	29.0		ug/L		116	38 - 162		
Trichloroethene			25.0	22.7		ug/L		91	75 - 138		
Trichlorofluoromethane			25.0	29.8		ug/L		119	45 - 158		
Vinyl chloride			25.0	31.8		ug/L		127	10 - 218		
Xylenes, Total			50.0	47.0		ug/L		94			

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*60 - 140*
Dibromofluoromethane (Surr)	*98*		*60 - 140*
Toluene-d8 (Surr)	*99*		*60 - 140*

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-663938/1005
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2-Dichloro-1,1,2-trifluoroethane			25.0	23.3		ug/L		93	60 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*60 - 140*
Dibromofluoromethane (Surr)	*107*		*60 - 140*
Toluene-d8 (Surr)	*109*		*60 - 140*

Lab Sample ID: 570-80528-G-1 MS
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,1,1-Trichloroethane	ND		25.0	25.9		ug/L		104	52 - 162		
1,1,2,2-Tetrachloroethane	ND		25.0	30.5		ug/L		122	46 - 157		
1,1,2-Trichloroethane	ND		25.0	27.8		ug/L		111	52 - 150		
1,1-Dichloroethane	ND		25.0	26.8		ug/L		107	59 - 155		
1,1-Dichloroethene	ND		25.0	29.6		ug/L		119	10 - 234		
1,2-Dichloro-1,1,2-trifluoroethane	ND		25.0	27.5		ug/L		110	60 - 140		
1,2-Dichlorobenzene	ND		25.0	24.2		ug/L		97	18 - 190		
1,2-Dichloroethane	ND		25.0	27.2		ug/L		109	49 - 155		
1,2-Dichloropropane	ND		25.0	28.0		ug/L		112	10 - 210		
1,3-Dichlorobenzene	ND		25.0	24.2		ug/L		97	59 - 156		
1,4-Dichlorobenzene	ND		25.0	24.6		ug/L		98	18 - 190		
2-Chloroethyl vinyl ether	ND		25.0	29.5		ug/L		118	10 - 305		
Acrolein	ND		24.7	18.4		ug/L		74	40 - 160		
Acrylonitrile	ND		250	273		ug/L		109	40 - 160		
Benzene	ND		25.0	25.9		ug/L		104	37 - 151		
Bromodichloromethane	ND		25.0	27.6		ug/L		110	35 - 155		
Bromoform	ND		25.0	24.9		ug/L		100	45 - 169		
Bromomethane	ND		25.0	29.4		ug/L		118	10 - 242		
Carbon tetrachloride	ND		25.0	27.3		ug/L		109	70 - 140		
Chlorobenzene	ND		25.0	25.4		ug/L		102	37 - 160		
Chloroethane	ND		25.0	30.1		ug/L		121	14 - 230		
Chloroform	ND		25.0	26.3		ug/L		105	51 - 138		
Chloromethane	ND		25.0	32.8		ug/L		131	10 - 273		
cis-1,2-Dichloroethene	ND		25.0	24.4		ug/L		98	60 - 140		
cis-1,3-Dichloropropene	ND		25.0	28.6		ug/L		115	10 - 227		
Dibromochloromethane	ND		25.0	26.1		ug/L		104	53 - 149		
Ethylbenzene	ND		25.0	25.4		ug/L		102	37 - 162		
m,p-Xylene	ND		25.0	24.4		ug/L		98	60 - 140		
Methylene Chloride	ND		25.0	24.5		ug/L		98	10 - 221		
Naphthalene	ND		25.0	23.3		ug/L		93	60 - 140		
o-Xylene	ND		25.0	24.9		ug/L		99	60 - 140		
Tetrachloroethene	ND		25.0	25.1		ug/L		100	64 - 148		
Toluene	ND		25.0	26.1		ug/L		104	47 - 150		
trans-1,2-Dichloroethene	ND		25.0	23.0		ug/L		92	54 - 156		
trans-1,3-Dichloropropene	ND		25.0	28.6		ug/L		114	17 - 183		
Trichloroethene	ND		25.0	23.5		ug/L		94	70 - 157		

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-80528-G-1 MS **Client Sample ID: Matrix Spike**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 663938

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	ND		25.0	30.9		ug/L		124	17 - 181
Vinyl chloride	ND		25.0	35.4		ug/L		142	10 - 251
Xylenes, Total	ND		50.0	49.3		ug/L		99	

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*60 - 140*
Dibromofluoromethane (Surr)	*103*		*60 - 140*
Toluene-d8 (Surr)	*103*		*60 - 140*

Lab Sample ID: 570-80528-I-1 MSD **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 663938

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		25.0	26.3		ug/L		105	52 - 162	2	36
1,1,2,2-Tetrachloroethane	ND		25.0	31.3		ug/L		125	46 - 157	3	61
1,1,2-Trichloroethane	ND		25.0	28.1		ug/L		112	52 - 150	1	45
1,1-Dichloroethane	ND		25.0	27.9		ug/L		112	59 - 155	4	40
1,1-Dichloroethene	ND		25.0	30.4		ug/L		121	10 - 234	2	32
1,2-Dichloro-1,1,2-trifluoroethane	ND		25.0	31.8		ug/L		127	60 - 140	14	35
1,2-Dichlorobenzene	ND		25.0	24.3		ug/L		97	18 - 190	1	57
1,2-Dichloroethane	ND		25.0	26.8		ug/L		107	49 - 155	1	49
1,2-Dichloropropane	ND		25.0	27.9		ug/L		112	10 - 210	0	55
1,3-Dichlorobenzene	ND		25.0	24.0		ug/L		96	59 - 156	1	43
1,4-Dichlorobenzene	ND		25.0	23.9		ug/L		96	18 - 190	3	57
2-Chloroethyl vinyl ether	ND		25.0	28.9		ug/L		116	10 - 305	2	71
Acrolein	ND		24.7	24.4		ug/L		99	40 - 160	28	60
Acrylonitrile	ND		250	303		ug/L		121	40 - 160	10	60
Benzene	ND		25.0	26.1		ug/L		104	37 - 151	1	61
Bromodichloromethane	ND		25.0	27.0		ug/L		108	35 - 155	2	56
Bromoform	ND		25.0	25.5		ug/L		102	45 - 169	2	42
Bromomethane	ND		25.0	28.3		ug/L		113	10 - 242	4	61
Carbon tetrachloride	ND		25.0	27.3		ug/L		109	70 - 140	0	41
Chlorobenzene	ND		25.0	24.4		ug/L		98	37 - 160	4	53
Chloroethane	ND		25.0	29.7		ug/L		119	14 - 230	1	78
Chloroform	ND		25.0	26.7		ug/L		107	51 - 138	1	54
Chloromethane	ND		25.0	31.7		ug/L		127	10 - 273	3	60
cis-1,2-Dichloroethene	ND		25.0	25.1		ug/L		101	60 - 140	3	35
cis-1,3-Dichloropropene	ND		25.0	28.6		ug/L		114	10 - 227	0	58
Dibromochloromethane	ND		25.0	25.3		ug/L		101	53 - 149	3	50
Ethylbenzene	ND		25.0	25.3		ug/L		101	37 - 162	0	63
m,p-Xylene	ND		25.0	23.3		ug/L		93	60 - 140	4	35
Methylene Chloride	ND		25.0	25.5		ug/L		102	10 - 221	4	28
Naphthalene	ND		25.0	23.6		ug/L		94	60 - 140	1	35
o-Xylene	ND		25.0	24.4		ug/L		97	60 - 140	2	35
Tetrachloroethene	ND		25.0	25.3		ug/L		101	64 - 148	1	39
Toluene	ND		25.0	25.8		ug/L		103	47 - 150	1	41
trans-1,2-Dichloroethene	ND		25.0	24.2		ug/L		97	54 - 156	5	45

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-80528-I-1 MSD
Matrix: Water
Analysis Batch: 663938

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,3-Dichloropropene	ND		25.0	28.9		ug/L		115	17 - 183	1	86
Trichloroethene	ND		25.0	23.4		ug/L		94	70 - 157	0	48
Trichlorofluoromethane	ND		25.0	31.4		ug/L		125	17 - 181	1	84
Vinyl chloride	ND		25.0	35.2		ug/L		141	10 - 251	1	66
Xylenes, Total	ND		50.0	47.7		ug/L		95		3	

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*60 - 140*
Dibromofluoromethane (Surr)	*103*		*60 - 140*
Toluene-d8 (Surr)	*104*		*60 - 140*

Lab Sample ID: MB 440-664848/4
Matrix: Water
Analysis Batch: 664848

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/19/22 14:32	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			01/19/22 14:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.50	ug/L			01/19/22 14:32	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			01/19/22 14:32	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			01/19/22 14:32	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			01/19/22 14:32	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	1.0	ug/L			01/19/22 14:32	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			01/19/22 14:32	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			01/19/22 14:32	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			01/19/22 14:32	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			01/19/22 14:32	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			01/19/22 14:32	1
Acrolein	ND		5.0	2.5	ug/L			01/19/22 14:32	1
Acrylonitrile	ND		2.0	1.0	ug/L			01/19/22 14:32	1
Benzene	ND		0.50	0.25	ug/L			01/19/22 14:32	1
Bromodichloromethane	ND		0.50	0.25	ug/L			01/19/22 14:32	1
Bromoform	ND		1.0	0.40	ug/L			01/19/22 14:32	1
Bromomethane	ND		0.50	0.25	ug/L			01/19/22 14:32	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/19/22 14:32	1
Chlorobenzene	ND		0.50	0.25	ug/L			01/19/22 14:32	1
Chloroethane	ND		1.0	0.40	ug/L			01/19/22 14:32	1
Chloroform	ND		0.50	0.25	ug/L			01/19/22 14:32	1
Chloromethane	ND		0.50	0.25	ug/L			01/19/22 14:32	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			01/19/22 14:32	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/19/22 14:32	1
Cyclohexane	ND		2.0	1.0	ug/L			01/19/22 14:32	1
Dibromochloromethane	ND		0.50	0.25	ug/L			01/19/22 14:32	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/19/22 14:32	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/19/22 14:32	1
Methylene Chloride	ND		2.0	0.88	ug/L			01/19/22 14:32	1
Naphthalene	ND		1.0	0.40	ug/L			01/19/22 14:32	1
o-Xylene	ND		0.50	0.25	ug/L			01/19/22 14:32	1

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-664848/4
Matrix: Water
Analysis Batch: 664848

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		0.50	0.25	ug/L			01/19/22 14:32	1
Toluene	ND		0.50	0.25	ug/L			01/19/22 14:32	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			01/19/22 14:32	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/19/22 14:32	1
Trichloroethene	ND		0.50	0.25	ug/L			01/19/22 14:32	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			01/19/22 14:32	1
Vinyl chloride	ND		0.50	0.25	ug/L			01/19/22 14:32	1
Xylenes, Total	ND		1.0	0.50	ug/L			01/19/22 14:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*60 - 140*		*01/19/22 14:32*	*1*
Dibromofluoromethane (Surr)	*109*		*60 - 140*		*01/19/22 14:32*	*1*
Toluene-d8 (Surr)	*108*		*60 - 140*		*01/19/22 14:32*	*1*

Lab Sample ID: LCS 440-664848/1002
Matrix: Water
Analysis Batch: 664848

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	24.8		ug/L		99	69 - 151
1,1,2,2-Tetrachloroethane	25.0	26.2		ug/L		105	68 - 136
1,1,2-Trichloroethane	25.0	23.7		ug/L		95	75 - 136
1,1-Dichloroethane	25.0	25.4		ug/L		101	71 - 143
1,1-Dichloroethene	25.0	25.8		ug/L		103	19 - 212
1,2-Dichlorobenzene	25.0	25.4		ug/L		102	59 - 174
1,2-Dichloroethane	25.0	24.7		ug/L		99	72 - 137
1,2-Dichloropropane	25.0	25.1		ug/L		100	19 - 181
1,3-Dichlorobenzene	25.0	25.0		ug/L		100	75 - 144
1,4-Dichlorobenzene	25.0	24.2		ug/L		97	59 - 174
Acrolein	24.7	25.6		ug/L		104	50 - 150
Acrylonitrile	250	262		ug/L		105	50 - 150
Benzene	25.0	24.5		ug/L		98	75 - 125
Bromodichloromethane	25.0	23.7		ug/L		95	50 - 140
Bromoform	25.0	23.6		ug/L		94	57 - 156
Bromomethane	25.0	25.9		ug/L		104	10 - 206
Carbon tetrachloride	25.0	25.5		ug/L		102	65 - 125
Chlorobenzene	25.0	24.1		ug/L		96	82 - 137
Chloroethane	25.0	24.5		ug/L		98	42 - 202
Chloroform	25.0	24.6		ug/L		99	68 - 121
Chloromethane	25.0	24.8		ug/L		99	10 - 230
cis-1,2-Dichloroethene	25.0	24.8		ug/L		99	60 - 140
cis-1,3-Dichloropropene	25.0	24.4		ug/L		98	5 - 195
Dibromochloromethane	25.0	24.1		ug/L		96	69 - 133
Ethylbenzene	25.0	24.2		ug/L		97	75 - 134
m,p-Xylene	25.0	23.4		ug/L		94	60 - 140
Methylene Chloride	25.0	24.3		ug/L		97	10 - 205
Naphthalene	25.0	25.5		ug/L		102	60 - 140
o-Xylene	25.0	25.2		ug/L		101	60 - 140

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-664848/1002
Matrix: Water
Analysis Batch: 664848

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	25.0	24.3		ug/L		97	70 - 130
Toluene	25.0	24.5		ug/L		98	75 - 134
trans-1,2-Dichloroethene	25.0	25.0		ug/L		100	70 - 130
trans-1,3-Dichloropropene	25.0	23.4		ug/L		93	38 - 162
Trichloroethene	25.0	23.5		ug/L		94	75 - 138
Trichlorofluoromethane	25.0	25.9		ug/L		104	45 - 158
Vinyl chloride	25.0	26.7		ug/L		107	10 - 218
Xylenes, Total	50.0	48.6		ug/L		97	

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*60 - 140*
Dibromofluoromethane (Surr)	*104*		*60 - 140*
Toluene-d8 (Surr)	*103*		*60 - 140*

Lab Sample ID: LCS 440-664848/1003
Matrix: Water
Analysis Batch: 664848

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloro-1,1,2-trifluoroethane	25.0	24.9		ug/L		100	60 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*60 - 140*
Dibromofluoromethane (Surr)	*103*		*60 - 140*
Toluene-d8 (Surr)	*106*		*60 - 140*

Lab Sample ID: 570-81144-A-1 MS
Matrix: Water
Analysis Batch: 664848

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		25.0	24.3		ug/L		97	52 - 162
1,1,2,2-Tetrachloroethane	ND		25.0	24.2		ug/L		97	46 - 157
1,1,2-Trichloroethane	ND		25.0	22.6		ug/L		90	52 - 150
1,1-Dichloroethane	ND		25.0	24.3		ug/L		97	59 - 155
1,1-Dichloroethene	ND		25.0	25.6		ug/L		103	10 - 234
1,2-Dichloro-1,1,2-trifluoroethane	ND		25.0	24.8		ug/L		99	60 - 140
1,2-Dichlorobenzene	ND		25.0	24.2		ug/L		97	18 - 190
1,2-Dichloroethane	ND		25.0	24.2		ug/L		97	49 - 155
1,2-Dichloropropane	ND		25.0	25.8		ug/L		103	10 - 210
1,3-Dichlorobenzene	ND		25.0	25.9		ug/L		103	59 - 156
1,4-Dichlorobenzene	ND		25.0	24.7		ug/L		99	18 - 190
Acrolein	ND		24.7	21.3		ug/L		86	40 - 160
Acrylonitrile	ND		250	235		ug/L		94	40 - 160
Benzene	ND		25.0	25.1		ug/L		100	37 - 151
Bromodichloromethane	ND		25.0	24.4		ug/L		97	35 - 155
Bromoform	ND		25.0	22.5		ug/L		90	45 - 169
Bromomethane	ND		25.0	24.4		ug/L		97	10 - 242

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-81144-A-1 MS
Matrix: Water
Analysis Batch: 664848

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon tetrachloride	ND		25.0	25.3		ug/L		101	70 - 140
Chlorobenzene	ND		25.0	24.5		ug/L		98	37 - 160
Chloroethane	ND		25.0	23.5		ug/L		94	14 - 230
Chloroform	ND		25.0	23.5		ug/L		94	51 - 138
Chloromethane	ND		25.0	24.0		ug/L		96	10 - 273
cis-1,2-Dichloroethene	ND		25.0	23.4		ug/L		93	60 - 140
cis-1,3-Dichloropropene	ND		25.0	23.8		ug/L		95	10 - 227
Dibromochloromethane	ND		25.0	23.9		ug/L		96	53 - 149
Ethylbenzene	ND		25.0	22.5		ug/L		90	37 - 162
m,p-Xylene	ND		25.0	21.7		ug/L		87	60 - 140
Methylene Chloride	ND		25.0	21.8		ug/L		87	10 - 221
Naphthalene	ND		25.0	23.3		ug/L		93	60 - 140
o-Xylene	ND		25.0	22.1		ug/L		88	60 - 140
Tetrachloroethene	ND		25.0	24.1		ug/L		97	64 - 148
Toluene	ND		25.0	23.1		ug/L		92	47 - 150
trans-1,2-Dichloroethene	ND		25.0	23.9		ug/L		96	54 - 156
trans-1,3-Dichloropropene	ND		25.0	26.0		ug/L		104	17 - 183
Trichloroethene	ND		25.0	25.0		ug/L		100	70 - 157
Trichlorofluoromethane	ND		25.0	23.3		ug/L		93	17 - 181
Vinyl chloride	ND		25.0	26.5		ug/L		106	10 - 251
Xylenes, Total	ND		50.0	43.8		ug/L		88	

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*60 - 140*
Dibromofluoromethane (Surr)	*97*		*60 - 140*
Toluene-d8 (Surr)	*92*		*60 - 140*

Lab Sample ID: 570-81144-C-1 MSD
Matrix: Water
Analysis Batch: 664848

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		25.0	25.2		ug/L		101	52 - 162	3	36
1,1,2,2-Tetrachloroethane	ND		25.0	25.1		ug/L		100	46 - 157	3	61
1,1,2-Trichloroethane	ND		25.0	24.6		ug/L		98	52 - 150	9	45
1,1-Dichloroethane	ND		25.0	24.8		ug/L		99	59 - 155	2	40
1,1-Dichloroethene	ND		25.0	26.2		ug/L		105	10 - 234	2	32
1,2-Dichloro-1,1,2-trifluoroethane	ND		25.0	23.3		ug/L		93	60 - 140	6	35
1,2-Dichlorobenzene	ND		25.0	24.3		ug/L		97	18 - 190	1	57
1,2-Dichloroethane	ND		25.0	24.7		ug/L		99	49 - 155	2	49
1,2-Dichloropropane	ND		25.0	26.0		ug/L		104	10 - 210	1	55
1,3-Dichlorobenzene	ND		25.0	26.1		ug/L		104	59 - 156	1	43
1,4-Dichlorobenzene	ND		25.0	26.1		ug/L		105	18 - 190	6	57
Acrolein	ND		24.7	23.5		ug/L		95	40 - 160	10	60
Acrylonitrile	ND		250	231		ug/L		93	40 - 160	2	60
Benzene	ND		25.0	25.5		ug/L		102	37 - 151	2	61
Bromodichloromethane	ND		25.0	25.7		ug/L		103	35 - 155	5	56
Bromoform	ND		25.0	24.7		ug/L		99	45 - 169	9	42

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-81144-C-1 MSD
Matrix: Water
Analysis Batch: 664848

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromomethane	ND		25.0	24.8		ug/L		99	10 - 242	2	61
Carbon tetrachloride	ND		25.0	26.2		ug/L		105	70 - 140	4	41
Chlorobenzene	ND		25.0	26.3		ug/L		105	37 - 160	7	53
Chloroethane	ND		25.0	24.1		ug/L		96	14 - 230	2	78
Chloroform	ND		25.0	23.7		ug/L		95	51 - 138	1	54
Chloromethane	ND		25.0	24.2		ug/L		97	10 - 273	1	60
cis-1,2-Dichloroethene	ND		25.0	23.9		ug/L		96	60 - 140	2	35
cis-1,3-Dichloropropene	ND		25.0	26.0		ug/L		104	10 - 227	9	58
Dibromochloromethane	ND		25.0	26.0		ug/L		104	53 - 149	8	50
Ethylbenzene	ND		25.0	24.0		ug/L		96	37 - 162	6	63
m,p-Xylene	ND		25.0	23.8		ug/L		95	60 - 140	9	35
Methylene Chloride	ND		25.0	22.6		ug/L		90	10 - 221	4	28
Naphthalene	ND		25.0	23.7		ug/L		95	60 - 140	2	35
o-Xylene	ND		25.0	23.2		ug/L		93	60 - 140	5	35
Tetrachloroethene	ND		25.0	25.3		ug/L		101	64 - 148	5	39
Toluene	ND		25.0	25.1		ug/L		101	47 - 150	8	41
trans-1,2-Dichloroethene	ND		25.0	24.0		ug/L		96	54 - 156	0	45
trans-1,3-Dichloropropene	ND		25.0	28.4		ug/L		114	17 - 183	9	86
Trichloroethene	ND		25.0	25.5		ug/L		102	70 - 157	2	48
Trichlorofluoromethane	ND		25.0	23.5		ug/L		94	17 - 181	1	84
Vinyl chloride	ND		25.0	26.6		ug/L		106	10 - 251	0	66
Xylenes, Total	ND		50.0	47.0		ug/L		94		7	

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*60 - 140*
Dibromofluoromethane (Surr)	*97*		*60 - 140*
Toluene-d8 (Surr)	*96*		*60 - 140*

Lab Sample ID: MB 440-664976/4
Matrix: Water
Analysis Batch: 664976

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		2.0	1.0	ug/L			01/20/22 16:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*60 - 140*		*01/20/22 16:10*	*1*
Dibromofluoromethane (Surr)	*112*		*60 - 140*		*01/20/22 16:10*	*1*
Toluene-d8 (Surr)	*107*		*60 - 140*		*01/20/22 16:10*	*1*

Lab Sample ID: LCS 440-664976/1002
Matrix: Water
Analysis Batch: 664976

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2-Chloroethyl vinyl ether			25.0	28.3		ug/L		113	10 - 252		

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-664976/1002
Matrix: Water
Analysis Batch: 664976

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*103*		*60 - 140*
Dibromofluoromethane (Surr)	*101*		*60 - 140*
Toluene-d8 (Surr)	*95*		*60 - 140*

Lab Sample ID: 570-81928-A-1 MS
Matrix: Water
Analysis Batch: 664976

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
2-Chloroethyl vinyl ether	ND		25.0	24.9		ug/L		100	10 - 305		

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*102*		*60 - 140*
Dibromofluoromethane (Surr)	*99*		*60 - 140*
Toluene-d8 (Surr)	*101*		*60 - 140*

Lab Sample ID: 570-81928-B-1 MSD
Matrix: Water
Analysis Batch: 664976

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Chloroethyl vinyl ether	ND		25.0	27.3		ug/L		109	10 - 305	9	71

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*107*		*60 - 140*
Dibromofluoromethane (Surr)	*98*		*60 - 140*
Toluene-d8 (Surr)	*96*		*60 - 140*

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 570-205458/5
Matrix: Water
Analysis Batch: 205458

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		50	30	ug/L			01/04/22 19:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*72*		*20 - 144*		*01/04/22 19:05*	*1*

Lab Sample ID: LCS 570-205458/3
Matrix: Water
Analysis Batch: 205458

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (C4-C13)			1970	1850		ug/L		94	71 - 120		

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: LCS 570-205458/3
Matrix: Water
Analysis Batch: 205458

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*20 - 144*

Lab Sample ID: LCSD 570-205458/4
Matrix: Water
Analysis Batch: 205458

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)			1970	1760		ug/L		89	71 - 120	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*20 - 144*

Lab Sample ID: 440-293584-D-1 MS
Matrix: Water
Analysis Batch: 205458

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (C4-C13)	ND		1970	1820		ug/L		92	54 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*20 - 144*

Lab Sample ID: 440-293584-D-1 MSD
Matrix: Water
Analysis Batch: 205458

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	ND		1970	1880		ug/L		95	54 - 125	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*20 - 144*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 570-204429/1-A
Matrix: Water
Analysis Batch: 204515

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204429

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C28	ND		0.050	0.036	mg/L		12/29/21 10:02	12/29/21 19:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*110*		*53 - 151*	*12/29/21 10:02*	*12/29/21 19:28*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 570-204429/4-A
Matrix: Water
Analysis Batch: 204515

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204429

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C28			4.00	4.57		mg/L		114	70 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane (Surr)	*107*		*53 - 151*

Lab Sample ID: LCSD 570-204429/5-A
Matrix: Water
Analysis Batch: 204515

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204429

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28			4.00	4.97		mg/L		124	70 - 131	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane (Surr)	*119*		*53 - 151*

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-205772/1-A
Matrix: Water
Analysis Batch: 205970

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205772

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	ND		1.0	0.51	mg/L		01/05/22 16:55	01/05/22 16:55	1

Lab Sample ID: LCS 570-205772/2-A
Matrix: Water
Analysis Batch: 205970

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205772

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
HEM: Oil and Grease			40.0	38.6		mg/L		97	78 - 114		

Lab Sample ID: LCSD 570-205772/3-A
Matrix: Water
Analysis Batch: 205970

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205772

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM: Oil and Grease			40.0	39.2		mg/L		98	78 - 114	2	18

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 440-663757/3
Matrix: Water
Analysis Batch: 663757

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			01/04/22 11:54	1

Method: SM 2510B - Conductivity, Specific Conductance (Continued)

Lab Sample ID: LCS 440-663757/4
Matrix: Water
Analysis Batch: 663757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Specific Conductance			687	671		umhos/cm		98	90 - 110		

Lab Sample ID: 570-80129-N-1 DU
Matrix: Water
Analysis Batch: 663757

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Specific Conductance	210			213		umhos/cm				0	5

GC/MS VOA

Analysis Batch: 663938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80140-1	Outfall018_20211226_Grab	Total/NA	Water	624.1	
MB 440-663938/6	Method Blank	Total/NA	Water	624.1	
LCS 440-663938/1004	Lab Control Sample	Total/NA	Water	624.1	
LCS 440-663938/1005	Lab Control Sample	Total/NA	Water	624.1	
570-80528-G-1 MS	Matrix Spike	Total/NA	Water	624.1	
570-80528-I-1 MSD	Matrix Spike Duplicate	Total/NA	Water	624.1	

Analysis Batch: 664848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80140-3	TB-20211226	Total/NA	Water	624.1	
MB 440-664848/4	Method Blank	Total/NA	Water	624.1	
LCS 440-664848/1002	Lab Control Sample	Total/NA	Water	624.1	
LCS 440-664848/1003	Lab Control Sample	Total/NA	Water	624.1	
570-81144-A-1 MS	Matrix Spike	Total/NA	Water	624.1	
570-81144-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	624.1	

Analysis Batch: 664976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80140-3 - RA	TB-20211226	Total/NA	Water	624.1	
MB 440-664976/4	Method Blank	Total/NA	Water	624.1	
LCS 440-664976/1002	Lab Control Sample	Total/NA	Water	624.1	
570-81928-A-1 MS	Matrix Spike	Total/NA	Water	624.1	
570-81928-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	624.1	

GC VOA

Analysis Batch: 205458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80140-1	Outfall018_20211226_Grab	Total/NA	Water	8015B	
MB 570-205458/5	Method Blank	Total/NA	Water	8015B	
LCS 570-205458/3	Lab Control Sample	Total/NA	Water	8015B	
LCSD 570-205458/4	Lab Control Sample Dup	Total/NA	Water	8015B	
440-293584-D-1 MS	Matrix Spike	Total/NA	Water	8015B	
440-293584-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B	

GC Semi VOA

Prep Batch: 204429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80140-1	Outfall018_20211226_Grab	Total/NA	Water	3510C	
MB 570-204429/1-A	Method Blank	Total/NA	Water	3510C	
LCS 570-204429/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 570-204429/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 204515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-204429/1-A	Method Blank	Total/NA	Water	8015B	204429
LCS 570-204429/4-A	Lab Control Sample	Total/NA	Water	8015B	204429
LCSD 570-204429/5-A	Lab Control Sample Dup	Total/NA	Water	8015B	204429

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80140-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

GC Semi VOA

Analysis Batch: 204739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80140-1	Outfall018_20211226_Grab	Total/NA	Water	8015B	204429

General Chemistry

Prep Batch: 205772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80140-1	Outfall018_20211226_Grab	Total/NA	Water	1664A	
MB 570-205772/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-205772/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-205772/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

Analysis Batch: 205970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80140-1	Outfall018_20211226_Grab	Total/NA	Water	1664A	205772
MB 570-205772/1-A	Method Blank	Total/NA	Water	1664A	205772
LCS 570-205772/2-A	Lab Control Sample	Total/NA	Water	1664A	205772
LCSD 570-205772/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	205772

Analysis Batch: 663757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80140-1	Outfall018_20211226_Grab	Total/NA	Water	SM 2510B	
MB 440-663757/3	Method Blank	Total/NA	Water	SM 2510B	
LCS 440-663757/4	Lab Control Sample	Total/NA	Water	SM 2510B	
570-80129-N-1 DU	Duplicate	Total/NA	Water	SM 2510B	

Analysis Batch: 664723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80140-1	Outfall018_20211226_Grab	Total/NA	Water	SM 2540F	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80140-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Client Sample ID: Outfall018_20211226_Grab
Lab Sample ID: 570-80140-1
Date Collected: 12/26/21 15:00
Matrix: Water
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	663938	01/07/22 04:55	N1A	IRV 2
	Instrument ID: GCMS13									
Total/NA	Analysis	8015B		1	5 mL	5 mL	205458	01/05/22 08:32	P1R	ECL 2
	Instrument ID: GC1									
Total/NA	Prep	3510C			248.7 mL	2.5 mL	204429	12/29/21 10:02	UFLU	ECL 1
Total/NA	Analysis	8015B		1			204739	12/30/21 20:34	N5Y3	ECL 1
	Instrument ID: GC48									
Total/NA	Prep	1664A			946 mL	1000 mL	205772	01/05/22 16:55	USUL	ECL 1
Total/NA	Analysis	1664A		1			205970	01/05/22 16:55	L6IE	ECL 1
	Instrument ID: ICPMS05									
Total/NA	Analysis	SM 2510B		1			663757	01/04/22 11:54	VY3D	IRV 2
	Instrument ID: COND13									
Total/NA	Analysis	SM 2540F		1	1000 mL	1000 mL	664723	01/18/22 13:03	W1BQ	IRV 2
	Instrument ID: NOEQUIP									

Client Sample ID: TB-20211226
Lab Sample ID: 570-80140-3
Date Collected: 12/26/21 15:00
Matrix: Water
Date Received: 12/27/21 17:35

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	664848	01/20/22 00:39	N1A	IRV 2
	Instrument ID: GCMS13									
Total/NA	Analysis	624.1	RA	1	10 mL	10 mL	664976	01/20/22 17:37	N1A	IRV 2
	Instrument ID: GCMS13									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80140-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
624.1		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
624.1		Water	1,2-Dichloro-1,1,2-trifluoroethane
624.1		Water	cis-1,2-Dichloroethene
624.1		Water	Cyclohexane
624.1		Water	Naphthalene
624.1		Water	Xylenes, Total

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80140-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	IRV 2
8015B	Gasoline Range Organics - (GC)	SW846	ECL 2
8015B	Diesel Range Organics (DRO) (GC)	SW846	ECL 1
1664A	HEM and SGT-HEM	1664A	ECL 1
SM 2510B	Conductivity, Specific Conductance	SM	IRV 2
SM 2540F	Solids, Settleable	SM	IRV 2
Subcontract	9223- Colilert 18 - E. Coli - level 4 required	None	Enthalpy
1664A	HEM and SGT-HEM (Aqueous)	1664A	ECL 1
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ECL 1
5030C	Purge and Trap	SW846	ECL 2

Protocol References:

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80140-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 Grab

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80140-1	Outfall018_20211226_Grab	Water	12/26/21 15:00	12/27/21 17:35
570-80140-3	TB-20211226	Water	12/26/21 15:00	12/27/21 17:35

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 456052
Report Level: IV
Report Date: 01/25/2022

Microbiology Tests

Analytical Report *prepared for:*

Virendra Patel
Eurofins Calscience Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing NPDES SSFL Outfalls #44024446

Authorized for release by:

Quynhgiao Le

Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Virendra Patel Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	Lab Job #: Project No: Location: Date Received:	456052 BOEING NPDES SSFL Boeing NPDES SSFL Outfalls #44024446 12/28/21

Sample ID	Lab ID	Collected	Matrix
OUTFALL018_20211226_GRAB (570-80140-1)	456052-001	12/26/21 15:00	Water

Case Narrative

MICROBIOLOGY TESTS (SM 9223BB)

Eurofins Calscience, Inc. 7440 Lincoln Way Garden Grove, CA 92841-1427 Virendra Patel	Lab Job Number: 456052 Location: Boeing NPDES SSFL Outfalls #44024446 Date Received: 12/28/21

This data package contains sample and QC results for one water sample, requested for the above referenced project on 12/28/21. See attached cooler receipt form for any sample receipt problems or discrepancies.

Chain of Custody

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-147893.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-80140-1
Address: 931 W. Barkley Ave, ,	Due Date Requested: 1/7/2022			
City: Orange	TAT Requested (days):			
State, Zip: CA, 92868				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (9223- Colilert 18 - E. Coli - level 4 required)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall018_20211226_Grab (570-80140-1)	12/26/21	15:00 Pacific		Water			X	3	Run and report 1x, 10x, and 100x dilutions - level 4

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/28/21	EC		12/28/21	EA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Eurofins Calscience Garden Grove Project: Boeing NPDES SSFL Outfall

Date Received: 12/28/21 Sampler's Name Present: ☐ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2) Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 0.4 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 0.1 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✔		
Are sample IDs present?	✔		
Are sampling dates & times present?	✔		
Is a relinquished signature present?	✔		
Are the tests required clearly indicated on the COC?	✔		
Are custody seals present?		✔	
If custody seals are present, were they intact?			✔
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	✔		
Did all samples arrive intact? If no, indicate in Section 4 below.	✔		
Did all bottle labels agree with COC? (ID, dates and times)	✔		
Were the samples collected in the correct containers for the required tests?	✔		
Are the containers labeled with the correct preservatives?	✔		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✔
Was a sufficient amount of sample submitted for the requested tests?	✔		

Section 5 Explanations/Comments

Received outside holding time.

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 12/28/21

Quynhgiao Le

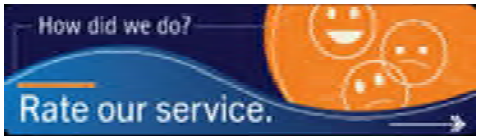
From: Patel, Virendra <Virendra.Patel@eurofinset.com> on behalf of Patel, Virendra
Sent: Tuesday, December 28, 2021 3:35 PM
To: Quynhgiao Le
Subject: [EXTERNAL] RE: Boeing NPDES SSFL Outfalls Samples Received Today - Out of Hold

Follow Up Flag: Follow up
Flag Status: Flagged

Yes – please proceed outside of hold. The client had to collect and hold over the holiday. Thank you!

Best Regards,

Virendra Patel
Project Manager



Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
P: +1 714 895 5494
F: +1 714 894 7501

Email: Virendra.Patel@eurofinsET.com
Website: www.eurofinsUS.com/Calscience

For up-to-date business information, visit our website and follow us on Facebook and LinkedIn.

From: Quynhgiao Le <quynhgiao.le@enthalpy.com>
Sent: Tuesday, December 28, 2021 3:34 PM
To: Patel, Virendra <Virendra.Patel@eurofinset.com>
Subject: Boeing NPDES SSFL Outfalls Samples Received Today - Out of Hold
Importance: High

EXTERNAL EMAIL*

HI Patel,

All 5 samples received today are out of hold. Please let me know if you'd still like to proceed with the analysis. Thanks!

Happy Holidays from Enthalpy Analytical. We will be closed on Dec 24th, Dec 25th , Jan 1st and Jan 3rd. Sample Receiving will be closed at 3PM on Dec 31st. Please contact your project manager in advance for sample submittals with short hold time and please submit them by Tuesday Dec. 21st for the week of Dec. 20 and by Wednesday, Dec 29th for the week of Dec. 27. Microbiological samples submitted after Dec 17th may incur holiday surcharges.

Quynhgiao Le
Project Manager Assistant
ENTHALPY ANALYTICAL
931 W. Barkley Ave., Orange, CA 92868
O: 714.771.6900 X 9929
Quynhgiao.Le@enthalpy.com

To help protect the air we breathe, the water we drink, and the soil that feeds us.

Please take a moment to provide customer feedback
Terms and Conditions & Enthalpy Sample Acceptance Policy

https://enthalpy.com/news-events/

Results & QC Summary

ENTHALPY ANALYTICAL

Total Coliform / E. coli by Quanti-Tray

Lab #: 456052 **Project#:** BOEING NPDES SSFL

Client: Eurofins Calscience Tustin **Location:** Boeing NPDES SSFL Outfalls #44024446

Field ID:	OUTFALL018_20211226_GRAB (570-80140-1)	**Batch#:**	280855	**Analyzed:**	12/29/21 10:53
Lab ID:	456052-001	**Sampled:**	12/26/21 15:00	**Prep:**	
Matrix:	Water	**Received:**	12/28/21	**Analysis:**	SM 9223Bb
Dil'n Fac:	1.000	**Prepared:**	12/28/21 16:22	**Analyst:**	SZL

Analyte	Result	RL	Units	Qual
Coliform, E. Coli	<1.0	1.0	MPN/100ml	H

Legend

H: Holding time was exceeded

RL: Reporting Limit

SM 9223 B-b, Quanti-Tray

Prep Analyst: SL Prep Date/Time: 12/28/21 1622 QC Batch ID: 280855 Batch Page 1 of 2

Read Analyst: SL Read Date/Time 12/29/21 1053

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: HT510 Pipette Lot #: A103665, A103909, & A103931

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 12/1/21 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: A Incubator In, Temp/Time: 34.8 1646 Incubator Out, Temp/Time: 1053 35.1

Fecal Coliform: Water Bath ID: N/A Water Bath In, Temp/Time: N/A Water Bath Out, Temp/Time: N/A

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
ECL GG		456046-001	1X	49	48	>2419.6	>2400	40	9	95.9	96					EU-01
↓		↓	10X	49	36	866.4	8700	8	1	9.7	97					↓
			100X	36	5	69.7	7000	0	0	<1	<100					
		456044-001	1X	49	48	>2419.6	>2400	46	10	146.7	150					EU2-01
		↓	10X	49	39	1046.2	10,000	7	3	10.7	110					↓
			100X	28	5	47.3	4700	0	0	<1	<100					
		456049-001	1X	49	48	>2419.6	>2400	3	0	3.1	3.1					EU3-01
		↓	10X	49	~~48~~ 25	461.1	4600	1	0	1.0	10					↓
			100X	34	5	63.1	6300	0	0	<1	<100					
		456047-001	1X	49	48	>2419.6	>2400	31	4	52.9	53					EU4-01
		↓	10X	49	48	>2419.6	>24000	1	0	1.0	10					↓
			100X	49	47	2419.6	240000	0	0	<1	<100					
↓		456052-001	1X	33	4	58.3	58	0	0	<1	<1					EU5-01
Quality Control		**Culture ID**														
Positive +/+ (E. Coli)		12/06/21		49	48	>2419.6	>2400	49	48	>2419.6	>2400					
Positive +/- (K. Pneumonia)		↓		49	48	>2419.6	>2400	0	0	<1	<1					
Negative -/- (P. Aeruginosa)		↓		0	0	<1	<1	0	0	<1	<1					

(Fecal Coliform columns struck through diagonally, annotated: NA 12/30/21)

Data Entered By: NA 12/30/21 Data Reviewed By: ______

SM 9223 B-b, Quanti-Tray

Prep Analyst: SL Prep Date/Time: 12/28/21 1622 QC Batch ID: 280855 Batch Page 2 of 2

Read Analyst: SL Read Date/Time 12/29/21 1053

Media Used (check one): ☐Colisure ☒Colilert 18 ☐Colilert 24 Media Lot #: HT510 Pipette Lot #: A103665, A103909, & A103931

Monthly Quanti-tray Sealer Check: Did it Pass? ☒Yes ☐No Date of last check*: 12/1/21 * Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: A Incubator In, Temp/Time: 34.8 1646 Incubator Out, Temp/Time: 1035 35.1

Fecal Coliform: Water Bath ID: N/A Water Bath In, Temp/Time: N/A Water Bath Out, Temp/Time: N/A

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts (Colilert 18) Large Wells	Total Coliform Counts (Colilert 18) Small Wells	MPN Table Value	Final Result, MPN	E. coli Counts (Colilert 18) Large Wells	E. coli Counts (Colilert 18) Small Wells	MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only) Large Wells	Fecal Coliform Counts (Colilert 18 only) Small Wells	MPN Table Value	Final Result, MPN	Comments
ECL GG		456053-001	10X	1	1	2.0	20	0	0	<1	<10					EUS-01
↓		↓	100X	1	0	1.0	100	0	0	<1	<100					↓

Quality Control	Culture ID
Positive +/+ (E. Coli)	12/26/21
Positive +/- (K. Pneumonia)	↓
Negative -/- (P. Aeruginosa)	

Data Entered By: 12/30/21 Data Reviewed By:

Enthalpy Analytical, Orange, Logbook # BK774

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80140 Chain of Custody

80140

Page 1 of 1

WYRZRS 9L

Client Name/Address:	Project:	Sampler:
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Eurofins Calscience Irvine Contact: Virendra Patel EC# 44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 018 Grab	MARK DOMINICK
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 Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

ANALYSIS REQUIRED (A A R R R R/Q/A A A A)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	MST-Bacteroidales, Human (SAM348-357) Source Molecular in Miami Lakes, FL	E coli (SM9221) Enthalpy Analytical Orange CA	Settleable Solids (E160.5 (SM2540F))	Conductivity (SM2510B / E120 1)	Oil & Grease (E1664A-HEM)	VOCs + VOCs PP + xylenes, Freon 11 Freon 113, Freon 123A, Cyclohexane cis-1 2-DCE (E624)	VOCs only A+A+2CVE (E624)	TPH: gas (GRO(C4-C12)) (SW8015B)	TPH diesel/jet fuel (DRO (C13-C28)) (SW8015B)				Comments
Outfall 018	Outfall018_20211226_Grab	12/26/2021 1500	WM	125mL Sterile Poly	1	None	5	No	X												Deliver to lab ASAP 8 hr hold time
			WM	125mL Sterile Poly	3	$Na_2S_2O_3$	10	No		X											Deliver to lab ASAP 8 hr hold time Need 1x, 10x, 100x dilutions
			WM	1 L Glass Amber	2	HCl	15	No					X								
			WM	40 mL VOA	3	HCl	45	No						X							
			WM	40 mL VOA	3	None	55	No							X						
			WM	40 mL VOA	3	HCl	60	No								X					
			WM	1 L Glass Amber	2	None	65	No									X				
			WM	1 L Poly	1	None	70	No			X										
			WM	500 mL Poly	1	None	75	No				X									
	Outfall018_20211226_Grab_Extra	12/26/2021 1500	WM	1 L Glass Amber	2	HCl	15	No					H								Hold
			WM	40 mL VOA	3	HCl	45	No						H							Hold
			WM	40 mL VOA	3	None	55	No							H						Hold
			WM	500 mL Poly	1	None	75	No				H									Hold
Trip Blanks	TB-20211226	12/26/2021 1500	WQ	40 mL VOA	2	HCl	45	No						X							
			WQ	40 mL VOA	2	None	55	No							X						

Field Readings | Meter serial #

Field Readings: (Include units)
Time of Readings: 1450
DO 7.96 mg/L
pH 6.98 pH unit
Temp 52.2 °C/°F
TRC _____ mg/L

Field readings QC
Checked by: [signature]
Date/Time: 12-26-2021/1450

Legend: A=Annual, R=Routine, Q=Quarterly

Relinquished By	Date/Time:	Company	Received By	Date/Time:
[signature]	12-27-2021/1445	H&A	[signature]	EC 12/27/21 1445
[signature]	12/27/21 1735		[signature]	12/27/21 1735

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___

Delivered Separately to Source Molecular via FedEX

2.5/3.4 SCS

1/25/2022 (Rev. 1)

2019-2020 Rainy Season
Version 5

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80140-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2540F/ Solids, Settleable	624.1_LL/624_Prep_3D PP+xyl+fr113,11,123A+cyclohex+A+A+2CVE	2510B	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
Outfall018_20211226_Grab (570-80140-1)	12/26/21	15 00 Pacific		Water			X	X	X	2	Analyze on "Closed System only"

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements. IR-89 1.4/1.4

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/28/21	EC			
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
				Olga Oivelos	12/28/21 1752	ECT
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks:

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147901 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80140-1
Address: 2841 Dow Avenue	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM2540F/ Solids, Settleable	624.1_LL/624_Prep_3D PP+xyl+fr113,11,123A+cyclohex+A+A+2CVE	2510B	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
Outfall018_20211226_Grab (570-80140-1)	12/26/21	15 00 Pacific		Water			X	X	X	2	Analyze on "Closed System only"

Preservation Codes: A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F - MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M - Hexane, N None, O AsNaO2, P - Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T - TSP Dodecahydrate, U Acetone, V MCAA, W - pH 4-5, Z other (specify); Other:

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements: IR-89 1.4/1.0/

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/28/21	EC			
2		Date/Time	Company	Received by: Olgei Ovelos	12/28/21 1752	ECT
3		Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80140-1

Login Number: 80140
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80140-1

Login Number: 80140
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 12/29/21 10:10 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80140-1

Login Number: 80140
List Number: 3
Creator: Lagunas, Jorge L

List Source: Eurofins Calscience Tustin
List Creation: 01/19/22 07:02 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80231-1
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP
Revision: 2

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/6/2022 12:50:44 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 5
Detection Summary 7
Client Sample Results 8
Surrogate Summary 27
QC Sample Results 29
QC Association Summary 51
Lab Chronicle 58
Certification Summary 60
Method Summary 61
Sample Summary 62
Chain of Custody 63
Receipt Checklists 71

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

GC Semi VOA

Qualifier	Qualifier Description
BA	Relative percent difference out of control
PI	Primary and confirm results varied by > than 40% RPD

HPLC/IC

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
EY	Result exceeds normal dynamic range; reported as a min. est.

Metals

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank

General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80231-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80231-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 1/24/2022. The report (revision 2) is being revised due to: The client requested Calcium/Magnesium to be removed from the Level 2 report..

Report revision history
Revision 1 - 1/26/2022 - Reason - The client requested Calcium/Magnesium to be removed from the Level 2 report..

Receipt
The samples were received on 12/28/2021 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.8º C and 3.0º C.

Receipt Exceptions

The following sample(s) was listed on the Chain-of-Custody (COC); however, due to a shipping delay, the sample was not received. Only 1 of 2 coolers were received. Missing 7756 2990 7127

The AWB and Copy ICOCs were taped on top of coolers. Cooler 2/2 - 7756 2990 7127 AWB was rolled up an attached to the back of Cooler 1/2. So the 2/2 Cooler has no Identification on the outside. So hoping it is not lost.

1. Received the 1 Liter Amber 1-H
Missing The 1-L bottle

The following samples were received at the laboratory outside the required temperature criteria at 11.9C Outfall018_20211228_Comp (570-80231-1), Outfall018_20211228_Comp_Extra (570-80231-2) and Outfall018_20211228_Comp_F (570-80231-3). The second cooler was received on 1/5/22. There were no tags on the cooler because they were attached to the first cooler.

GC/MS VOA
Method 8260B SIM: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-205888. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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
Method 608.3: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 570-204501 and analytical batch 570-204998 recovered outside control limits for the following analytes: 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, alpha-BHC, Aldrin, Endosulfan I, Endosulfan sulfate, Endrin aldehyde and Heptachlor epoxide.
Laboratory control sample / laboratory control sample duplicate (LCS/LCSD) percent recovery is in control for affected analytes.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 570-80231-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

Metals
Method 245.1: The calibration plot for analytical batch 440-664158 can not be provided due to instrument software limitations. The calibration plot must be printed out immediately after the calibration has been analyzed; it cannot be regenerated once a second calibration is analyzed. However, the concentration and instrument responses for the ICAL points are listed in the raw data provided and results reported are based on these data.

(MB 440-663653/1-B)

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall018_20211228_Comp_F (570-80231-3). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with insufficient time to filter within the HT.

12/30/21 @ 15:08 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall018_20211228_Comp_F (570-80231-3). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with insufficient time to filter within the HT.

12/30/21 @ 14:53 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method SM5210B: The following sample was analyzed outside of analytical holding time due to system outages.
Outfall018_20211228_Comp (570-80231-1)

Method 180.1: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: Outfall018_20211228_Comp (570-80231-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-204353. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 625.1 Sim

Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-204501. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 608.3 LL PEST PCB

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: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Client Sample ID: Outfall018_20211228_Comp
Lab Sample ID: 570-80231-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pentachlorophenol	0.55	J,DX	1.1	0.11	ug/L	1		625.1 SIM	Total/NA
Chromium, hexavalent	1.1		0.20	0.019	ug/L	1		218.6	Total/NA
Chloride	5.3		1.0	0.36	mg/L	1		300.0	Total/NA
Nitrate as N	2.9		0.10	0.024	mg/L	1		300.0	Total/NA
Sulfate - DL	130		2.0	0.47	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	2.9		0.20	0.071	mg/L	1		NO2NO3 Calc	Total/NA
Barium	9.7	J,DX	10	2.2	ug/L	1		200.7 Rev 4.4	Total Recoverable
Boron	44	J,DX	50	25	ug/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	15	J,DX	20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Copper	2.4		2.0	0.50	ug/L	1		200.8	Total Recoverable
Hardness, as CaCO3	53		0.91	0.17	mg/L	1		SM 2340B	Total Recoverable
Turbidity	0.40	BU	0.10	0.05	NTU	1		180.1	Total/NA
Total Dissolved Solids	240		10	3.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	1.0		1.0	0.50	mg/L	1		SM 2540D	Total/NA
Ammonia (as N)	0.125	J,DX	0.200	0.100	mg/L	1		SM 4500 NH3 G	Total/NA
Carbon, Total Organic	5.0		0.50	0.026	mg/L	1		SM 5310D	Total/NA
MBAS	0.35	BU	0.30	0.15	mg/L	1		SM 5540C	Total/NA
Biochemical Oxygen Demand	66	BU	50	29	mg/L	1		SM5210B	Total/NA

Client Sample ID: Outfall018_20211228_Comp_F
Lab Sample ID: 570-80231-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	8.9	J,DX	10	2.2	ug/L	1		200.7 Rev 4.4	Dissolved
Boron	39	J,DX	50	25	ug/L	1		200.7 Rev 4.4	Dissolved
Manganese	13	J,DX	20	6.8	ug/L	1		200.7 Rev 4.4	Dissolved
Copper	1.6	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.14	J,DX MB	0.20	0.10	ug/L	1		245.1	Dissolved
Hardness, as CaCO3	50		0.91	0.17	mg/L	1		SM 2340B	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall018_20211228_Comp
Lab Sample ID: 570-80231-1
Date Collected: 12/28/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.55	ug/L			01/06/22 15:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dichlorobutane (Surr)	*128*		*67 - 133*		*01/06/22 15:32*	*1*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: Outfall018_20211228_Comp
Lab Sample ID: 570-80231-1
Date Collected: 12/28/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.21	0.14	ug/L		12/29/21 09:01	12/30/21 16:53	1
1,2-Dichlorobenzene	ND		0.21	0.14	ug/L		12/29/21 09:01	12/30/21 16:53	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.21	0.073	ug/L		12/29/21 09:01	12/30/21 16:53	1
1,3-Dichlorobenzene	ND		0.21	0.13	ug/L		12/29/21 09:01	12/30/21 16:53	1
1,4-Dichlorobenzene	ND		0.21	0.13	ug/L		12/29/21 09:01	12/30/21 16:53	1
2,4,6-Trichlorophenol	ND		1.1	0.072	ug/L		12/29/21 09:01	12/30/21 16:53	1
2,4-Dichlorophenol	ND		1.1	0.10	ug/L		12/29/21 09:01	12/30/21 16:53	1
2,4-Dimethylphenol	ND		0.21	0.14	ug/L		12/29/21 09:01	12/30/21 16:53	1
2,4-Dinitrophenol	ND		5.3	1.1	ug/L		12/29/21 09:01	12/30/21 16:53	1
2,4-Dinitrotoluene	ND		0.21	0.11	ug/L		12/29/21 09:01	12/30/21 16:53	1
2,6-Dinitrotoluene	ND		0.21	0.14	ug/L		12/29/21 09:01	12/30/21 16:53	1
2-Chloronaphthalene	ND		0.21	0.14	ug/L		12/29/21 09:01	12/30/21 16:53	1
2-Chlorophenol	ND		0.21	0.087	ug/L		12/29/21 09:01	12/30/21 16:53	1
2-Nitrophenol	ND		5.3	1.5	ug/L		12/29/21 09:01	12/30/21 16:53	1
3,3'-Dichlorobenzidine	ND		5.3	1.7	ug/L		12/29/21 09:01	12/30/21 16:53	1
4,6-Dinitro-2-methylphenol	ND		5.3	4.2	ug/L		12/29/21 09:01	12/30/21 16:53	1
4-Bromophenyl phenyl ether	ND		0.21	0.082	ug/L		12/29/21 09:01	12/30/21 16:53	1
4-Chloro-3-methylphenol	ND		1.1	0.12	ug/L		12/29/21 09:01	12/30/21 16:53	1
4-Chlorophenyl phenyl ether	ND		0.21	0.096	ug/L		12/29/21 09:01	12/30/21 16:53	1
4-Nitrophenol	ND		5.3	1.2	ug/L		12/29/21 09:01	12/30/21 16:53	1
Acenaphthene	ND		0.21	0.091	ug/L		12/29/21 09:01	12/30/21 16:53	1
Acenaphthylene	ND		0.21	0.089	ug/L		12/29/21 09:01	12/30/21 16:53	1
Anthracene	ND		0.21	0.077	ug/L		12/29/21 09:01	12/30/21 16:53	1
Benzidine	ND		5.3	2.4	ug/L		12/29/21 09:01	12/30/21 16:53	1
Benzo[a]anthracene	ND		0.21	0.074	ug/L		12/29/21 09:01	12/30/21 16:53	1
Benzo[a]pyrene	ND		0.21	0.077	ug/L		12/29/21 09:01	12/30/21 16:53	1
Benzo[b]fluoranthene	ND		0.21	0.11	ug/L		12/29/21 09:01	12/30/21 16:53	1
Benzo[g,h,i]perylene	ND		0.21	0.13	ug/L		12/29/21 09:01	12/30/21 16:53	1
Benzo[k]fluoranthene	ND		0.21	0.082	ug/L		12/29/21 09:01	12/30/21 16:53	1
bis (2-chloroisopropyl) ether	ND		0.21	0.097	ug/L		12/29/21 09:01	12/30/21 16:53	1
Bis(2-chloroethoxy)methane	ND		0.21	0.15	ug/L		12/29/21 09:01	12/30/21 16:53	1
Bis(2-chloroethyl)ether	ND		0.21	0.10	ug/L		12/29/21 09:01	12/30/21 16:53	1
Bis(2-ethylhexyl) phthalate	ND		5.3	1.9	ug/L		12/29/21 09:01	12/30/21 16:53	1
Butyl benzyl phthalate	ND		5.3	0.60	ug/L		12/29/21 09:01	12/30/21 16:53	1
Chrysene	ND		0.21	0.061	ug/L		12/29/21 09:01	12/30/21 16:53	1
Dibenz(a,h)anthracene	ND		0.21	0.15	ug/L		12/29/21 09:01	12/30/21 16:53	1
Diethyl phthalate	ND		2.1	0.14	ug/L		12/29/21 09:01	12/30/21 16:53	1
Dimethyl phthalate	ND		2.1	0.076	ug/L		12/29/21 09:01	12/30/21 16:53	1
Di-n-butyl phthalate	ND		2.1	0.73	ug/L		12/29/21 09:01	12/30/21 16:53	1
Di-n-octyl phthalate	ND		5.3	0.68	ug/L		12/29/21 09:01	12/30/21 16:53	1
Fluoranthene	ND		0.21	0.10	ug/L		12/29/21 09:01	12/30/21 16:53	1
Fluorene	ND		0.21	0.085	ug/L		12/29/21 09:01	12/30/21 16:53	1
Hexachlorobenzene	ND		0.21	0.10	ug/L		12/29/21 09:01	12/30/21 16:53	1
Hexachlorobutadiene	ND		0.21	0.18	ug/L		12/29/21 09:01	12/30/21 16:53	1
Hexachlorocyclopentadiene	ND		0.21	0.10	ug/L		12/29/21 09:01	12/30/21 16:53	1
Hexachloroethane	ND		0.21	0.16	ug/L		12/29/21 09:01	12/30/21 16:53	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.13	ug/L		12/29/21 09:01	12/30/21 16:53	1
Isophorone	ND		0.21	0.094	ug/L		12/29/21 09:01	12/30/21 16:53	1
Naphthalene	ND		0.21	0.10	ug/L		12/29/21 09:01	12/30/21 16:53	1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Client Sample ID: Outfall018_20211228_Comp **Lab Sample ID: 570-80231-1**
Date Collected: 12/28/21 09:30 **Matrix: Water**
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		0.21	0.10	ug/L		12/29/21 09:01	12/30/21 16:53	1
N-Nitrosodimethylamine	ND		0.21	0.15	ug/L		12/29/21 09:01	12/30/21 16:53	1
N-Nitrosodi-n-propylamine	ND		0.21	0.066	ug/L		12/29/21 09:01	12/30/21 16:53	1
N-Nitrosodiphenylamine	ND		0.21	0.10	ug/L		12/29/21 09:01	12/30/21 16:53	1
Pentachlorophenol	**0.55**	**J,DX**	1.1	0.11	ug/L		12/29/21 09:01	12/30/21 16:53	1
Phenanthrene	ND		0.21	0.079	ug/L		12/29/21 09:01	12/30/21 16:53	1
Phenol	ND		0.21	0.080	ug/L		12/29/21 09:01	12/30/21 16:53	1
Pyrene	ND		0.21	0.085	ug/L		12/29/21 09:01	12/30/21 16:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*71*		*28 - 127*	*12/29/21 09:01*	*12/30/21 16:53*	*1*
2-Fluorobiphenyl (Surr)	*53*		*31 - 120*	*12/29/21 09:01*	*12/30/21 16:53*	*1*
2-Fluorophenol	*43*		*17 - 120*	*12/29/21 09:01*	*12/30/21 16:53*	*1*
Nitrobenzene-d5	*59*		*27 - 120*	*12/29/21 09:01*	*12/30/21 16:53*	*1*
Phenol-d6 (Surr)	*30*		*10 - 120*	*12/29/21 09:01*	*12/30/21 16:53*	*1*
p-Terphenyl-d14 (Surr)	*54*		*45 - 120*	*12/29/21 09:01*	*12/30/21 16:53*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall018_20211228_Comp
Date Collected: 12/28/21 09:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80231-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND	BA	0.0013	0.00070	ug/L		12/29/21 12:33	01/03/22 17:46	1
alpha-BHC	ND	BA	0.0013	0.00080	ug/L		12/29/21 12:33	01/03/22 17:46	1
beta-BHC	ND		0.0020	0.0017	ug/L		12/29/21 12:33	01/03/22 17:46	1
delta-BHC	ND		0.0013	0.0011	ug/L		12/29/21 12:33	01/03/22 17:46	1
gamma-BHC (Lindane)	ND		0.0013	0.00090	ug/L		12/29/21 12:33	01/03/22 17:46	1
Chlordane (technical)	ND		0.010	0.0065	ug/L		12/29/21 12:33	01/03/22 17:46	1
4,4'-DDD	ND	BA	0.0013	0.00080	ug/L		12/29/21 12:33	01/03/22 17:46	1
4,4'-DDE	ND	BA	0.0013	0.00050	ug/L		12/29/21 12:33	01/03/22 17:46	1
4,4'-DDT	ND	BA	0.0033	0.0016	ug/L		12/29/21 12:33	01/03/22 17:46	1
Dieldrin	ND		0.0013	0.00050	ug/L		12/29/21 12:33	01/03/22 17:46	1
Endosulfan I	ND	BA	0.0013	0.00070	ug/L		12/29/21 12:33	01/03/22 17:46	1
Endosulfan II	ND		0.0013	0.00050	ug/L		12/29/21 12:33	01/03/22 17:46	1
Endosulfan sulfate	ND	BA	0.0013	0.00060	ug/L		12/29/21 12:33	01/03/22 17:46	1
Endrin	ND		0.0013	0.00070	ug/L		12/29/21 12:33	01/03/22 17:46	1
Endrin aldehyde	ND	BA	0.010	0.0051	ug/L		12/29/21 12:33	01/03/22 17:46	1
Heptachlor	ND		0.0013	0.00070	ug/L		12/29/21 12:33	01/03/22 17:46	1
Heptachlor epoxide	ND	BA	0.0013	0.00040	ug/L		12/29/21 12:33	01/03/22 17:46	1
Toxaphene	ND		0.10	0.013	ug/L		12/29/21 12:33	01/03/22 17:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*38*		*20 - 139*	*12/29/21 12:33*	*01/03/22 17:46*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: Outfall018_20211228_Comp
Lab Sample ID: 570-80231-1
Date Collected: 12/28/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		12/29/21 12:33	01/03/22 22:10	1
Aroclor 1221	ND		0.10	0.044	ug/L		12/29/21 12:33	01/03/22 22:10	1
Aroclor 1232	ND		0.10	0.044	ug/L		12/29/21 12:33	01/03/22 22:10	1
Aroclor 1242	ND		0.10	0.044	ug/L		12/29/21 12:33	01/03/22 22:10	1
Aroclor 1248	ND		0.10	0.044	ug/L		12/29/21 12:33	01/03/22 22:10	1
Aroclor 1254	ND		0.10	0.052	ug/L		12/29/21 12:33	01/03/22 22:10	1
Aroclor 1260	ND		0.10	0.052	ug/L		12/29/21 12:33	01/03/22 22:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*52*		*20 - 154*	*12/29/21 12:33*	*01/03/22 22:10*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Client Sample ID: Outfall018_20211228_Comp
Lab Sample ID: 570-80231-1
Date Collected: 12/28/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	1.1		0.20	0.019	ug/L			12/28/21 22:50	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall018_20211228_Comp
Lab Sample ID: 570-80231-1
Date Collected: 12/28/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.3**		1.0	0.36	mg/L			12/29/21 15:57	1
Nitrite as N	ND		0.10	0.018	mg/L			12/29/21 15:57	1
Fluoride	ND		0.10	0.046	mg/L			12/29/21 15:57	1
Nitrate as N	**2.9**		0.10	0.024	mg/L			12/29/21 15:57	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 300.0 - Anions, Ion Chromatography - DL

Client Sample ID: Outfall018_20211228_Comp
Lab Sample ID: 570-80231-1
Date Collected: 12/28/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	130		2.0	0.47	mg/L			01/05/22 15:25	2

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 314.0 - Perchlorate (IC)

Client Sample ID: Outfall018_20211228_Comp
Lab Sample ID: 570-80231-1
Date Collected: 12/28/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/03/22 14:46	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall018_20211228_Comp
Lab Sample ID: 570-80231-1
Date Collected: 12/28/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	2.9		0.20	0.071	mg/L			01/03/22 16:37	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: Outfall018_20211228_Comp
Lab Sample ID: 570-80231-1
Date Collected: 12/28/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/15/22 08:34	01/17/22 14:27	1
Barium	**9.7**	**J,DX**	10	2.2	ug/L		01/15/22 08:34	01/17/22 14:27	1
Beryllium	ND		2.0	0.44	ug/L		01/15/22 08:34	01/17/22 14:27	1
Boron	**44**	**J,DX**	50	25	ug/L		01/15/22 08:34	01/17/22 14:27	1
Chromium	ND		5.0	2.5	ug/L		01/15/22 08:34	01/17/22 14:27	1
Cobalt	ND		10	2.8	ug/L		01/15/22 08:34	01/17/22 14:27	1
Iron	ND		100	50	ug/L		01/15/22 08:34	01/17/22 14:27	1
Manganese	**15**	**J,DX**	20	6.8	ug/L		01/15/22 08:34	01/17/22 14:27	1
Nickel	ND		10	5.0	ug/L		01/15/22 08:34	01/17/22 14:27	1
Vanadium	ND		10	2.1	ug/L		01/15/22 08:34	01/17/22 14:27	1
Zinc	ND		20	12	ug/L		01/15/22 08:34	01/17/22 14:27	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: Outfall018_20211228_Comp_F
Lab Sample ID: 570-80231-3
Date Collected: 12/28/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/05/22 07:23	01/06/22 14:20	1
Barium	**8.9**	**J,DX**	10	2.2	ug/L		01/05/22 07:23	01/06/22 14:20	1
Beryllium	ND		2.0	0.44	ug/L		01/05/22 07:23	01/06/22 14:20	1
Boron	**39**	**J,DX**	50	25	ug/L		01/05/22 07:23	01/06/22 14:20	1
Chromium	ND		5.0	2.5	ug/L		01/05/22 07:23	01/06/22 14:20	1
Cobalt	ND		10	2.8	ug/L		01/05/22 07:23	01/06/22 14:20	1
Iron	ND		100	50	ug/L		01/05/22 07:23	01/06/22 14:20	1
Manganese	**13**	**J,DX**	20	6.8	ug/L		01/05/22 07:23	01/06/22 14:20	1
Nickel	ND		10	5.0	ug/L		01/05/22 07:23	01/06/22 14:20	1
Vanadium	ND		10	2.1	ug/L		01/05/22 07:23	01/06/22 14:20	1
Zinc	ND		20	12	ug/L		01/05/22 07:23	01/06/22 14:20	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall018_20211228_Comp
Lab Sample ID: 570-80231-1
Date Collected: 12/28/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/15/22 06:32	01/17/22 12:57	1
Cadmium	ND		1.0	0.25	ug/L		01/15/22 06:32	01/17/22 12:57	1
Copper	**2.4**		2.0	0.50	ug/L		01/15/22 06:32	01/17/22 12:57	1
Lead	ND		1.0	0.50	ug/L		01/15/22 06:32	01/17/22 12:57	1
Antimony	ND		2.0	0.50	ug/L		01/15/22 06:32	01/17/22 12:57	1
Selenium	ND		2.0	0.50	ug/L		01/15/22 06:32	01/17/22 12:57	1
Thallium	ND		1.0	0.20	ug/L		01/15/22 06:32	01/17/22 12:57	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall018_20211228_Comp_F
Lab Sample ID: 570-80231-3
Date Collected: 12/28/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/05/22 07:24	01/05/22 13:16	1
Cadmium	ND		1.0	0.25	ug/L		01/05/22 07:24	01/05/22 13:16	1
Copper	**1.6**	**J,DX**	2.0	0.50	ug/L		01/05/22 07:24	01/05/22 13:16	1
Lead	ND		1.0	0.50	ug/L		01/05/22 07:24	01/05/22 13:16	1
Antimony	ND		2.0	0.50	ug/L		01/05/22 07:24	01/05/22 13:16	1
Selenium	ND		2.0	0.50	ug/L		01/05/22 07:24	01/05/22 13:16	1
Thallium	ND		1.0	0.20	ug/L		01/05/22 07:24	01/05/22 13:16	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 245.1 - Mercury (CVAA)

Client Sample ID: Outfall018_20211228_Comp
Lab Sample ID: 570-80231-1
Date Collected: 12/28/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/19/22 15:04	01/20/22 19:23	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall018_20211228_Comp_F
Lab Sample ID: 570-80231-3
Date Collected: 12/28/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.14	J,DX MB	0.20	0.10	ug/L		01/10/22 10:15	01/10/22 15:58	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Client Sample ID: Outfall018_20211228_Comp
Lab Sample ID: 570-80231-1
Date Collected: 12/28/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	53		0.91	0.17	mg/L			01/19/22 17:16	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Client Sample ID: Outfall018_20211228_Comp_F
Lab Sample ID: 570-80231-3
Date Collected: 12/28/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	50		0.91	0.17	mg/L			01/06/22 17:20	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

General Chemistry

Client Sample ID: Outfall018_20211228_Comp
Lab Sample ID: 570-80231-1
Date Collected: 12/28/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	**0.40**	**BU**	0.10	0.05	NTU			01/19/22 18:28	1
Cr (III)	ND		0.050	0.0069	mg/L			01/18/22 12:39	1
Total Dissolved Solids	**240**		10	3.0	mg/L			12/30/21 09:00	1
Total Suspended Solids	**1.0**		1.0	0.50	mg/L			12/29/21 17:58	1
Cyanide, Total	ND		0.0030	0.0014	mg/L		12/29/21 13:00	12/30/21 15:27	1
Ammonia (as N)	**0.125**	**J,DX**	0.200	0.100	mg/L			01/07/22 13:02	1
Carbon, Total Organic	**5.0**		0.50	0.026	mg/L			01/18/22 14:19	1
MBAS	**0.35**	**BU**	0.30	0.15	mg/L		12/30/21 22:00	12/31/21 09:19	1
Biochemical Oxygen Demand	**66**	**BU**	50	29	mg/L			12/30/21 10:51	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	14DCBTN (67-133)						
570-80231-1	Outfall018_20211228_Comp	128						
LCS 570-205888/4	Lab Control Sample	112						
LCSD 570-205888/5	Lab Control Sample Dup	116						
MB 570-205888/8	Method Blank	129						

Surrogate Legend

14DCBTN = 1,4-Dichlorobutane (Surr)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	TBP (28-127)	FBP (31-120)	2FP (17-120)	NBZ (27-120)	PHL6 (10-120)	TPHd14 (45-120)	
570-80231-1	Outfall018_20211228_Comp	71	53	43	59	30	54	
LCS 570-204353/2-A	Lab Control Sample	88	62	53	64	34	77	
LCSD 570-204353/3-A	Lab Control Sample Dup	80	57	45	58	30	68	
MB 570-204353/1-A	Method Blank	81	61	47	67	31	70	

Surrogate Legend

TBP = 2,4,6-Tribromophenol
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL6 = Phenol-d6 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	TCX1 (20-139)						
570-80231-1	Outfall018_20211228_Comp	38						
LCS 570-204501/2-A	Lab Control Sample	42						
LCSD 570-204501/3-A	Lab Control Sample Dup	57						
MB 570-204501/1-A	Method Blank	67						

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)						
570-80231-1	Outfall018_20211228_Comp	52						
LCS 570-204501/4-A	Lab Control Sample	73						
LCSD 570-204501/5-A	Lab Control Sample Dup	67						
MB 570-204501/1-A	Method Blank	61						

Surrogate Legend

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-205888/8
Matrix: Water
Analysis Batch: 205888

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.55	ug/L			01/06/22 12:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dichlorobutane (Surr)	*129*		*67 - 133*		*01/06/22 12:58*	*1*

Lab Sample ID: LCS 570-205888/4
Matrix: Water
Analysis Batch: 205888

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			20.0	19.7		ug/L		98	75 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dichlorobutane (Surr)	*112*		*67 - 133*

Lab Sample ID: LCSD 570-205888/5
Matrix: Water
Analysis Batch: 205888

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			20.0	19.3		ug/L		96	75 - 120	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dichlorobutane (Surr)	*116*		*67 - 133*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-204353/1-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204353

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
1,2-Dichlorobenzene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.20	0.069	ug/L		12/29/21 05:48	12/30/21 12:18	1
1,3-Dichlorobenzene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
1,4-Dichlorobenzene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,4,6-Trichlorophenol	ND		1.0	0.067	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,4-Dichlorophenol	ND		1.0	0.097	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,4-Dimethylphenol	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,4-Dinitrophenol	ND		5.0	0.99	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,4-Dinitrotoluene	ND		0.20	0.11	ug/L		12/29/21 05:48	12/30/21 12:18	1
2,6-Dinitrotoluene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
2-Chloronaphthalene	ND		0.20	0.14	ug/L		12/29/21 05:48	12/30/21 12:18	1
2-Chlorophenol	ND		0.20	0.082	ug/L		12/29/21 05:48	12/30/21 12:18	1
2-Nitrophenol	ND		5.0	1.4	ug/L		12/29/21 05:48	12/30/21 12:18	1
3,3'-Dichlorobenzidine	ND		5.0	1.6	ug/L		12/29/21 05:48	12/30/21 12:18	1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: MB 570-204353/1-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204353

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		5.0	4.0	ug/L		12/29/21 05:48	12/30/21 12:18	1
4-Bromophenyl phenyl ether	ND		0.20	0.077	ug/L		12/29/21 05:48	12/30/21 12:18	1
4-Chloro-3-methylphenol	ND		1.0	0.12	ug/L		12/29/21 05:48	12/30/21 12:18	1
4-Chlorophenyl phenyl ether	ND		0.20	0.090	ug/L		12/29/21 05:48	12/30/21 12:18	1
4-Nitrophenol	ND		5.0	1.1	ug/L		12/29/21 05:48	12/30/21 12:18	1
Acenaphthene	ND		0.20	0.086	ug/L		12/29/21 05:48	12/30/21 12:18	1
Acenaphthylene	ND		0.20	0.084	ug/L		12/29/21 05:48	12/30/21 12:18	1
Anthracene	ND		0.20	0.072	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzidine	ND		5.0	2.3	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzo[a]anthracene	ND		0.20	0.070	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzo[a]pyrene	ND		0.20	0.072	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzo[b]fluoranthene	ND		0.20	0.10	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzo[g,h,i]perylene	ND		0.20	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
Benzo[k]fluoranthene	ND		0.20	0.077	ug/L		12/29/21 05:48	12/30/21 12:18	1
bis (2-chloroisopropyl) ether	ND		0.20	0.092	ug/L		12/29/21 05:48	12/30/21 12:18	1
Bis(2-chloroethoxy)methane	ND		0.20	0.15	ug/L		12/29/21 05:48	12/30/21 12:18	1
Bis(2-chloroethyl)ether	ND		0.20	0.098	ug/L		12/29/21 05:48	12/30/21 12:18	1
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		12/29/21 05:48	12/30/21 12:18	1
Butyl benzyl phthalate	ND		5.0	0.56	ug/L		12/29/21 05:48	12/30/21 12:18	1
Chrysene	ND		0.20	0.058	ug/L		12/29/21 05:48	12/30/21 12:18	1
Dibenz(a,h)anthracene	ND		0.20	0.14	ug/L		12/29/21 05:48	12/30/21 12:18	1
Diethyl phthalate	ND		2.0	0.13	ug/L		12/29/21 05:48	12/30/21 12:18	1
Dimethyl phthalate	ND		2.0	0.072	ug/L		12/29/21 05:48	12/30/21 12:18	1
Di-n-butyl phthalate	ND		2.0	0.69	ug/L		12/29/21 05:48	12/30/21 12:18	1
Di-n-octyl phthalate	ND		5.0	0.64	ug/L		12/29/21 05:48	12/30/21 12:18	1
Fluoranthene	ND		0.20	0.096	ug/L		12/29/21 05:48	12/30/21 12:18	1
Fluorene	ND		0.20	0.080	ug/L		12/29/21 05:48	12/30/21 12:18	1
Hexachlorobenzene	ND		0.20	0.094	ug/L		12/29/21 05:48	12/30/21 12:18	1
Hexachlorobutadiene	ND		0.20	0.17	ug/L		12/29/21 05:48	12/30/21 12:18	1
Hexachlorocyclopentadiene	ND		0.20	0.098	ug/L		12/29/21 05:48	12/30/21 12:18	1
Hexachloroethane	ND		0.20	0.15	ug/L		12/29/21 05:48	12/30/21 12:18	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.12	ug/L		12/29/21 05:48	12/30/21 12:18	1
Isophorone	ND		0.20	0.088	ug/L		12/29/21 05:48	12/30/21 12:18	1
Naphthalene	ND		0.20	0.098	ug/L		12/29/21 05:48	12/30/21 12:18	1
Nitrobenzene	ND		0.20	0.097	ug/L		12/29/21 05:48	12/30/21 12:18	1
N-Nitrosodimethylamine	ND		0.20	0.14	ug/L		12/29/21 05:48	12/30/21 12:18	1
N-Nitrosodi-n-propylamine	ND		0.20	0.062	ug/L		12/29/21 05:48	12/30/21 12:18	1
N-Nitrosodiphenylamine	ND		0.20	0.096	ug/L		12/29/21 05:48	12/30/21 12:18	1
Pentachlorophenol	ND		1.0	0.11	ug/L		12/29/21 05:48	12/30/21 12:18	1
Phenanthrene	ND		0.20	0.074	ug/L		12/29/21 05:48	12/30/21 12:18	1
Phenol	ND		0.20	0.076	ug/L		12/29/21 05:48	12/30/21 12:18	1
Pyrene	ND		0.20	0.080	ug/L		12/29/21 05:48	12/30/21 12:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*81*		*28 - 127*	*12/29/21 05:48*	*12/30/21 12:18*	*1*
2-Fluorobiphenyl (Surr)	*61*		*31 - 120*	*12/29/21 05:48*	*12/30/21 12:18*	*1*
2-Fluorophenol	*47*		*17 - 120*	*12/29/21 05:48*	*12/30/21 12:18*	*1*
Nitrobenzene-d5	*67*		*27 - 120*	*12/29/21 05:48*	*12/30/21 12:18*	*1*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: MB 570-204353/1-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204353

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d6 (Surr)	*31*		*10 - 120*	*12/29/21 05:48*	*12/30/21 12:18*	*1*
p-Terphenyl-d14 (Surr)	*70*		*45 - 120*	*12/29/21 05:48*	*12/30/21 12:18*	*1*

Lab Sample ID: LCS 570-204353/2-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204353

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	20.0	12.8		ug/L		64	57 - 130
1,2-Dichlorobenzene	20.0	14.4		ug/L		72	41 - 100
1,2-Diphenylhydrazine(as Azobenzene)	20.0	14.5		ug/L		72	60 - 115
1,3-Dichlorobenzene	20.0	14.2		ug/L		71	39 - 100
1,4-Dichlorobenzene	20.0	14.5		ug/L		73	40 - 100
2,4,6-Trichlorophenol	20.0	17.0		ug/L		85	52 - 129
2,4-Dichlorophenol	20.0	14.1		ug/L		70	53 - 122
2,4-Dimethylphenol	20.0	14.1		ug/L		71	42 - 120
2,4-Dinitrophenol	20.0	19.6		ug/L		98	1 - 173
2,4-Dinitrotoluene	20.0	16.1		ug/L		80	48 - 127
2,6-Dinitrotoluene	20.0	17.4		ug/L		87	68 - 137
2-Chloronaphthalene	20.0	13.9		ug/L		69	65 - 120
2-Chlorophenol	20.0	16.4		ug/L		82	36 - 120
2-Nitrophenol	20.0	15.4		ug/L		77	45 - 167
3,3'-Dichlorobenzidine	20.0	19.2		ug/L		96	8 - 213
4,6-Dinitro-2-methylphenol	20.0	15.7		ug/L		79	53 - 130
4-Bromophenyl phenyl ether	20.0	15.1		ug/L		75	65 - 120
4-Chloro-3-methylphenol	20.0	13.8		ug/L		69	41 - 128
4-Chlorophenyl phenyl ether	20.0	15.1		ug/L		75	38 - 145
4-Nitrophenol	20.0	9.39		ug/L		47	13 - 129
Acenaphthene	20.0	14.7		ug/L		73	60 - 132
Acenaphthylene	20.0	17.0		ug/L		85	54 - 126
Anthracene	20.0	17.1		ug/L		86	43 - 120
Benzidine	20.0	13.1		ug/L		66	10 - 124
Benzo[a]anthracene	20.0	16.9		ug/L		84	42 - 133
Benzo[a]pyrene	20.0	18.5		ug/L		93	32 - 148
Benzo[b]fluoranthene	20.0	16.3		ug/L		82	42 - 140
Benzo[g,h,i]perylene	20.0	15.3		ug/L		77	1 - 195
Benzo[k]fluoranthene	20.0	16.5		ug/L		83	25 - 146
bis (2-chloroisopropyl) ether	20.0	16.7		ug/L		84	63 - 139
Bis(2-chloroethoxy)methane	20.0	13.4		ug/L		67	49 - 165
Bis(2-chloroethyl)ether	20.0	15.6		ug/L		78	43 - 126
Bis(2-ethylhexyl) phthalate	20.0	19.5		ug/L		98	29 - 137
Butyl benzyl phthalate	20.0	18.5		ug/L		93	1 - 140
Chrysene	20.0	14.8		ug/L		74	44 - 140
Dibenz(a,h)anthracene	20.0	15.4		ug/L		77	1 - 200
Diethyl phthalate	20.0	15.8		ug/L		79	1 - 120
Dimethyl phthalate	20.0	14.8		ug/L		74	1 - 120
Di-n-butyl phthalate	20.0	17.8		ug/L		89	8 - 120
Di-n-octyl phthalate	20.0	22.1		ug/L		111	19 - 132

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCS 570-204353/2-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204353

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoranthene			20.0	16.8		ug/L		84	43 - 121		
Fluorene			20.0	15.2		ug/L		76	70 - 120		
Hexachlorobenzene			20.0	14.8		ug/L		74	8 - 142		
Hexachlorobutadiene			20.0	12.5		ug/L		63	38 - 120		
Hexachlorocyclopentadiene			20.0	16.5		ug/L		82	20 - 137		
Hexachloroethane			20.0	14.4		ug/L		72	55 - 120		
Indeno[1,2,3-cd]pyrene			20.0	14.8		ug/L		74	1 - 151		
Isophorone			20.0	14.8		ug/L		74	47 - 180		
Naphthalene			20.0	12.6		ug/L		63	36 - 120		
Nitrobenzene			20.0	12.8		ug/L		64	54 - 158		
N-Nitrosodimethylamine			20.0	11.0		ug/L		55	30 - 100		
N-Nitrosodi-n-propylamine			20.0	18.4		ug/L		92	14 - 198		
N-Nitrosodiphenylamine			20.0	20.2		ug/L		101	75 - 135		
Pentachlorophenol			20.0	15.3		ug/L		77	38 - 152		
Phenanthrene			20.0	15.0		ug/L		75	65 - 120		
Phenol			20.0	7.39		ug/L		37	17 - 120		
Pyrene			20.0	15.2		ug/L		76	70 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*88*		*28 - 127*
2-Fluorobiphenyl (Surr)	*62*		*31 - 120*
2-Fluorophenol	*53*		*17 - 120*
Nitrobenzene-d5	*64*		*27 - 120*
Phenol-d6 (Surr)	*34*		*10 - 120*
p-Terphenyl-d14 (Surr)	*77*		*45 - 120*

Lab Sample ID: LCSD 570-204353/3-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204353

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene			20.0	11.4		ug/L		57	57 - 130	12	30
1,2-Dichlorobenzene			20.0	13.3		ug/L		67	41 - 100	8	20
1,2-Diphenylhydrazine(as Azobenzene)			20.0	13.0		ug/L		65	60 - 115	11	30
1,3-Dichlorobenzene			20.0	12.8		ug/L		64	39 - 100	11	20
1,4-Dichlorobenzene			20.0	13.3		ug/L		67	40 - 100	9	20
2,4,6-Trichlorophenol			20.0	15.1		ug/L		75	52 - 129	12	35
2,4-Dichlorophenol			20.0	13.3		ug/L		66	53 - 122	6	30
2,4-Dimethylphenol			20.0	12.9		ug/L		65	42 - 120	9	35
2,4-Dinitrophenol			20.0	17.3		ug/L		87	1 - 173	12	79
2,4-Dinitrotoluene			20.0	14.9		ug/L		75	48 - 127	8	25
2,6-Dinitrotoluene			20.0	15.3		ug/L		77	68 - 137	13	29
2-Chloronaphthalene			20.0	13.0		ug/L		65	65 - 120	7	15
2-Chlorophenol			20.0	14.4		ug/L		72	36 - 120	13	37
2-Nitrophenol			20.0	13.7		ug/L		69	45 - 167	12	33
3,3'-Dichlorobenzidine			20.0	18.3		ug/L		91	8 - 213	5	65
4,6-Dinitro-2-methylphenol			20.0	14.0		ug/L		70	53 - 130	12	122
4-Bromophenyl phenyl ether			20.0	13.1		ug/L		65	65 - 120	14	26

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-204353/3-A
Matrix: Water
Analysis Batch: 204757

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204353

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Chloro-3-methylphenol			20.0	13.2		ug/L		66	41 - 128	5	44
4-Chlorophenyl phenyl ether			20.0	14.3		ug/L		72	38 - 145	5	36
4-Nitrophenol			20.0	8.35		ug/L		42	13 - 129	12	79
Acenaphthene			20.0	13.2		ug/L		66	60 - 132	11	29
Acenaphthylene			20.0	15.5		ug/L		78	54 - 126	9	45
Anthracene			20.0	15.5		ug/L		77	43 - 120	10	40
Benzidine			20.0	12.6		ug/L		63	10 - 124	4	40
Benzo[a]anthracene			20.0	15.8		ug/L		79	42 - 133	7	32
Benzo[a]pyrene			20.0	17.5		ug/L		87	32 - 148	6	43
Benzo[b]fluoranthene			20.0	15.2		ug/L		76	42 - 140	7	43
Benzo[g,h,i]perylene			20.0	14.0		ug/L		70	1 - 195	9	61
Benzo[k]fluoranthene			20.0	15.3		ug/L		77	25 - 146	7	38
bis (2-chloroisopropyl) ether			20.0	15.5		ug/L		77	63 - 139	8	46
Bis(2-chloroethoxy)methane			20.0	12.0		ug/L		60	49 - 165	11	32
Bis(2-chloroethyl)ether			20.0	14.3		ug/L		71	43 - 126	9	65
Bis(2-ethylhexyl) phthalate			20.0	18.2		ug/L		91	29 - 137	7	50
Butyl benzyl phthalate			20.0	17.1		ug/L		85	1 - 140	8	36
Chrysene			20.0	13.8		ug/L		69	44 - 140	7	53
Dibenz(a,h)anthracene			20.0	14.3		ug/L		71	1 - 200	8	75
Diethyl phthalate			20.0	14.3		ug/L		72	1 - 120	10	60
Dimethyl phthalate			20.0	13.7		ug/L		69	1 - 120	8	110
Di-n-butyl phthalate			20.0	16.0		ug/L		80	8 - 120	11	28
Di-n-octyl phthalate			20.0	20.3		ug/L		102	19 - 132	8	42
Fluoranthene			20.0	14.5		ug/L		72	43 - 121	15	40
Fluorene			20.0	14.3		ug/L		71	70 - 120	6	23
Hexachlorobenzene			20.0	13.7		ug/L		69	8 - 142	8	33
Hexachlorobutadiene			20.0	11.2		ug/L		56	38 - 120	11	38
Hexachlorocyclopentadiene			20.0	15.2		ug/L		76	20 - 137	8	20
Hexachloroethane			20.0	13.0		ug/L		65	55 - 120	11	32
Indeno[1,2,3-cd]pyrene			20.0	13.5		ug/L		68	1 - 151	9	60
Isophorone			20.0	13.3		ug/L		67	47 - 180	10	56
Naphthalene			20.0	11.6		ug/L		58	36 - 120	8	39
Nitrobenzene			20.0	11.8		ug/L		59	54 - 158	9	37
N-Nitrosodimethylamine			20.0	10.5		ug/L		52	30 - 100	5	20
N-Nitrosodi-n-propylamine			20.0	15.9		ug/L		80	14 - 198	15	52
N-Nitrosodiphenylamine			20.0	18.8		ug/L		94	75 - 135	7	20
Pentachlorophenol			20.0	14.0		ug/L		70	38 - 152	9	52
Phenanthrene			20.0	14.3		ug/L		71	65 - 120	5	24
Phenol			20.0	6.47		ug/L		32	17 - 120	13	39
Pyrene			20.0	14.0		ug/L		70	70 - 120	8	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol	*80*		*28 - 127*
2-Fluorobiphenyl (Surr)	*57*		*31 - 120*
2-Fluorophenol	*45*		*17 - 120*
Nitrobenzene-d5	*58*		*27 - 120*
Phenol-d6 (Surr)	*30*		*10 - 120*
p-Terphenyl-d14 (Surr)	*68*		*45 - 120*

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-204501/1-A
Matrix: Water
Analysis Batch: 204998

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204501

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00070	ug/L		12/29/21 12:33	01/03/22 17:03	1
alpha-BHC	ND		0.0013	0.00080	ug/L		12/29/21 12:33	01/03/22 17:03	1
beta-BHC	ND		0.0020	0.0017	ug/L		12/29/21 12:33	01/03/22 17:03	1
delta-BHC	ND		0.0013	0.0011	ug/L		12/29/21 12:33	01/03/22 17:03	1
gamma-BHC (Lindane)	ND		0.0013	0.00090	ug/L		12/29/21 12:33	01/03/22 17:03	1
Chlordane (technical)	ND		0.010	0.0065	ug/L		12/29/21 12:33	01/03/22 17:03	1
4,4'-DDD	ND		0.0013	0.00080	ug/L		12/29/21 12:33	01/03/22 17:03	1
4,4'-DDE	ND		0.0013	0.00050	ug/L		12/29/21 12:33	01/03/22 17:03	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		12/29/21 12:33	01/03/22 17:03	1
Dieldrin	ND		0.0013	0.00050	ug/L		12/29/21 12:33	01/03/22 17:03	1
Endosulfan I	ND		0.0013	0.00070	ug/L		12/29/21 12:33	01/03/22 17:03	1
Endosulfan II	ND		0.0013	0.00050	ug/L		12/29/21 12:33	01/03/22 17:03	1
Endosulfan sulfate	ND		0.0013	0.00060	ug/L		12/29/21 12:33	01/03/22 17:03	1
Endrin	ND		0.0013	0.00070	ug/L		12/29/21 12:33	01/03/22 17:03	1
Endrin aldehyde	ND		0.010	0.0051	ug/L		12/29/21 12:33	01/03/22 17:03	1
Heptachlor	ND		0.0013	0.00070	ug/L		12/29/21 12:33	01/03/22 17:03	1
Heptachlor epoxide	ND		0.0013	0.00040	ug/L		12/29/21 12:33	01/03/22 17:03	1
Toxaphene	ND		0.10	0.013	ug/L		12/29/21 12:33	01/03/22 17:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*67*		*20 - 139*	*12/29/21 12:33*	*01/03/22 17:03*	*1*

Lab Sample ID: LCS 570-204501/2-A
Matrix: Water
Analysis Batch: 204998

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204501

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.0333	0.0150		ug/L		45	42 - 140
alpha-BHC	0.0333	0.0150		ug/L		45	37 - 140
beta-BHC	0.0333	0.0183		ug/L		55	17 - 147
delta-BHC	0.0333	0.0174		ug/L		52	19 - 140
gamma-BHC (Lindane)	0.0333	0.0159		ug/L		48	32 - 140
4,4'-DDD	0.0333	0.0190		ug/L		57	31 - 141
4,4'-DDE	0.0333	0.0165		ug/L		50	30 - 145
4,4'-DDT	0.0333	0.0185		ug/L		56	25 - 160
Dieldrin	0.0333	0.0169		ug/L		51	36 - 146
Endosulfan I	0.0333	0.0168		ug/L		50	45 - 153
Endosulfan II	0.0333	0.0174		ug/L		52	1 - 202
Endosulfan sulfate	0.0333	0.0180		ug/L		54	26 - 144
Endrin	0.0333	0.0171		ug/L		51	30 - 147
Endrin aldehyde	0.0333	0.0216	PI	ug/L		65	60 - 140
Heptachlor	0.0333	0.0189		ug/L		57	34 - 140
Heptachlor epoxide	0.0333	0.0163		ug/L		49	37 - 142

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*42*		*20 - 139*

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: LCSD 570-204501/3-A
Matrix: Water
Analysis Batch: 204998

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204501

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin			0.0333	0.0224	BA	ug/L		67	42 - 140	40	35
alpha-BHC			0.0333	0.0218	BA	ug/L		65	37 - 140	37	36
beta-BHC			0.0333	0.0271		ug/L		81	17 - 147	39	44
delta-BHC			0.0333	0.0293		ug/L		88	19 - 140	51	52
gamma-BHC (Lindane)			0.0333	0.0232		ug/L		70	32 - 140	38	39
4,4'-DDD			0.0333	0.0300	BA	ug/L		90	31 - 141	45	39
4,4'-DDE			0.0333	0.0258	BA	ug/L		77	30 - 145	44	35
4,4'-DDT			0.0333	0.0437	BA	ug/L		131	25 - 160	81	42
Dieldrin			0.0333	0.0259		ug/L		78	36 - 146	42	49
Endosulfan I			0.0333	0.0255	BA	ug/L		76	45 - 153	41	28
Endosulfan II			0.0333	0.0269		ug/L		81	1 - 202	43	53
Endosulfan sulfate			0.0333	0.0276	BA	ug/L		83	26 - 144	42	38
Endrin			0.0333	0.0259		ug/L		78	30 - 147	41	48
Endrin aldehyde			0.0333	0.0362	PI BA	ug/L		109	60 - 140	51	30
Heptachlor			0.0333	0.0280		ug/L		84	34 - 140	39	43
Heptachlor epoxide			0.0333	0.0245	BA	ug/L		74	37 - 142	40	26

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*57*		*20 - 139*

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 570-204501/1-A
Matrix: Water
Analysis Batch: 204995

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204501

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		12/29/21 12:33	01/03/22 20:58	1
Aroclor 1221	ND		0.10	0.044	ug/L		12/29/21 12:33	01/03/22 20:58	1
Aroclor 1232	ND		0.10	0.044	ug/L		12/29/21 12:33	01/03/22 20:58	1
Aroclor 1242	ND		0.10	0.044	ug/L		12/29/21 12:33	01/03/22 20:58	1
Aroclor 1248	ND		0.10	0.044	ug/L		12/29/21 12:33	01/03/22 20:58	1
Aroclor 1254	ND		0.10	0.052	ug/L		12/29/21 12:33	01/03/22 20:58	1
Aroclor 1260	ND		0.10	0.052	ug/L		12/29/21 12:33	01/03/22 20:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*61*		*20 - 154*	*12/29/21 12:33*	*01/03/22 20:58*	*1*

Lab Sample ID: LCS 570-204501/4-A
Matrix: Water
Analysis Batch: 204995

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204501

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016			0.133	0.157		ug/L		118	50 - 140
Aroclor 1260			0.133	0.165		ug/L		124	8 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*73*		*20 - 154*

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: LCSD 570-204501/5-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204995
Prep Batch: 204501

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016			0.133	0.164		ug/L		123	50 - 140	4	36
Aroclor 1260			0.133	0.145		ug/L		108	8 - 140	13	38

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*67*		*20 - 154*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 570-204051/35
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204051

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.20	0.019	ug/L			12/29/21 02:10	1

Lab Sample ID: MB 570-204051/6
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204051

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.20	0.019	ug/L			12/28/21 09:39	1

Lab Sample ID: LCS 570-204051/36
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204051

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			50.0	50.5		ug/L		101	95 - 107		

Lab Sample ID: LCS 570-204051/7
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204051

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			50.0	51.7		ug/L		103	95 - 107		

Lab Sample ID: LCSD 570-204051/37
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204051

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent			50.0	51.4		ug/L		103	95 - 107	2	20

Lab Sample ID: LCSD 570-204051/8
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 204051

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent			50.0	50.3		ug/L		101	95 - 107	3	20

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

Lab Sample ID: 570-78550-A-9 MS
Matrix: Water
Analysis Batch: 204051

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND		50.0	51.1		ug/L		102	85 - 121

Lab Sample ID: 570-78550-A-9 MSD
Matrix: Water
Analysis Batch: 204051

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND		50.0	52.2		ug/L		104	85 - 121	2	25

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-204377/5
Matrix: Water
Analysis Batch: 204377

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			12/29/21 10:15	1
Fluoride	ND		0.10	0.046	mg/L			12/29/21 10:15	1

Lab Sample ID: LCS 570-204377/6
Matrix: Water
Analysis Batch: 204377

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	47.4		mg/L		95	90 - 110
Fluoride	2.50	2.64		mg/L		106	90 - 110

Lab Sample ID: LCSD 570-204377/7
Matrix: Water
Analysis Batch: 204377

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50.0	47.8		mg/L		96	90 - 110	1	15
Fluoride	2.50	2.63		mg/L		105	90 - 110	0	15

Lab Sample ID: 570-80249-F-7 MS
Matrix: Water
Analysis Batch: 204377

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	270	EY	50.0	317	EY BB	mg/L		99	80 - 120
Fluoride	1.2		2.50	3.85		mg/L		106	80 - 120

Lab Sample ID: 570-80249-F-7 MSD
Matrix: Water
Analysis Batch: 204377

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	270	EY	50.0	317	EY BB	mg/L		99	80 - 120	0	20
Fluoride	1.2		2.50	3.92		mg/L		109	80 - 120	2	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 570-204378/5
Matrix: Water
Analysis Batch: 204378

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			12/29/21 10:15	1
Nitrate as N	ND		0.10	0.024	mg/L			12/29/21 10:15	1

Lab Sample ID: LCS 570-204378/6
Matrix: Water
Analysis Batch: 204378

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N			2.50	2.41		mg/L		96	90 - 110		
Nitrate as N			5.00	4.91		mg/L		98	90 - 110		

Lab Sample ID: LCSD 570-204378/7
Matrix: Water
Analysis Batch: 204378

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	2.43		mg/L		97	90 - 110	1	15
Nitrate as N			5.00	4.93		mg/L		99	90 - 110	0	15

Lab Sample ID: 570-80249-F-7 MS
Matrix: Water
Analysis Batch: 204378

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N	ND		2.50	2.60		mg/L		104	80 - 120		
Nitrate as N	7.9		5.00	13.5	EY	mg/L		113	80 - 120		

Lab Sample ID: 570-80249-F-7 MSD
Matrix: Water
Analysis Batch: 204378

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	ND		2.50	2.65		mg/L		106	80 - 120	2	20
Nitrate as N	7.9		5.00	13.6	EY	mg/L		114	80 - 120	0	20

Lab Sample ID: MB 570-205575/5
Matrix: Water
Analysis Batch: 205575

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.24	mg/L			01/05/22 10:36	1

Lab Sample ID: LCS 570-205575/6
Matrix: Water
Analysis Batch: 205575

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	51.2		mg/L		102	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 570-205575/7 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205575

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate			50.0	50.3		mg/L		101	90 - 110	2	15

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 570-80249-F-7 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205575

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate - DL	530		50.0	585	BB	mg/L		104	80 - 120		

Lab Sample ID: 570-80249-F-7 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205575

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate - DL	530		50.0	583	BB	mg/L		100	80 - 120	0	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-205091/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205091

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/03/22 13:07	1

Lab Sample ID: LCS 570-205091/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205091

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			25.0	24.3		ug/L		97	85 - 115		

Lab Sample ID: LCSD 570-205091/8 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205091

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate			25.0	23.6		ug/L		94	85 - 115	3	15

Lab Sample ID: 570-80231-1 MS — **Client Sample ID: Outfall018_20211228_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205091

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate	ND		50.0	52.0		ug/L		104	80 - 120		

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: 570-80231-1 MSD
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Outfall018_20211228_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	51.9		ug/L		104	80 - 120	0	15

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-664534/1-A
Matrix: Water
Analysis Batch: 664616

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664534

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/15/22 08:34	01/17/22 14:08	1
Barium	ND		10	2.2	ug/L		01/15/22 08:34	01/17/22 14:08	1
Beryllium	ND		2.0	0.44	ug/L		01/15/22 08:34	01/17/22 14:08	1
Boron	ND		50	25	ug/L		01/15/22 08:34	01/17/22 14:08	1
Chromium	ND		5.0	2.5	ug/L		01/15/22 08:34	01/17/22 14:08	1
Cobalt	ND		10	2.8	ug/L		01/15/22 08:34	01/17/22 14:08	1
Iron	ND		100	50	ug/L		01/15/22 08:34	01/17/22 14:08	1
Manganese	ND		20	6.8	ug/L		01/15/22 08:34	01/17/22 14:08	1
Nickel	ND		10	5.0	ug/L		01/15/22 08:34	01/17/22 14:08	1
Vanadium	ND		10	2.1	ug/L		01/15/22 08:34	01/17/22 14:08	1
Zinc	ND		20	12	ug/L		01/15/22 08:34	01/17/22 14:08	1

Lab Sample ID: LCS 440-664534/2-A
Matrix: Water
Analysis Batch: 664616

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664534

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	526		ug/L		105	85 - 115
Barium	500	522		ug/L		104	85 - 115
Beryllium	500	514		ug/L		103	85 - 115
Boron	500	516		ug/L		103	85 - 115
Chromium	500	522		ug/L		104	85 - 115
Cobalt	500	516		ug/L		103	85 - 115
Iron	500	533		ug/L		107	85 - 115
Manganese	500	516		ug/L		103	85 - 115
Nickel	500	528		ug/L		106	85 - 115
Vanadium	500	511		ug/L		102	85 - 115
Zinc	500	539		ug/L		108	85 - 115

Lab Sample ID: 570-80231-1 MS
Matrix: Water
Analysis Batch: 664616

Client Sample ID: Outfall018_20211228_Comp
Prep Type: Total Recoverable
Prep Batch: 664534

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		500	524		ug/L		105	70 - 130
Barium	9.7	J,DX	500	521		ug/L		102	70 - 130
Beryllium	ND		500	517		ug/L		103	70 - 130
Boron	44	J,DX	500	558		ug/L		103	70 - 130
Chromium	ND		500	513		ug/L		103	70 - 130
Cobalt	ND		500	513		ug/L		103	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 570-80231-1 MS — **Client Sample ID: Outfall018_20211228_Comp**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 664616 — **Prep Batch: 664534**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	ND		500	500		ug/L		100	70 - 130
Manganese	15	J,DX	500	522		ug/L		101	70 - 130
Nickel	ND		500	516		ug/L		103	70 - 130
Vanadium	ND		500	516		ug/L		103	70 - 130
Zinc	ND		500	547		ug/L		109	70 - 130

Lab Sample ID: 570-80231-1 MSD — **Client Sample ID: Outfall018_20211228_Comp**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 664616 — **Prep Batch: 664534**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	541		ug/L		108	70 - 130	3	20
Barium	9.7	J,DX	500	532		ug/L		104	70 - 130	2	20
Beryllium	ND		500	525		ug/L		105	70 - 130	2	20
Boron	44	J,DX	500	569		ug/L		105	70 - 130	2	20
Chromium	ND		500	523		ug/L		105	70 - 130	2	20
Cobalt	ND		500	527		ug/L		105	70 - 130	3	20
Iron	ND		500	523		ug/L		105	70 - 130	4	20
Manganese	15	J,DX	500	533		ug/L		104	70 - 130	2	20
Nickel	ND		500	527		ug/L		105	70 - 130	2	20
Vanadium	ND		500	529		ug/L		106	70 - 130	2	20
Zinc	ND		500	552		ug/L		110	70 - 130	1	20

Lab Sample ID: MB 440-663655/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 663952 — **Prep Batch: 663671**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		20	8.9	ug/L		01/05/22 07:23	01/06/22 13:57	1
Barium	ND		10	2.2	ug/L		01/05/22 07:23	01/06/22 13:57	1
Beryllium	ND		2.0	0.44	ug/L		01/05/22 07:23	01/06/22 13:57	1
Boron	ND		50	25	ug/L		01/05/22 07:23	01/06/22 13:57	1
Chromium	ND		5.0	2.5	ug/L		01/05/22 07:23	01/06/22 13:57	1
Cobalt	ND		10	2.8	ug/L		01/05/22 07:23	01/06/22 13:57	1
Iron	ND		100	50	ug/L		01/05/22 07:23	01/06/22 13:57	1
Manganese	ND		20	6.8	ug/L		01/05/22 07:23	01/06/22 13:57	1
Nickel	ND		10	5.0	ug/L		01/05/22 07:23	01/06/22 13:57	1
Vanadium	ND		10	2.1	ug/L		01/05/22 07:23	01/06/22 13:57	1
Zinc	ND		20	12	ug/L		01/05/22 07:23	01/06/22 13:57	1

Lab Sample ID: LCS 440-663655/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 663952 — **Prep Batch: 663671**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	485		ug/L		97	85 - 115
Barium	500	489		ug/L		98	85 - 115
Beryllium	500	488		ug/L		98	85 - 115
Boron	500	496		ug/L		99	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-663655/2-B
Matrix: Water
Analysis Batch: 663952

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663671

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	500	495		ug/L		99	85 - 115
Cobalt	500	495		ug/L		99	85 - 115
Iron	500	510		ug/L		102	85 - 115
Manganese	500	487		ug/L		97	85 - 115
Nickel	500	508		ug/L		102	85 - 115
Vanadium	500	489		ug/L		98	85 - 115
Zinc	500	494		ug/L		99	85 - 115

Lab Sample ID: 570-80241-C-3-C MS
Matrix: Water
Analysis Batch: 663952

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663671

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		500	510		ug/L		102	70 - 130
Barium	15		500	501		ug/L		97	70 - 130
Beryllium	ND		500	497		ug/L		99	70 - 130
Boron	48	J,DX	500	557		ug/L		102	70 - 130
Chromium	ND		500	496		ug/L		99	70 - 130
Cobalt	ND		500	497		ug/L		99	70 - 130
Iron	ND		500	514		ug/L		103	70 - 130
Manganese	ND		500	486		ug/L		97	70 - 130
Nickel	ND		500	504		ug/L		101	70 - 130
Vanadium	ND		500	501		ug/L		100	70 - 130
Zinc	ND		500	507		ug/L		101	70 - 130

Lab Sample ID: 570-80241-C-3-D MSD
Matrix: Water
Analysis Batch: 663952

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663671

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	496		ug/L		99	70 - 130	3	20
Barium	15		500	500		ug/L		97	70 - 130	0	20
Beryllium	ND		500	496		ug/L		99	70 - 130	0	20
Boron	48	J,DX	500	555		ug/L		101	70 - 130	0	20
Chromium	ND		500	493		ug/L		99	70 - 130	1	20
Cobalt	ND		500	490		ug/L		98	70 - 130	1	20
Iron	ND		500	523		ug/L		105	70 - 130	2	20
Manganese	ND		500	485		ug/L		97	70 - 130	0	20
Nickel	ND		500	506		ug/L		101	70 - 130	0	20
Vanadium	ND		500	499		ug/L		100	70 - 130	1	20
Zinc	ND		500	506		ug/L		101	70 - 130	0	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-664528/1-A
Matrix: Water
Analysis Batch: 664594

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664528

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/15/22 06:32	01/17/22 11:37	1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 440-664528/1-A
Matrix: Water
Analysis Batch: 664594

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664528

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/15/22 06:32	01/17/22 11:37	1
Copper	ND		2.0	0.50	ug/L		01/15/22 06:32	01/17/22 11:37	1
Lead	ND		1.0	0.50	ug/L		01/15/22 06:32	01/17/22 11:37	1
Antimony	ND		2.0	0.50	ug/L		01/15/22 06:32	01/17/22 11:37	1
Selenium	ND		2.0	0.50	ug/L		01/15/22 06:32	01/17/22 11:37	1
Thallium	ND		1.0	0.20	ug/L		01/15/22 06:32	01/17/22 11:37	1

Lab Sample ID: LCS 440-664528/2-A
Matrix: Water
Analysis Batch: 664594

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664528

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	80.5		ug/L		101	85 - 115
Cadmium	80.0	81.4		ug/L		102	85 - 115
Copper	80.0	81.9		ug/L		102	85 - 115
Lead	80.0	84.5		ug/L		106	85 - 115
Antimony	80.0	85.8		ug/L		107	85 - 115
Selenium	80.0	84.2		ug/L		105	85 - 115
Thallium	80.0	83.0		ug/L		104	85 - 115

Lab Sample ID: 570-80421-A-1-D MS
Matrix: Water
Analysis Batch: 664610

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664528

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	80.0		ug/L		100	70 - 130
Cadmium	ND		80.0	81.3		ug/L		102	70 - 130
Copper	3.0		80.0	84.7		ug/L		102	70 - 130
Lead	2.2		80.0	83.9		ug/L		102	70 - 130
Antimony	ND		80.0	87.0		ug/L		109	70 - 130
Selenium	ND		80.0	79.9		ug/L		100	70 - 130
Thallium	ND		80.0	80.8		ug/L		101	70 - 130

Lab Sample ID: 570-80421-A-1-E MSD
Matrix: Water
Analysis Batch: 664610

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664528

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	86.2		ug/L		108	70 - 130	7	20
Cadmium	ND		80.0	87.9		ug/L		110	70 - 130	8	20
Copper	3.0		80.0	92.0		ug/L		111	70 - 130	8	20
Lead	2.2		80.0	90.9		ug/L		111	70 - 130	8	20
Antimony	ND		80.0	93.9		ug/L		117	70 - 130	8	20
Selenium	ND		80.0	83.4		ug/L		104	70 - 130	4	20
Thallium	ND		80.0	87.1		ug/L		109	70 - 130	7	20

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 440-663655/1-C
Matrix: Water
Analysis Batch: 663841

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663672

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/05/22 07:24	01/05/22 13:12	1
Cadmium	ND		1.0	0.25	ug/L		01/05/22 07:24	01/05/22 13:12	1
Copper	ND		2.0	0.50	ug/L		01/05/22 07:24	01/05/22 13:12	1
Lead	ND		1.0	0.50	ug/L		01/05/22 07:24	01/05/22 13:12	1
Antimony	ND		2.0	0.50	ug/L		01/05/22 07:24	01/05/22 13:12	1
Selenium	ND		2.0	0.50	ug/L		01/05/22 07:24	01/05/22 13:12	1
Thallium	ND		1.0	0.20	ug/L		01/05/22 07:24	01/05/22 13:12	1

Lab Sample ID: LCS 440-663655/2-C
Matrix: Water
Analysis Batch: 663841

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663672

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	78.0		ug/L		98	85 - 115
Cadmium	80.0	79.5		ug/L		99	85 - 115
Copper	80.0	78.8		ug/L		98	85 - 115
Lead	80.0	79.3		ug/L		99	85 - 115
Antimony	80.0	88.5		ug/L		111	85 - 115
Selenium	80.0	77.3		ug/L		97	85 - 115
Thallium	80.0	77.4		ug/L		97	85 - 115

Lab Sample ID: 570-80231-3 MS
Matrix: Water
Analysis Batch: 663841

Client Sample ID: Outfall018_20211228_Comp_F
Prep Type: Dissolved
Prep Batch: 663672

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	77.2		ug/L		96	70 - 130
Cadmium	ND		80.0	78.3		ug/L		98	70 - 130
Copper	1.6	J,DX	80.0	81.6		ug/L		100	70 - 130
Lead	ND		80.0	78.6		ug/L		98	70 - 130
Antimony	ND		80.0	89.7		ug/L		112	70 - 130
Selenium	ND		80.0	76.9		ug/L		96	70 - 130
Thallium	ND		80.0	76.9		ug/L		96	70 - 130

Lab Sample ID: 570-80231-3 MSD
Matrix: Water
Analysis Batch: 663841

Client Sample ID: Outfall018_20211228_Comp_F
Prep Type: Dissolved
Prep Batch: 663672

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	80.0		ug/L		100	70 - 130	4	20
Cadmium	ND		80.0	81.6		ug/L		102	70 - 130	4	20
Copper	1.6	J,DX	80.0	83.6		ug/L		103	70 - 130	2	20
Lead	ND		80.0	81.6		ug/L		102	70 - 130	4	20
Antimony	ND		80.0	93.2		ug/L		116	70 - 130	4	20
Selenium	ND		80.0	79.5		ug/L		99	70 - 130	3	20
Thallium	ND		80.0	79.7		ug/L		100	70 - 130	4	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-208325/1-A
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208325

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/19/22 15:04	01/20/22 18:41	1

Lab Sample ID: LCS 570-208325/2-A
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208325

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	9.44		ug/L		94	85 - 115

Lab Sample ID: LCSD 570-208325/3-A
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208325

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	10.0	9.47		ug/L		95	85 - 115	0	10

Lab Sample ID: 570-81280-A-2-B MS
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 208325

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		10.0	8.92		ug/L		89	70 - 130

Lab Sample ID: 570-81280-A-2-C MSD
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 208325

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	9.44		ug/L		94	70 - 130	6	10

Lab Sample ID: MB 440-663653/1-B
Matrix: Water
Analysis Batch: 664158

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 664071

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.127	J,DX	0.20	0.10	ug/L		01/10/22 10:15	01/10/22 15:50	1

Lab Sample ID: LCS 440-663653/2-B
Matrix: Water
Analysis Batch: 664158

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 664071

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.00	5.49		ug/L		91	85 - 115

Lab Sample ID: LCSD 440-663653/3-B
Matrix: Water
Analysis Batch: 664158

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 664071

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	6.00	5.57		ug/L		93	85 - 115	2	20

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 440-664889/6
Matrix: Water
Analysis Batch: 664889

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	ND		0.10	0.05	NTU			01/19/22 18:28	1

Lab Sample ID: MRL 440-664889/5
Matrix: Water
Analysis Batch: 664889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Turbidity			0.100	0.10		NTU		90	50 - 150		

Lab Sample ID: 570-80231-1 DU
Matrix: Water
Analysis Batch: 664889

Client Sample ID: Outfall018_20211228_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Turbidity	0.40	BU		0.35		NTU				10	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-663556/1
Matrix: Water
Analysis Batch: 663556

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	3.0	mg/L			12/30/21 09:00	1

Lab Sample ID: LCS 440-663556/2
Matrix: Water
Analysis Batch: 663556

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	998		mg/L		100	90 - 110		

Lab Sample ID: 570-80231-1 DU
Matrix: Water
Analysis Batch: 663556

Client Sample ID: Outfall018_20211228_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	240			233		mg/L				0.9	5

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-663595/1
Matrix: Water
Analysis Batch: 663595

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			12/29/21 17:06	1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 440-663595/2
Matrix: Water
Analysis Batch: 663595

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			1000	1140		mg/L		114	85 - 115		

Lab Sample ID: 440-293633-B-2 DU
Matrix: Water
Analysis Batch: 663595

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	31			33.0		mg/L				5	5

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 570-204823/1-A
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204823

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0030	0.0014	mg/L		12/29/21 13:00	12/30/21 15:07	1

Lab Sample ID: LCS 570-204823/2-A
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204823

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			0.0100	0.0104		mg/L		104	80 - 120		

Lab Sample ID: LCSD 570-204823/3-A
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204823

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total			0.0100	0.0111		mg/L		111	80 - 120	7	20

Lab Sample ID: 570-79831-I-1-A MS
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 204823

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total	ND		0.0100	0.0119	LM	mg/L		119	74 - 115		

Lab Sample ID: 570-79831-I-1-B MSD
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 204823

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		0.0100	0.0110		mg/L		110	74 - 115	8	20

Method: SM 4500 NH3 G - Ammonia

Lab Sample ID: MB 440-664022/10
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.200	0.100	mg/L			01/07/22 11:11	1

Lab Sample ID: LCS 440-664022/11
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	5.00	5.370		mg/L		107	90 - 110

Lab Sample ID: MRL 440-664022/9
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.200	0.1950	J,DX	mg/L		98	50 - 150

Lab Sample ID: 570-80545-H-1 MS
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.845		5.00	5.760		mg/L		98	90 - 110

Lab Sample ID: 570-80545-H-1 MSD
Matrix: Water
Analysis Batch: 664022

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.845		5.00	5.710		mg/L		97	90 - 110	1	15

Method: SM 5310D - Organic Carbon, Total (TOC)

Lab Sample ID: MB 570-208181/35
Matrix: Water
Analysis Batch: 208181

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon, Total Organic	ND		0.50	0.026	mg/L			01/18/22 09:00	1

Lab Sample ID: LCS 570-208181/67
Matrix: Water
Analysis Batch: 208181

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon, Total Organic	5.00	4.94		mg/L		99	85 - 115

Method: SM 5310D - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: LCSD 570-208181/68
Matrix: Water
Analysis Batch: 208181

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon, Total Organic			5.00	5.06		mg/L		101	85 - 115	3	20

Lab Sample ID: 440-294124-B-1 MS
Matrix: Water
Analysis Batch: 208181

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Carbon, Total Organic	0.45	J,DX	5.00	3.63		mg/L		64	31 - 145		

Lab Sample ID: 440-294124-B-1 MSD
Matrix: Water
Analysis Batch: 208181

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon, Total Organic	0.45	J,DX	5.00	3.33		mg/L		58	31 - 145	9	20

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 570-204906/5-A
Matrix: Water
Analysis Batch: 204896

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204906

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.30	0.15	mg/L		12/30/21 22:00	12/31/21 08:58	1

Lab Sample ID: LCS 570-204906/6-A
Matrix: Water
Analysis Batch: 204896

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204906

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
MBAS			1.00	1.07		mg/L		107	85 - 111		

Lab Sample ID: LCSD 570-204906/7-A
Matrix: Water
Analysis Batch: 204896

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204906

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MBAS			1.00	1.09		mg/L		109	85 - 111	2	7

Lab Sample ID: 570-80340-B-1-A MS
Matrix: Water
Analysis Batch: 204896

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 204906

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
MBAS	ND		1.00	1.23		mg/L		123	75 - 125		

Method: SM 5540C - Methylene Blue Active Substances (MBAS) (Continued)

Lab Sample ID: 570-80340-B-1-B MSD
Matrix: Water
Analysis Batch: 204896

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 204906

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MBAS	ND		1.00	1.22		mg/L		122	75 - 125	1	12

Method: SM5210B - BOD, 5 Day

Lab Sample ID: SCB 570-204680/2
Matrix: Water
Analysis Batch: 204680

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	SCB Result	SCB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	1.59		0.83	0.49	mg/L			12/30/21 10:51	1

Lab Sample ID: USB 570-204680/1
Matrix: Water
Analysis Batch: 204680

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		0.83	0.49	mg/L			12/30/21 10:51	1

Lab Sample ID: LCS 570-204680/3
Matrix: Water
Analysis Batch: 204680

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Biochemical Oxygen Demand	198	197		mg/L		100	84.6 - 115.4

Lab Sample ID: 570-80276-A-1 DU
Matrix: Water
Analysis Batch: 204680

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Biochemical Oxygen Demand	3100		3230		mg/L		3	25

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

GC/MS VOA

Analysis Batch: 205888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	8260B SIM	
MB 570-205888/8	Method Blank	Total/NA	Water	8260B SIM	
LCS 570-205888/4	Lab Control Sample	Total/NA	Water	8260B SIM	
LCSD 570-205888/5	Lab Control Sample Dup	Total/NA	Water	8260B SIM	

GC/MS Semi VOA

Prep Batch: 204353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	625	
MB 570-204353/1-A	Method Blank	Total/NA	Water	625	
LCS 570-204353/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-204353/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 204757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	625.1 SIM	204353
MB 570-204353/1-A	Method Blank	Total/NA	Water	625.1 SIM	204353
LCS 570-204353/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	204353
LCSD 570-204353/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	204353

GC Semi VOA

Prep Batch: 204501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	608	
MB 570-204501/1-A	Method Blank	Total/NA	Water	608	
LCS 570-204501/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 570-204501/4-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-204501/3-A	Lab Control Sample Dup	Total/NA	Water	608	
LCSD 570-204501/5-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 204995

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	608.3	204501
MB 570-204501/1-A	Method Blank	Total/NA	Water	608.3	204501
LCS 570-204501/4-A	Lab Control Sample	Total/NA	Water	608.3	204501
LCSD 570-204501/5-A	Lab Control Sample Dup	Total/NA	Water	608.3	204501

Analysis Batch: 204998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	608.3	204501
MB 570-204501/1-A	Method Blank	Total/NA	Water	608.3	204501
LCS 570-204501/2-A	Lab Control Sample	Total/NA	Water	608.3	204501
LCSD 570-204501/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	204501

HPLC/IC

Analysis Batch: 204051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	218.6	
MB 570-204051/35	Method Blank	Total/NA	Water	218.6	

HPLC/IC (Continued)

Analysis Batch: 204051 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-204051/6	Method Blank	Total/NA	Water	218.6	
LCS 570-204051/36	Lab Control Sample	Total/NA	Water	218.6	
LCS 570-204051/7	Lab Control Sample	Total/NA	Water	218.6	
LCSD 570-204051/37	Lab Control Sample Dup	Total/NA	Water	218.6	
LCSD 570-204051/8	Lab Control Sample Dup	Total/NA	Water	218.6	
570-78550-A-9 MS	Matrix Spike	Total/NA	Water	218.6	
570-78550-A-9 MSD	Matrix Spike Duplicate	Total/NA	Water	218.6	

Analysis Batch: 204377

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	300.0	
MB 570-204377/5	Method Blank	Total/NA	Water	300.0	
LCS 570-204377/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-204377/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80249-F-7 MS	Matrix Spike	Total/NA	Water	300.0	
570-80249-F-7 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 204378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	300.0	
MB 570-204378/5	Method Blank	Total/NA	Water	300.0	
LCS 570-204378/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-204378/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80249-F-7 MS	Matrix Spike	Total/NA	Water	300.0	
570-80249-F-7 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 205091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	314.0	
MB 570-205091/6	Method Blank	Total/NA	Water	314.0	
LCS 570-205091/7	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-205091/8	Lab Control Sample Dup	Total/NA	Water	314.0	
570-80231-1 MS	Outfall018_20211228_Comp	Total/NA	Water	314.0	
570-80231-1 MSD	Outfall018_20211228_Comp	Total/NA	Water	314.0	

Analysis Batch: 205168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	NO2NO3 Calc	

Analysis Batch: 205575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1 - DL	Outfall018_20211228_Comp	Total/NA	Water	300.0	
MB 570-205575/5	Method Blank	Total/NA	Water	300.0	
LCS 570-205575/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-205575/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80249-F-7 MS - DL	Matrix Spike	Total/NA	Water	300.0	
570-80249-F-7 MSD - DL	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 208325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	245.1	
MB 570-208325/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-208325/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-208325/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-81280-A-2-B MS	Matrix Spike	Total/NA	Water	245.1	
570-81280-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 208671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	245.1	208325
MB 570-208325/1-A	Method Blank	Total/NA	Water	245.1	208325
LCS 570-208325/2-A	Lab Control Sample	Total/NA	Water	245.1	208325
LCSD 570-208325/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	208325
570-81280-A-2-B MS	Matrix Spike	Total/NA	Water	245.1	208325
570-81280-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	208325

Filtration Batch: 663653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-3	Outfall018_20211228_Comp_F	Dissolved	Water	FILTRATION	
MB 440-663653/1-B	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663653/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCSD 440-663653/3-B	Lab Control Sample Dup	Dissolved	Water	FILTRATION	

Filtration Batch: 663655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-3	Outfall018_20211228_Comp_F	Dissolved	Water	FILTRATION	
MB 440-663655/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-663655/1-C	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663655/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-663655/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
570-80231-3 MS	Outfall018_20211228_Comp_F	Dissolved	Water	FILTRATION	
570-80231-3 MSD	Outfall018_20211228_Comp_F	Dissolved	Water	FILTRATION	
570-80241-C-3-C MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80241-C-3-D MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Prep Batch: 663671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-3	Outfall018_20211228_Comp_F	Dissolved	Water	200.2	663655
MB 440-663655/1-B	Method Blank	Dissolved	Water	200.2	663655
LCS 440-663655/2-B	Lab Control Sample	Dissolved	Water	200.2	663655
570-80241-C-3-C MS	Matrix Spike	Dissolved	Water	200.2	663655
570-80241-C-3-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663655

Prep Batch: 663672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-3	Outfall018_20211228_Comp_F	Dissolved	Water	200.2	663655
MB 440-663655/1-C	Method Blank	Dissolved	Water	200.2	663655
LCS 440-663655/2-C	Lab Control Sample	Dissolved	Water	200.2	663655
570-80231-3 MS	Outfall018_20211228_Comp_F	Dissolved	Water	200.2	663655
570-80231-3 MSD	Outfall018_20211228_Comp_F	Dissolved	Water	200.2	663655

Metals

Analysis Batch: 663736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-3	Outfall018_20211228_Comp_F	Dissolved	Water	SM 2340B	

Analysis Batch: 663841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-3	Outfall018_20211228_Comp_F	Dissolved	Water	200.8	663672
MB 440-663655/1-C	Method Blank	Dissolved	Water	200.8	663672
LCS 440-663655/2-C	Lab Control Sample	Dissolved	Water	200.8	663672
570-80231-3 MS	Outfall018_20211228_Comp_F	Dissolved	Water	200.8	663672
570-80231-3 MSD	Outfall018_20211228_Comp_F	Dissolved	Water	200.8	663672

Analysis Batch: 663948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total Recoverable	Water	SM 2340B	

Analysis Batch: 663952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-3	Outfall018_20211228_Comp_F	Dissolved	Water	200.7 Rev 4.4	663671
MB 440-663655/1-B	Method Blank	Dissolved	Water	200.7 Rev 4.4	663671
LCS 440-663655/2-B	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	663671
570-80241-C-3-C MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	663671
570-80241-C-3-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	663671

Prep Batch: 664071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-3	Outfall018_20211228_Comp_F	Dissolved	Water	245.1	663653
MB 440-663653/1-B	Method Blank	Dissolved	Water	245.1	663653
LCS 440-663653/2-B	Lab Control Sample	Dissolved	Water	245.1	663653
LCSD 440-663653/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	663653

Analysis Batch: 664158

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-3	Outfall018_20211228_Comp_F	Dissolved	Water	245.1	664071
MB 440-663653/1-B	Method Blank	Dissolved	Water	245.1	664071
LCS 440-663653/2-B	Lab Control Sample	Dissolved	Water	245.1	664071
LCSD 440-663653/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	664071

Prep Batch: 664528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total Recoverable	Water	200.2	
MB 440-664528/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664528/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80421-A-1-D MS	Matrix Spike	Total Recoverable	Water	200.2	
570-80421-A-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Prep Batch: 664534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total Recoverable	Water	200.2	
MB 440-664534/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664534/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80231-1 MS	Outfall018_20211228_Comp	Total Recoverable	Water	200.2	
570-80231-1 MSD	Outfall018_20211228_Comp	Total Recoverable	Water	200.2	

Metals

Analysis Batch: 664594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-664528/1-A	Method Blank	Total Recoverable	Water	200.8	664528
LCS 440-664528/2-A	Lab Control Sample	Total Recoverable	Water	200.8	664528

Analysis Batch: 664610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total Recoverable	Water	200.8	664528
570-80421-A-1-D MS	Matrix Spike	Total Recoverable	Water	200.8	664528
570-80421-A-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	664528

Analysis Batch: 664616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total Recoverable	Water	200.7 Rev 4.4	664534
MB 440-664534/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	664534
LCS 440-664534/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	664534
570-80231-1 MS	Outfall018_20211228_Comp	Total Recoverable	Water	200.7 Rev 4.4	664534
570-80231-1 MSD	Outfall018_20211228_Comp	Total Recoverable	Water	200.7 Rev 4.4	664534

General Chemistry

Analysis Batch: 204680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	SM5210B	
SCB 570-204680/2	Method Blank	Total/NA	Water	SM5210B	
USB 570-204680/1	Method Blank	Total/NA	Water	SM5210B	
LCS 570-204680/3	Lab Control Sample	Total/NA	Water	SM5210B	
570-80276-A-1 DU	Duplicate	Total/NA	Water	SM5210B	

Analysis Batch: 204811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	SM 4500 CN E	204823
MB 570-204823/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	204823
LCS 570-204823/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	204823
LCSD 570-204823/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	204823
570-79831-I-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	204823
570-79831-I-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	204823

Prep Batch: 204823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	SM 4500 CN C	
MB 570-204823/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-204823/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-204823/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-79831-I-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN C	
570-79831-I-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN C	

Analysis Batch: 204896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	SM 5540C	204906
MB 570-204906/5-A	Method Blank	Total/NA	Water	SM 5540C	204906
LCS 570-204906/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	204906
LCSD 570-204906/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	204906

General Chemistry (Continued)

Analysis Batch: 204896 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80340-B-1-A MS	Matrix Spike	Total/NA	Water	SM 5540C	204906
570-80340-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5540C	204906

Prep Batch: 204906

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	SM 5540C	
MB 570-204906/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-204906/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-204906/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	
570-80340-B-1-A MS	Matrix Spike	Total/NA	Water	SM 5540C	
570-80340-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5540C	

Analysis Batch: 208083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	218.6 CR3	

Analysis Batch: 208181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	SM 5310D	
MB 570-208181/35	Method Blank	Total/NA	Water	SM 5310D	
LCS 570-208181/67	Lab Control Sample	Total/NA	Water	SM 5310D	
LCSD 570-208181/68	Lab Control Sample Dup	Total/NA	Water	SM 5310D	
440-294124-B-1 MS	Matrix Spike	Total/NA	Water	SM 5310D	
440-294124-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310D	

Analysis Batch: 663556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	SM 2540C	
MB 440-663556/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-663556/2	Lab Control Sample	Total/NA	Water	SM 2540C	
570-80231-1 DU	Outfall018_20211228_Comp	Total/NA	Water	SM 2540C	

Analysis Batch: 663595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	SM 2540D	
MB 440-663595/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-663595/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-293633-B-2 DU	Duplicate	Total/NA	Water	SM 2540D	

Analysis Batch: 664022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	SM 4500 NH3 G	
MB 440-664022/10	Method Blank	Total/NA	Water	SM 4500 NH3 G	
LCS 440-664022/11	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
MRL 440-664022/9	Lab Control Sample	Total/NA	Water	SM 4500 NH3 G	
570-80545-H-1 MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 G	
570-80545-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 G	

Analysis Batch: 664889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	180.1	

General Chemistry (Continued)

Analysis Batch: 664889 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-664889/6	Method Blank	Total/NA	Water	180.1	
MRL 440-664889/5	Lab Control Sample	Total/NA	Water	180.1	
570-80231-1 DU	Outfall018_20211228_Comp	Total/NA	Water	180.1	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Client Sample ID: Outfall018_20211228_Comp
Lab Sample ID: 570-80231-1
Date Collected: 12/28/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	25 mL	25 mL	205888	01/06/22 15:32	AH8S	ECL 2
	Instrument ID: GCMSFFF									
Total/NA	Prep	625			942.1 mL	2 mL	204353	12/29/21 09:01	H1SH	ECL 1
Total/NA	Analysis	625.1 SIM		1			204757	12/30/21 16:53	ULLI	ECL 1
	Instrument ID: GCMSJJJ									
Total/NA	Prep	608			1500 mL	1 mL	204501	12/29/21 12:33	H1SH	ECL 1
Total/NA	Analysis	608.3		1			204998	01/03/22 17:46	UHHN	ECL 1
	Instrument ID: GC44									
Total/NA	Prep	608			1500 mL	1 mL	204501	12/29/21 12:33	H1SH	ECL 1
Total/NA	Analysis	608.3		1			204995	01/03/22 22:10	UHHN	ECL 1
	Instrument ID: GC58									
Total/NA	Analysis	218.6		1			204051	12/28/21 22:50	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	300.0	DL	2			205575	01/05/22 15:25	URMH	ECL 1
	Instrument ID: IC10									
Total/NA	Analysis	300.0		1			204377	12/29/21 15:57	URMH	ECL 1
	Instrument ID: IC15									
Total/NA	Analysis	300.0		1			204378	12/29/21 15:57	URMH	ECL 1
	Instrument ID: IC15									
Total/NA	Analysis	314.0		1			205091	01/03/22 14:46	URMH	ECL 1
	Instrument ID: IC8									
Total/NA	Analysis	NO2NO3 Calc		1			205168	01/03/22 16:37	URMH	ECL 1
	Instrument ID: IC15									
Total Recoverable	Prep	200.2			25 mL	25 mL	664534	01/15/22 08:34		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664616	01/17/22 14:27	VZ0K	IRV 2
	Instrument ID: ICP10									
Total Recoverable	Prep	200.2			25 mL	25 mL	664528	01/15/22 06:32		IRV 2
Total Recoverable	Analysis	200.8		1			664610	01/17/22 12:57	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total/NA	Prep	245.1			50 mL	100 mL	208325	01/19/22 15:04	VWJ7	ECL 4
Total/NA	Analysis	245.1		1			208671	01/20/22 19:23	VWJ7	ECL 1
	Instrument ID: HG7									
Total Recoverable	Analysis	SM 2340B		1			663948	01/19/22 17:16	P1R	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	180.1		1			664889	01/19/22 18:28	W1BQ	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	218.6 CR3		1			208083	01/18/22 12:39	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	663556	12/30/21 09:00	VY3D	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	663595	12/29/21 17:58	ZL7L	IRV 2
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Client Sample ID: Outfall018_20211228_Comp
Date Collected: 12/28/21 09:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80231-1
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	SM 4500 CN C			50 mL	50 mL	204823	12/29/21 13:00	UAPD	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	5 mL	5 mL	204811	12/30/21 15:27	UAPD	ECL 1
	Instrument ID: UV9									
Total/NA	Analysis	SM 4500 NH3 G		1	0.8 mL	8.0 mL	664022	01/07/22 13:02	GG0B	IRV 2
	Instrument ID: LACHAT01									
Total/NA	Analysis	SM 5310D		1	40 mL	40 mL	208181	01/18/22 14:19	CY2M	ECL 1
	Instrument ID: TOC12									
Total/NA	Prep	SM 5540C			100 mL	100 mL	204906	12/30/21 22:00	UAPD	ECL 1
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	204896	12/31/21 09:19	UAPD	ECL 1
	Instrument ID: UV9									
Total/NA	Analysis	SM5210B		1	5 mL	300 mL	204680		ZHU8	ECL 1
	Instrument ID: BOD2						(Start)	12/30/21 10:51		
							(End)	01/04/22 10:53		

Client Sample ID: Outfall018_20211228_Comp_F
Date Collected: 12/28/21 09:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80231-3
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			200 mL	200 mL	663655	12/30/21 13:36	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663671	01/05/22 07:23	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			663952	01/06/22 14:20	P1R	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			200 mL	200 mL	663655	12/30/21 13:36	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663672	01/05/22 07:24	LZY7	IRV 2
Dissolved	Analysis	200.8		1			663841	01/05/22 13:16	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	FILTRATION			40 mL	40 mL	663653	12/30/21 13:29	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664071	01/10/22 10:15	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664158	01/10/22 15:58	C0YH	IRV 2
	Instrument ID: CV-HG5									
Dissolved	Analysis	SM 2340B		1			663736	01/06/22 17:20	P1R	IRV 2
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method	Method Description	Protocol	Laboratory
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	ECL 2
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	40CFR136A	ECL 1
608.3	Organochlorine Pesticides in Water	40CFR136A	ECL 1
608.3	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	ECL 1
218.6	Chromium, Hexavalent (Ion Chromatography)	EPA	ECL 1
300.0	Anions, Ion Chromatography	MCAWW	ECL 1
314.0	Perchlorate (IC)	EPA	ECL 1
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	ECL 1
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	ECL 1
245.1	Mercury (CVAA)	EPA	IRV 2
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	IRV 2
180.1	Turbidity, Nephelometric	MCAWW	IRV 2
218.6 CR3	Chromium, Trivalent (Calculation)	EPA	ECL 1
SM 2540C	Solids, Total Dissolved (TDS)	SM	IRV 2
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 2
SM 4500 CN E	Cyanide, Total (Low Level)	SM	ECL 1
SM 4500 NH3 G	Ammonia	SM	IRV 2
SM 5310D	Organic Carbon, Total (TOC)	SM	ECL 1
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	ECL 1
SM5210B	BOD, 5 Day	SM	ECL 1
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	ECL 4
245.1	Preparation, Mercury	EPA	IRV 2
5030C	Purge and Trap	SW846	ECL 2
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	ECL 1
625	Liquid-Liquid Extraction	40CFR136A	ECL 1
FILTRATION	Sample Filtration	None	IRV 2
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1
SM 5540C	Preparation, Methylene Blue Active Substances (MBAS)	SM	ECL 1

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-1
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80231-1	Outfall018_20211228_Comp	Water	12/28/21 09:30	12/28/21 18:00
570-80231-3	Outfall018_20211228_Comp_F	Water	12/28/21 09:30	12/28/21 18:00

80231

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80231 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel EC# 44024446 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									ANALYSIS REQUIRED																	
									R/A	R	R	R	R/A	R	R	R	A	A	R							
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- F- SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals. Mercury (E245.1)					Comments
Outfall 018	Outfall018_20211228_Comp	12/28/2021 0930	WM	500 mL Poly	1	HNO_3	80	No	X										X							
			WM	1 L Glass Amber	2	None	110	No		X																
			WM	1 L Poly	1	None	115	No			X															
			WM	500 mL Poly	2	None	120	No				X														
			WM	500 mL Poly	2	None	125	No					X													48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X											48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X									
			WM	1 L Glass Amber	2	None	250	No										X							
			WM	1 L Glass Amber	2	None	175	No											X						
			WM	1 L Poly	1	None	185	No							X										
	Outfall018_20211228_Comp_Extra	12/28/2021 0930	WM	1 L Glass Amber	2	None	110	No		H															Hold
			WM	500 mL Poly	2	None	120	No				H													Hold
			WM	500 mL Poly	2	None	125	No					H												Hold
			WM	1 L Glass Amber	2	None	250	No										H							Hold
			WM	1 L Glass Amber	2	None	175	No											H						Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	12-28 2021/1445	H&A		12/28/21 1445
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
	12/28/21 18:00			12/28/21 1800
Relinquished By	Date/Time:	Company:	Received By	Date/Time:

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

2 | 3.0, 1.9 | 2.8 SCS

CHAIN OF CUSTODY FORM

Client Name/Address: Haley & Aldrich, 5333 Mission Center Rd Suite 300, San Diego, CA 92108	Project: Boeing-SSFL NPDES, Permit 2021, Annual Outfall [001, 002, 011, 018], Outfall 018, Comp
Eurofins Calscience Irvine Contact: Virendra Patel ECI# 44024446, 17461 Derian Ave Suite #100, Irvine CA 92614, Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller, 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	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/A: Total Dissolved Metals. (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8), Ag, Cd, Cu, Pb, Sb, Se, Tl	R: Cyanide (SM4500-CN-E / E335.2)	R: Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0) Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901 0 or E901 1)	R: Chronic Toxicity - Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura, CA	A: 1 4-Dioxane (E624 (SW8260M_SIM))	A: Total Organic Carbon (415.2 (SM 5310B))	A: Monomethyl hydrazine (SW8315M/DV-WC-0077)	A: Cr (VI), Total (E218.6)	R: Total Dissolved Metals. Mercury (E245.1)	QRSW: Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Comments
Outfall 018	Outfall018_20211228_Comp_F	12/28/2021/0930	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall018_20211228_Comp	12/28/2021/0930 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~										~~X~~	~~Extract within 24-Hours of sampling at Weck Labs at OF001,002,011, of 018~~
	Outfall018_20211228_Comp_Extra	12/28/2021/0930	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	[illegible]	None	255	No							H				Hold

Legend. A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:	
[signature]	12.28.2021/1445	H:A	[signature] ECI	12/28/21 1445	Turn-around time: (Check) 24 Hour: ___ 72 Hour: ___ 10 Day: X 48 Hour: ___ 5 Day: ___ Normal: ___
[signature]	12/28/21 1800		[signature]	12/28/21 1800	Sample Integrity: (Check) Intact: ___ On Ice: ___
					Store samples for 6 months. Data Requirements: (Check) No Level IV: ___ All Level IV: X

* Hand delivered to ABC Labs by H:A

2019-2020 Rainy Season
Version 5

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148122 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80231-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/19/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck-Hydrazine)/ Weck-Hydrazine	SUB (Weck-Hydrazine)/ Weck-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09:30 Pacific		Water			X		1	Level IV needed
Outfall18_20211228_Comp_Extra (570-80231-2)	12/28/21	09:30 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/29/21 1335				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone: 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148125 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80231-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/26/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B NaOH, C Zn Acetate, D Nitric Acid, E - NaHSO4, F MeOH, G - Amchlor, H Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900 0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09 30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
	Relinquished by:	Date/Time: 12/29/21 1422	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No.: 570-148141 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80231-2
Address: 880 Riverside Parkway	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09:30 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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/29/21 1609				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time.	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148135 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80231-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/10/2022			
City: Tustin	TAT Requested (days)			
State, Zip: CA 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 200 7 Outfall 001/002/011 Totals List	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	245.1/245.1_Prep Mercury	180.1/ Turbidity	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	SM5310B/ Organic Carbon, Total (TOC)	200 7/FILTRATION 200.7 Outfall 001/002/011 Diss List	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	245.1/FILTRATION Diss Mercury	SM2340B/Filtration_AC Diss hardness	Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09:30 Pacific		Water			X	X	X	X	X	X	X	X	X					9	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall18_20211228_Comp_F (570-80231-3)	12/28/21	09:30 Pacific		Water												X	X	X	X	3	Filter w/in 24 hours, Filter within 24 hours, use VOA vials from LL Hg Kit-Clean Hands

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements 1.8/1.8 IR-89

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/29/21 1552	ECL			
2	Relinquished by	Date/Time	Company	Received by	Date/Time 12/29/21 1552	Company ECL
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience Tustin
2841 Dow Avenue
Tustin CA 92780
Phone 949-261-1022 Fax: 949-260-3297

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 440-177693 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80231-1
Address: 7440 Lincoln Way ,	Due Date Requested: 1/11/2022			
City: Garden Grove	TAT Requested (days):			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 COMP	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/ CL, SO4, F	300_ORGFMS/ Nitrate + Nitrite as N	4500_CN_E_LL/4500_CN_C Cyanide, Total (Low Level)	5540C/5540C_Prep Methylene Blue Active Substances (MBAS)	NO2NO3_Calc_IC/ Nitrate-Nitrite as N	314.0/ Perchlorate	SM5210B_BODCalc/ Biological Oxygen Demand - 5 Day	608.3_PCB_LL/608_Prep_PCB_LL PCBs	608.3_Pest_LL/608_Prep_LL Pesticides	625.1_SIM/625_Prep Priority pollutant list	8260B_SIM/5030C (MOD) 1,4-Dioxane only	218.6_CR3/ Trivalent Chromium	218.6_ORGFM/ Chromium, Hexavalent	Total Number of containers	Special Instructions/Note
			Preservation Code:																		
Outfall018_20211228_Comp (570-80231-1)	12/28/21	09.30 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	1/12/22	ECT		1/12/22 1446	ECI
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	1/12/22 1427	ECI		1-17-2022 14:27	ECI
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 3.1/4.6 SC6

Ver 06/08/2021

Eurofins Calscience Tustin
2841 Dow Avenue
Tustin CA 92780
Phone 949-261-1022 Fax: 949-260-3297

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No.: 440-177693 2
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80231-1
Address: 7440 Lincoln Way, ,	Due Date Requested: 1/11/2022			
City: Garden Grove	TAT Requested (days):			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 COMP	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM5310D/ Total Organic Carbon	Total Number of containers	Special Instructions/Note
			Preservation Code:						
Outfall018_20211228_Comp (570-80231-1)	12/28/21	09 30 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Level 1 radioactive	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by:	1/17/22	ECT		1/17/22 1446	EC
Relinquished by:	1/7/22 1427	EC		1-17-2022 14:27	ECT
Relinquished by:			Received by:		

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.	3.1 / 4.6 SC6

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80231-1

Login Number: 80231
List Number: 1
Creator: Patel, Jayesh

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80231-1

Login Number: 80231
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 12/29/21 04:27 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80231-2
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/30/2022 9:48:50 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Client Sample Results 6
Surrogate Summary 8
Isotope Dilution Summary 9
QC Sample Results 11
QC Association Summary 15
Lab Chronicle 16
Certification Summary 17
Method Summary 18
Sample Summary 19
Chain of Custody 20
Receipt Checklists 28

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80231-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80231-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80231-2

Comments
No additional comments.

Receipt
The samples were received on 12/28/2021 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.8º C and 3.0º C.

Receipt Exceptions

The following sample(s) was listed on the Chain-of-Custody (COC); however, due to a shipping delay, the sample was not received. Only 1 of 2 coolers were received. Missing 7756 2990 7127

The AWB and Copy ICOCs were taped on top of coolers. Cooler 2/2 - 7756 2990 7127 AWB was rolled up an attached to the back of Cooler 1/2. So the 2/2 Cooler has no Identification on the outside.

1. Received the 1 Liter Amber 1-H
Missing The 1-L bottle

The following samples were received at the laboratory outside the required temperature criteria at 11.9C.: Outfall018_20211228_Comp_Extra (570-80231-2). The second cooler was received on 1/5/22. There were no tags on the cooler because they were attached to the first cooler.

Dioxin
No analytical or quality issues were noted, other than those described 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: 570-80231-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Client Sample ID: Outfall018_20211228_Comp
Lab Sample ID: 570-80231-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000022	J,DX q MB	0.000052	0.00000031	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000014	J,DX MB	0.000052	0.00000031	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000019	J,DX MB	0.000052	0.00000026	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000041	J,DX q MB	0.000052	0.00000055	ug/L	1		1613B	Total/NA
OCDD	0.000025	J,DX MB	0.00010	0.00000093	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000035	J,DX q MB	0.000052	0.00000030	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000019	J,DX MB	0.000052	0.00000021	ug/L	1		1613B	Total/NA
Total HpCDD	0.0000077	J,DX q MB	0.000052	0.00000055	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall018_20211228_Comp
Date Collected: 12/28/21 09:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80231-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000079	ug/L		01/07/22 08:45	01/14/22 22:02	1
2,3,7,8-TCDF	ND		0.000010	0.00000042	ug/L		01/07/22 08:45	01/14/22 22:02	1
1,2,3,7,8-PeCDD	ND		0.000052	0.00000090	ug/L		01/07/22 08:45	01/14/22 22:02	1
1,2,3,7,8-PeCDF	ND		0.000052	0.00000070	ug/L		01/07/22 08:45	01/14/22 22:02	1
2,3,4,7,8-PeCDF	ND		0.000052	0.00000074	ug/L		01/07/22 08:45	01/14/22 22:02	1
1,2,3,4,7,8-HxCDD	**0.0000022**	**J,DX q MB**	0.000052	0.00000031	ug/L		01/07/22 08:45	01/14/22 22:02	1
1,2,3,6,7,8-HxCDD	**0.0000014**	**J,DX MB**	0.000052	0.00000031	ug/L		01/07/22 08:45	01/14/22 22:02	1
1,2,3,7,8,9-HxCDD	ND		0.000052	0.00000030	ug/L		01/07/22 08:45	01/14/22 22:02	1
1,2,3,4,7,8-HxCDF	ND		0.000052	0.00000025	ug/L		01/07/22 08:45	01/14/22 22:02	1
1,2,3,6,7,8-HxCDF	ND		0.000052	0.00000027	ug/L		01/07/22 08:45	01/14/22 22:02	1
1,2,3,7,8,9-HxCDF	**0.0000019**	**J,DX MB**	0.000052	0.00000026	ug/L		01/07/22 08:45	01/14/22 22:02	1
2,3,4,6,7,8-HxCDF	ND		0.000052	0.00000021	ug/L		01/07/22 08:45	01/14/22 22:02	1
1,2,3,4,6,7,8-HpCDD	**0.0000041**	**J,DX q MB**	0.000052	0.00000055	ug/L		01/07/22 08:45	01/14/22 22:02	1
1,2,3,4,6,7,8-HpCDF	ND		0.000052	0.00000048	ug/L		01/07/22 08:45	01/14/22 22:02	1
1,2,3,4,7,8,9-HpCDF	ND		0.000052	0.00000052	ug/L		01/07/22 08:45	01/14/22 22:02	1
OCDD	**0.000025**	**J,DX MB**	0.00010	0.00000093	ug/L		01/07/22 08:45	01/14/22 22:02	1
OCDF	ND		0.00010	0.0000012	ug/L		01/07/22 08:45	01/14/22 22:02	1
Total TCDD	ND		0.000010	0.00000079	ug/L		01/07/22 08:45	01/14/22 22:02	1
Total TCDF	ND		0.000010	0.00000042	ug/L		01/07/22 08:45	01/14/22 22:02	1
Total PeCDD	ND		0.000052	0.00000090	ug/L		01/07/22 08:45	01/14/22 22:02	1
Total PeCDF	ND		0.000052	0.00000070	ug/L		01/07/22 08:45	01/14/22 22:02	1
Total HxCDD	**0.0000035**	**J,DX q MB**	0.000052	0.00000030	ug/L		01/07/22 08:45	01/14/22 22:02	1
Total HxCDF	**0.0000019**	**J,DX MB**	0.000052	0.00000021	ug/L		01/07/22 08:45	01/14/22 22:02	1
Total HpCDD	**0.0000077**	**J,DX q MB**	0.000052	0.00000055	ug/L		01/07/22 08:45	01/14/22 22:02	1
Total HpCDF	ND		0.000052	0.00000048	ug/L		01/07/22 08:45	01/14/22 22:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*87*		*25 - 164*	*01/07/22 08:45*	*01/14/22 22:02*	*1*
13C-2,3,7,8-TCDF	*82*		*24 - 169*	*01/07/22 08:45*	*01/14/22 22:02*	*1*
13C-1,2,3,7,8-PeCDD	*85*		*25 - 181*	*01/07/22 08:45*	*01/14/22 22:02*	*1*
13C-1,2,3,7,8-PeCDF	*82*		*24 - 185*	*01/07/22 08:45*	*01/14/22 22:02*	*1*
13C-2,3,4,7,8-PeCDF	*93*		*21 - 178*	*01/07/22 08:45*	*01/14/22 22:02*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: Outfall018_20211228_Comp **Lab Sample ID: 570-80231-1**
Date Collected: 12/28/21 09:30 **Matrix: Water**
Date Received: 12/28/21 18:00

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8-HxCDD	95		32 - 141	01/07/22 08:45	01/14/22 22:02	1
13C-1,2,3,6,7,8-HxCDD	94		28 - 130	01/07/22 08:45	01/14/22 22:02	1
13C-1,2,3,4,7,8-HxCDF	91		26 - 152	01/07/22 08:45	01/14/22 22:02	1
13C-1,2,3,6,7,8-HxCDF	85		26 - 123	01/07/22 08:45	01/14/22 22:02	1
13C-1,2,3,7,8,9-HxCDF	76		29 - 147	01/07/22 08:45	01/14/22 22:02	1
13C-2,3,4,6,7,8-HxCDF	92		28 - 136	01/07/22 08:45	01/14/22 22:02	1
13C-1,2,3,4,6,7,8-HpCDD	89		23 - 140	01/07/22 08:45	01/14/22 22:02	1
13C-1,2,3,4,6,7,8-HpCDF	94		28 - 143	01/07/22 08:45	01/14/22 22:02	1
13C-1,2,3,4,7,8,9-HpCDF	93		26 - 138	01/07/22 08:45	01/14/22 22:02	1
13C-OCDD	87		17 - 157	01/07/22 08:45	01/14/22 22:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	94		35 - 197	01/07/22 08:45	01/14/22 22:02	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	37TCDD (35-197)							
570-80231-1	Outfall018_20211228_Comp	94							
MB 320-556604/1-A	Method Blank	93							

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 320-556604/2-A	Lab Control Sample	91							
LCSD 320-556604/3-A	Lab Control Sample Dup	93							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80231-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-80231-1	Outfall018_20211228_Comp	87	82	85	82	93	95	94	91
MB 320-556604/1-A	Method Blank	77	79	72	70	82	78	73	74

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-80231-1	Outfall018_20211228_Comp	85	76	92	89	94	93	87
MB 320-556604/1-A	Method Blank	68	70	77	73	74	80	80

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-556604/2-A	Lab Control Sample	78	78	76	75	85	82	78	79
LCSD 320-556604/3-A	Lab Control Sample Dup	80	79	79	75	86	80	74	75

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-556604/2-A	Lab Control Sample	72	74	81	77	82	85	82
LCSD 320-556604/3-A	Lab Control Sample Dup	71	72	77	76	79	86	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

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-556604/1-A
Matrix: Water
Analysis Batch: 558745

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556604

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000084	ug/L		01/07/22 08:45	01/14/22 13:17	1
2,3,7,8-TCDF	ND		0.000010	0.00000053	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000087	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000078	ug/L		01/07/22 08:45	01/14/22 13:17	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000075	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,4,7,8-HxCDD	0.00000320	J,DX	0.000050	0.00000047	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,6,7,8-HxCDD	0.00000275	J,DX q	0.000050	0.00000047	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,7,8,9-HxCDD	0.00000249	J,DX q	0.000050	0.00000046	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,4,7,8-HxCDF	0.00000187	J,DX q	0.000050	0.00000045	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,6,7,8-HxCDF	0.00000228	J,DX	0.000050	0.00000048	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,7,8,9-HxCDF	0.00000260	J,DX q	0.000050	0.00000040	ug/L		01/07/22 08:45	01/14/22 13:17	1
2,3,4,6,7,8-HxCDF	0.00000199	J,DX	0.000050	0.00000034	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,4,6,7,8-HpCDD	0.00000548	J,DX	0.000050	0.00000025	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,4,6,7,8-HpCDF	0.00000353	J,DX	0.000050	0.00000048	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,4,7,8,9-HpCDF	0.00000266	J,DX	0.000050	0.00000051	ug/L		01/07/22 08:45	01/14/22 13:17	1
OCDD	0.00000907	J,DX	0.00010	0.00000082	ug/L		01/07/22 08:45	01/14/22 13:17	1
OCDF	0.00000533	J,DX	0.00010	0.00000062	ug/L		01/07/22 08:45	01/14/22 13:17	1
Total TCDD	0.00000455	J,DX q	0.000010	0.00000084	ug/L		01/07/22 08:45	01/14/22 13:17	1
Total TCDF	ND		0.000010	0.00000053	ug/L		01/07/22 08:45	01/14/22 13:17	1
Total PeCDD	0.00000498	J,DX	0.000050	0.00000087	ug/L		01/07/22 08:45	01/14/22 13:17	1
Total PeCDF	ND		0.000050	0.00000075	ug/L		01/07/22 08:45	01/14/22 13:17	1
Total HxCDD	0.00000844	J,DX q	0.000050	0.00000046	ug/L		01/07/22 08:45	01/14/22 13:17	1
Total HxCDF	0.00000875	J,DX q	0.000050	0.00000034	ug/L		01/07/22 08:45	01/14/22 13:17	1
Total HpCDD	0.00000839	J,DX	0.000050	0.00000025	ug/L		01/07/22 08:45	01/14/22 13:17	1
Total HpCDF	0.00000618	J,DX	0.000050	0.00000048	ug/L		01/07/22 08:45	01/14/22 13:17	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*77*		*25 - 164*	*01/07/22 08:45*	*01/14/22 13:17*	*1*
13C-2,3,7,8-TCDF	*79*		*24 - 169*	*01/07/22 08:45*	*01/14/22 13:17*	*1*
13C-1,2,3,7,8-PeCDD	*72*		*25 - 181*	*01/07/22 08:45*	*01/14/22 13:17*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-556604/1-A
Matrix: Water
Analysis Batch: 558745

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556604

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	70		24 - 185	01/07/22 08:45	01/14/22 13:17	1
13C-2,3,4,7,8-PeCDF	82		21 - 178	01/07/22 08:45	01/14/22 13:17	1
13C-1,2,3,4,7,8-HxCDD	78		32 - 141	01/07/22 08:45	01/14/22 13:17	1
13C-1,2,3,6,7,8-HxCDD	73		28 - 130	01/07/22 08:45	01/14/22 13:17	1
13C-1,2,3,4,7,8-HxCDF	74		26 - 152	01/07/22 08:45	01/14/22 13:17	1
13C-1,2,3,6,7,8-HxCDF	68		26 - 123	01/07/22 08:45	01/14/22 13:17	1
13C-1,2,3,7,8,9-HxCDF	70		29 - 147	01/07/22 08:45	01/14/22 13:17	1
13C-2,3,4,6,7,8-HxCDF	77		28 - 136	01/07/22 08:45	01/14/22 13:17	1
13C-1,2,3,4,6,7,8-HpCDD	73		23 - 140	01/07/22 08:45	01/14/22 13:17	1
13C-1,2,3,4,6,7,8-HpCDF	74		28 - 143	01/07/22 08:45	01/14/22 13:17	1
13C-1,2,3,4,7,8,9-HpCDF	80		26 - 138	01/07/22 08:45	01/14/22 13:17	1
13C-OCDD	80		17 - 157	01/07/22 08:45	01/14/22 13:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	93		35 - 197	01/07/22 08:45	01/14/22 13:17	1

Lab Sample ID: LCS 320-556604/2-A
Matrix: Water
Analysis Batch: 558745

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 556604

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000206		ug/L		103	67 - 158
2,3,7,8-TCDF	0.000200	0.000213		ug/L		106	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.00110		ug/L		110	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.00111		ug/L		111	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000992		ug/L		99	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.00101	MB	ug/L		101	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.00104	MB	ug/L		104	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.00103	MB	ug/L		103	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000991	MB	ug/L		99	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.00111	MB	ug/L		111	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.00106	MB	ug/L		106	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.00108	MB	ug/L		108	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.00108	MB	ug/L		108	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.00101	MB	ug/L		101	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000952	MB	ug/L		95	78 - 138
OCDD	0.00200	0.00197	MB	ug/L		99	78 - 144
OCDF	0.00200	0.00198	MB	ug/L		99	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	78		20 - 175
13C-2,3,7,8-TCDF	78		22 - 152
13C-1,2,3,7,8-PeCDD	76		21 - 227
13C-1,2,3,7,8-PeCDF	75		21 - 192
13C-2,3,4,7,8-PeCDF	85		13 - 328
13C-1,2,3,4,7,8-HxCDD	82		21 - 193
13C-1,2,3,6,7,8-HxCDD	78		25 - 163
13C-1,2,3,4,7,8-HxCDF	79		19 - 202

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-556604/2-A
Matrix: Water
Analysis Batch: 558745

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 556604

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,6,7,8-HxCDF	72		21 - 159
13C-1,2,3,7,8,9-HxCDF	74		17 - 205
13C-2,3,4,6,7,8-HxCDF	81		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	77		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	82		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	85		20 - 186
13C-OCDD	82		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	91		31 - 191

Lab Sample ID: LCSD 320-556604/3-A
Matrix: Water
Analysis Batch: 558745

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 556604

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000198		ug/L		99	67 - 158	4	50
2,3,7,8-TCDF			0.000200	0.000210		ug/L		105	75 - 158	1	50
1,2,3,7,8-PeCDD			0.00100	0.00110		ug/L		110	70 - 142	0	50
1,2,3,7,8-PeCDF			0.00100	0.00110		ug/L		110	80 - 134	1	50
2,3,4,7,8-PeCDF			0.00100	0.000995		ug/L		100	68 - 160	0	50
1,2,3,4,7,8-HxCDD			0.00100	0.000963	MB	ug/L		96	70 - 164	4	50
1,2,3,6,7,8-HxCDD			0.00100	0.00103	MB	ug/L		103	76 - 134	1	50
1,2,3,7,8,9-HxCDD			0.00100	0.00102	MB	ug/L		102	64 - 162	1	50
1,2,3,4,7,8-HxCDF			0.00100	0.000996	MB	ug/L		100	72 - 134	0	50
1,2,3,6,7,8-HxCDF			0.00100	0.00108	MB	ug/L		108	84 - 130	3	50
1,2,3,7,8,9-HxCDF			0.00100	0.00107	MB	ug/L		107	78 - 130	1	50
2,3,4,6,7,8-HxCDF			0.00100	0.00110	MB	ug/L		110	70 - 156	2	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.00106	MB	ug/L		106	70 - 140	2	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.00101	MB	ug/L		101	82 - 122	1	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000956	MB	ug/L		96	78 - 138	0	50
OCDD			0.00200	0.00199	MB	ug/L		99	78 - 144	1	50
OCDF			0.00200	0.00200	MB	ug/L		100	63 - 170	1	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	80		20 - 175
13C-2,3,7,8-TCDF	79		22 - 152
13C-1,2,3,7,8-PeCDD	79		21 - 227
13C-1,2,3,7,8-PeCDF	75		21 - 192
13C-2,3,4,7,8-PeCDF	86		13 - 328
13C-1,2,3,4,7,8-HxCDD	80		21 - 193
13C-1,2,3,6,7,8-HxCDD	74		25 - 163
13C-1,2,3,4,7,8-HxCDF	75		19 - 202
13C-1,2,3,6,7,8-HxCDF	71		21 - 159
13C-1,2,3,7,8,9-HxCDF	72		17 - 205
13C-2,3,4,6,7,8-HxCDF	77		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	76		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	79		21 - 158

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-556604/3-A
Matrix: Water
Analysis Batch: 558745

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 556604

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-1,2,3,4,7,8,9-HpCDF	86		20 - 186
13C-OCDD	85		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	93		31 - 191

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Specialty Organics

Prep Batch: 556604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	1613B	
MB 320-556604/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-556604/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-556604/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 558745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	1613B	556604
MB 320-556604/1-A	Method Blank	Total/NA	Water	1613B	556604
LCS 320-556604/2-A	Lab Control Sample	Total/NA	Water	1613B	556604
LCSD 320-556604/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	556604

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Client Sample ID: Outfall018_20211228_Comp
Lab Sample ID: 570-80231-1
Date Collected: 12/28/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			953.4 mL	20.0 uL	556604	01/07/22 08:45	FC	TAL SAC
Total/NA	Analysis	1613B		1			558745	01/14/22 22:02	GRB	TAL SAC
	Instrument ID: DFS 1									

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-29-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Kansas	NELAP	E-10375	10-31-21 *
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-18-22
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-21 *
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-2
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80231-1	Outfall018_20211228_Comp	Water	12/28/21 09:30	12/28/21 18:00

80231

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80231 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **EC# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									R/A	R	R	R	R/A	R	R	R	A	A	R					
									ANALYSIS REQUIRED															
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- F- SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals. Mercury (E245.1)				Comments
Outfall 018	Outfall018_20211228_Comp	12/28/2021 0930	WM	500 mL Poly	1	HNO_3	80	No	X										X				
			WM	1 L Glass Amber	2	None	110	No		X													
			WM	1 L Poly	1	None	115	No			X												
			WM	500 mL Poly	2	None	120	No				X											
			WM	500 mL Poly	2	None	125	No					X										48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X									48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X							
			WM	1 L Glass Amber	2	None	250	No									X						
			WM	1 L Glass Amber	2	None	175	No										X					
			WM	1 L Poly	1	None	185	No							X								
	Outfall018_20211228_Comp_Extra	12/28/2021 0930	WM	1 L Glass Amber	2	None	110	No		H													Hold
			WM	500 mL Poly	2	None	120	No				H											Hold
			WM	500 mL Poly	2	None	125	No					H										Hold
			WM	1 L Glass Amber	2	None	250	No									H						Hold
			WM	1 L Glass Amber	2	None	175	No										H					Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12-28 2021/1445	H&A	[signature]	12/28/21 1445
[signature]	12/28/21 18:00		[signature]	12/28/21 1800

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

2 1|3.0, 1.9|2.8 SCS

1/30/2022

2019-2020 Rainy Season
Version 5

80231

CHAIN OF CUSTODY FORM

Client Name/Address:
Haley & Aldrich
5333 Mission Center Rd Suite 300
San Diego, CA 92108

Eurofins Calscience Irvine Contact: Virendra Patel **ECI# 44024446**
17461 Derian Ave Suite #100
Irvine CA 92614
Tel 949-260-3218

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Sampler: MARK DOMINICK

Project:
Boeing-SSFL NPDES
Permit 2021
Annual Outfall [001, 002, 011, 018]
Outfall 018
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/A: Total Dissolved Metals. (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8). Ag, Cd, Cu, Pb, Sb, Se, Tl	R: Cyanide (SM4500-CN-E / E335.2)	R: Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0) Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901 0 or E901 1)	R: Chronic Toxicity - Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura, CA	A: 1 4-Dioxane (E624 (SW8260M_SIM))	A: Total Organic Carbon (415.2 (SM 5310B))	A: Monomethyl hydrazine (SW8315M/DV-WC-0077)	A: Cr (VI), Total (E218.6)	R: Total Dissolved Metals. Mercury (E245.1)	QRSW: Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Comments
Outfall 018	Outfall018_20211228_Comp_F	12/28/2021/0930	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall018_20211228_Comp	12/28/2021/0930 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~										~~X~~	~~Extract within 24-Hours of sampling at Weck Labs at OF001,002,011, of 018~~ [illegible]
	Outfall018_20211228_Comp_Extra	12/28/2021/0930	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	[illegible]	None	255	No							H				Hold

Legend. A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
M Dominick	12.28.2021/1445	H:A	[signature] ECI	12/28/21 1445
[signature]	12/28/21 18:00		[signature]	12/28/21 1800

Turn-around time: (Check)
24 Hour ______ 72 Hour ______ 10 Day X
48 Hour ______ 5 Day ______ Normal ______

Sample Integrity: (Check)
Intact: ______ On Ice ______

Store samples for 6 months.

Data Requirements: (Check)
No Level IV ______ All Level IV: X

* Hand delivered to ABC Labs by H:A

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148122 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80231-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/19/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck-Hydrazine)/ Weck-Hydrazine	SUB (Weck-Hydrazine)/ Weck-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09:30 Pacific		Water			X		1	Level IV needed
Outfall18_20211228_Comp_Extra (570-80231-2)	12/28/21	09:30 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/29/21 1335				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone: 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148125 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80231-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/26/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B NaOH, C Zn Acetate, D Nitric Acid, E - NaHSO4, F MeOH, G - Amchlor, H Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900 0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09 30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
[signature]	12/29/21 1422				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

1/30/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No.: 570-148141 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80231-2
Address: 880 Riverside Parkway	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09:30 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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/29/21 1609				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time.	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148135 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80231-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/10/2022			
City: Tustin	TAT Requested (days)			
State, Zip: CA 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 200 7 Outfall 001/002/011 Totals List	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	245.1/245.1_Prep Mercury	180.1/ Turbidity	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	SM5310B/ Organic Carbon, Total (TOC)	200 7/FILTRATION 200.7 Outfall 001/002/011 Diss List	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	245.1/FILTRATION Diss Mercury	SM2340B/Filtration_AC Diss hardness	Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09:30 Pacific		Water			X	X	X	X	X	X	X	X	X					9	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall18_20211228_Comp_F (570-80231-3)	12/28/21	09:30 Pacific		Water												X	X	X	X	3	Filter w/in 24 hours, Filter within 24 hours, use VOA vials from LL Hg Kit-Clean Hands

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements 1.8/1.8 IR-89

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/29/21 1552	ECL			
2	Relinquished by	Date/Time	Company	Received by	Date/Time 12/29/21 1552	Company ECL
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience Tustin
2841 Dow Avenue
Tustin CA 92780
Phone 949-261-1022 Fax: 949-260-3297

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 440-177693 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80231-1
Address: 7440 Lincoln Way ,	Due Date Requested: 1/11/2022			
City: Garden Grove	TAT Requested (days):			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 COMP	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/ CL, SO4, F	300_ORGFMS/ Nitrate + Nitrite as N	4500_CN_E_LL/4500_CN_C Cyanide, Total (Low Level)	5540C/5540C_Prep Methylene Blue Active Substances (MBAS)	NO2NO3_Calc_IC/ Nitrate-Nitrite as N	314.0/ Perchlorate	SM5210B_BODCalc/ Biological Oxygen Demand - 5 Day	608.3_PCB_LL/608_Prep_PCB_LL PCBs	608.3_Pest_LL/608_Prep_LL Pesticides	625.1_SIM/625_Prep Priority pollutant list	8260B_SIM/5030C (MOD) 1,4-Dioxane only	218.6_CR3/ Trivalent Chromium	218.6_ORGFM/ Chromium, Hexavalent	Total Number of containers	Special Instructions/Note
			Preservation Code:																		
Outfall018_20211228_Comp (570-80231-1)	12/28/21	09.30 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Level 1 radioactive	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	1/12/22	ECT		1/12/22 1446	ECI
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	1/12/22 1427	ECI		1-17-2022 14:27	ECI
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 3.1/4.6 SC 6

Ver 06/08/2021

Eurofins Calscience Tustin
2841 Dow Avenue
Tustin CA 92780
Phone 949-261-1022 Fax: 949-260-3297

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No.: 440-177693 2
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80231-1
Address: 7440 Lincoln Way, ,	Due Date Requested: 1/11/2022			
City: Garden Grove	TAT Requested (days):			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 COMP	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM5310D/ Total Organic Carbon	Total Number of containers	Special Instructions/Note
			Preservation Code:						
Outfall018_20211228_Comp (570-80231-1)	12/28/21	09 30 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		1/17/22	ECT		1/17/22 1446	EC
2		1/7/22 1427	EC		1-17-2022 14:27	ECT
3						

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.	3.1 / 4.6 SC6

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80231-2

Login Number: 80231
List Number: 1
Creator: Patel, Jayesh

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80231-2

Login Number: 80231
List Number: 4
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 12/31/21 12:31 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.9c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80231-2

Login Number: 80231
List Number: 5
Creator: Nelson, Kym D

List Source: Eurofins Sacramento
List Creation: 01/06/22 10:29 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
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.	False	Water present in cooler; indicates evidence of melted ice.
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	11.9C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80231-3
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/28/2022 4:16:30 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 7
Client Sample Results 8
Tracer Carrier Summary 15
QC Sample Results 16
QC Association Summary 21
Lab Chronicle 22
Certification Summary 23
Method Summary 24
Sample Summary 25
Chain of Custody 26
Receipt Checklists 35

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80231-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80231-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80231-3

Comments
No additional comments.

Receipt
The samples were received on 12/28/2021 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.8º C and 3.0º C.

Receipt Exceptions

The following sample(s) was listed on the Chain-of-Custody (COC); however, due to a shipping delay, the sample was not received. Only 1 of 2 coolers were received. Missing 7756 2990 7127

The AWB and Copy ICOCs were taped on top of coolers. Cooler 2/2 - 7756 2990 7127 AWB was rolled up an attached to the back of Cooler 1/2. So the 2/2 Cooler has no Identification on the outside. So hoping it is not lost.

1. Received the 1 Liter Amber 1-H
Missing The 1-L bottle

The following samples were received at the laboratory outside the required temperature criteria at 11.9C Outfall018_20211228_Comp (570-80231-1), Outfall018_20211228_Comp_Extra (570-80231-2) and Outfall018_20211228_Comp_F (570-80231-3). The second cooler was received on 1/5/22. There were no tags on the cooler because they were attached to the first cooler.

RAD
Method 900.0: Gross alpha beta batch 544905
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_20211228_Comp (570-80231-1), (LCS 160-544905/2-A), (LCSB 160-544905/3-A), (MB 160-544905/1-A), (570-80145-R-1-G), (570-80145-R-1-J DU), (570-80145-R-1-H MS) and (570-80145-R-1-I MSBT)

Method 901.1: Gamma Prep Batch 160-544496
Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227

Job ID: 570-80231-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

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.

**The method blank (MB) Z-score is within limits and is located in the level IV raw data

Outfall018_20211228_Comp (570-80231-1), (570-80241-R-1-A) and (570-80241-R-1-B DU)

Method 903.0: Radium 226 batch 544527
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall018_20211228_Comp (570-80231-1), (LCS 160-544527/1-A), (LCSD 160-544527/2-A) and (MB 160-544527/20-A)

Method 904.0: Radium 228 batch 544530
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts

Outfall018_20211228_Comp (570-80231-1), (LCS 160-544530/1-A), (LCSD 160-544530/2-A) and (MB 160-544530/20-A)

Method 905: Strontium 90 batch 544884
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Outfall018_20211228_Comp (570-80231-1), (LCS 160-544884/1-A), (LCSD 160-544884/2-A) and (MB 160-544884/16-A)

Method 906.0: Tritium in liquid batch 160-544497
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.

Job ID: 570-80231-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
Outfall018_20211228_Comp (570-80231-1), (LCS 160-544497/2-A), (MB 160-544497/1-A), (160-44348-A-1-A), (160-44348-A-1-B MS) and (570-80231-U-1-B DU)

Methods A-01-R, U-02-RC: Isotopic Uranium Batch 160-544910:

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_20211228_Comp (570-80231-1), (LCS 160-544910/2-A), (MB 160-544910/1-A), (570-80241-R-1-I) and (570-80241-R-1-J DU)

Method PrecSep_0: Radium-228 Prep Batch 160-544530

The following samples were prepared at a reduced aliquot due to Matrix: Outfall018_20211228_Comp (570-80231-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-544527

The following samples were prepared at a reduced aliquot due to Matrix: Outfall018_20211228_Comp (570-80231-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-544884

The following samples were prepared at a reduced aliquot due to Matrix: Outfall018_20211228_Comp (570-80231-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Client Sample ID: Outfall018_20211228_Comp
Lab Sample ID: 570-80231-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall018_20211228_Comp
Date Collected: 12/28/21 09:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80231-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	2.10	U	1.80	1.82	3.00	2.81	pCi/L	01/05/22 10:40	01/07/22 08:03	1
Gross Beta	**4.07**		1.05	1.12	4.00	1.25	pCi/L	01/05/22 10:40	01/07/22 08:03	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall018_20211228_Comp
Date Collected: 12/28/21 09:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80231-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	2.57	U	9.10	9.11	20.0	11.0	pCi/L	01/03/22 08:33	01/23/22 19:34	1
Potassium-40	54.8	U	93.6	93.8		98.4	pCi/L	01/03/22 08:33	01/23/22 19:34	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall018_20211228_Comp
Date Collected: 12/28/21 09:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80231-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.190	U	0.255	0.256	1.00	0.429	pCi/L	01/03/22 12:15	01/25/22 20:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*01/03/22 12:15*	*01/25/22 20:09*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall018_20211228_Comp
Date Collected: 12/28/21 09:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80231-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.312	U	0.259	0.261	1.00	0.410	pCi/L	01/03/22 12:48	01/25/22 12:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*01/03/22 12:48*	*01/25/22 12:43*	*1*
Y Carrier	*86.4*		*40 - 110*	*01/03/22 12:48*	*01/25/22 12:43*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall018_20211228_Comp
Date Collected: 12/28/21 09:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80231-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	**0.947**		0.462	0.468	3.00	0.667	pCi/L	01/05/22 09:29	01/20/22 15:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*82.3*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:45*	*1*
Y Carrier	*81.1*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:45*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall018_20211228_Comp
Lab Sample ID: 570-80231-1
Date Collected: 12/28/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-187	U	188	189	500	358	pCi/L	01/03/22 08:49	01/04/22 19:42	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall018_20211228_Comp
Date Collected: 12/28/21 09:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80231-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.117		0.09222	0.09246	1.00	0.0810	pCi/L	01/05/22 12:22	01/11/22 19:28	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*83.5*		*30 - 110*	*01/05/22 12:22*	*01/11/22 19:28*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
570-80231-1	Outfall018_20211228_Comp	105
LCS 160-544527/1-A	Lab Control Sample	89.4
LCSD 160-544527/2-A	Lab Control Sample Dup	97.2
MB 160-544527/20-A	Method Blank	89.6

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80231-1	Outfall018_20211228_Comp	105	86.4
LCS 160-544530/1-A	Lab Control Sample	89.4	84.5
LCSD 160-544530/2-A	Lab Control Sample Dup	97.2	83.0
MB 160-544530/20-A	Method Blank	89.6	84.1

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Sr	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80231-1	Outfall018_20211228_Comp	82.3	81.1
LCS 160-544884/1-A	Lab Control Sample	77.6	85.2
LCSD 160-544884/2-A	Lab Control Sample Dup	79.2	84.9
MB 160-544884/16-A	Method Blank	84.7	78.9

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)
570-80231-1	Outfall018_20211228_Comp	83.5
570-80241-R-1-J DU	Duplicate	90.1
LCS 160-544910/2-A	Lab Control Sample	84.2
MB 160-544910/1-A	Method Blank	84.8

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-544905/1-A
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544905

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.8965	U	0.678	0.686	3.00	1.01	pCi/L	01/05/22 10:40	01/06/22 14:23	1
Gross Beta	0.1978	U	0.523	0.524	4.00	0.880	pCi/L	01/05/22 10:40	01/06/22 14:23	1

Lab Sample ID: LCS 160-544905/2-A
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	59.45		8.64	3.00	2.32	pCi/L	117	75 - 125

Lab Sample ID: LCSB 160-544905/3-A
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.7	74.99		8.03	4.00	1.03	pCi/L	99	75 - 125

Lab Sample ID: 570-80145-R-1-H MS
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	2.10		50.6	53.08		7.32	3.00	1.34	pCi/L	101	60 - 140

Lab Sample ID: 570-80145-R-1-I MSBT
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	4.10		75.7	76.77		8.19	4.00	0.790	pCi/L	96	60 - 140

Lab Sample ID: 570-80145-R-1-J DU
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	2.10		1.928		1.04	3.00	1.33	pCi/L	0.08	1
Gross Beta	4.10		5.162		1.00	4.00	0.789	pCi/L	0.56	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-544496/1-A
Matrix: Water
Analysis Batch: 547455

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544496

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.0000	U	2.36	2.36	20.0	13.2	pCi/L	01/03/22 08:33	01/21/22 17:08	1
Potassium-40	-6.817	U	148	148		157	pCi/L	01/03/22 08:33	01/21/22 17:08	1

Lab Sample ID: LCS 160-544496/2-A
Matrix: Water
Analysis Batch: 547775

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544496

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium-241	135000	139600		16600		428	pCi/L	103	75 - 125
Cesium-137	42000	42670		5080	20.0	101	pCi/L	102	75 - 125

Lab Sample ID: 570-80241-R-1-B DU
Matrix: Water
Analysis Batch: 547775

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 544496

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Cesium-137	7.38		1.605	U	9.00	20.0	11.0	pCi/L	0.39	1
Potassium-40	116		-4.545	U	121		132	pCi/L	0.67	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-544527/20-A
Matrix: Water
Analysis Batch: 548004

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544527

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.9340		0.453	0.461	1.00	0.578	pCi/L	01/03/22 12:15	01/25/22 20:10	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.6*		*40 - 110*	*01/03/22 12:15*	*01/25/22 20:10*	*1*

Lab Sample ID: LCS 160-544527/1-A
Matrix: Water
Analysis Batch: 548167

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544527

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.1	12.87		1.73	1.00	0.596	pCi/L	85	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*89.4*		*40 - 110*

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-544527/2-A
Matrix: Water
Analysis Batch: 548167

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544527

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	12.55		1.66	1.00	0.544	pCi/L	83	75 - 125	0.1	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*97.2*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-544530/20-A
Matrix: Water
Analysis Batch: 548004

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544530

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.07377	U	0.301	0.301	1.00	0.529	pCi/L	01/03/22 12:48	01/25/22 12:43	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.6*		*40 - 110*	*01/03/22 12:48*	*01/25/22 12:43*	*1*
Y Carrier	*84.1*		*40 - 110*	*01/03/22 12:48*	*01/25/22 12:43*	*1*

Lab Sample ID: LCS 160-544530/1-A
Matrix: Water
Analysis Batch: 548168

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544530

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			11.9	11.43		1.37	1.00	0.496	pCi/L	96	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*89.4*		*40 - 110*
Y Carrier	*84.5*		*40 - 110*

Lab Sample ID: LCSD 160-544530/2-A
Matrix: Water
Analysis Batch: 548168

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544530

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			11.9	11.13		1.33	1.00	0.542	pCi/L	93	75 - 125	0.11	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*97.2*		*40 - 110*
Y Carrier	*83.0*		*40 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-544884/16-A
Matrix: Water
Analysis Batch: 547239

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544884

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	-0.1328	U	0.444	0.444	3.00	0.811	pCi/L	01/05/22 09:29	01/20/22 15:46	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*84.7*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:46*	*1*
Y Carrier	*78.9*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:46*	*1*

Lab Sample ID: LCS 160-544884/1-A
Matrix: Water
Analysis Batch: 547233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544884

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Strontium-90			15.1	15.49		1.76	3.00	0.788	pCi/L	102	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*77.6*		*40 - 110*
Y Carrier	*85.2*		*40 - 110*

Lab Sample ID: LCSD 160-544884/2-A
Matrix: Water
Analysis Batch: 547233

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544884

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Strontium-90			15.1	16.58		1.84	3.00	0.739	pCi/L	110	75 - 125	0.30	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*79.2*		*40 - 110*
Y Carrier	*84.9*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-544497/1-A
Matrix: Water
Analysis Batch: 544877

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544497

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-117.1	U	198	198	500	366	pCi/L	01/03/22 08:49	01/04/22 18:11	1

Lab Sample ID: LCS 160-544497/2-A
Matrix: Water
Analysis Batch: 544877

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544497

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			2250	1757		358	500	364	pCi/L	78	75 - 125		

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 160-44348-A-1-B MS
Matrix: Water
Analysis Batch: 544877

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 544497

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Tritium	108	U	2240	2306		404	500	361	pCi/L	98	60 - 140

Lab Sample ID: 570-80231-1 DU
Matrix: Water
Analysis Batch: 544877

Client Sample ID: Outfall018_20211228_Comp
Prep Type: Total/NA
Prep Batch: 544497

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Tritium	-187	U	-210.8	U	190	500	366	pCi/L	0.06	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-544910/1-A
Matrix: Water
Analysis Batch: 545867

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544910

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.04306	U	0.06185	0.06193	1.00	0.0834	pCi/L	01/05/22 12:22	01/11/22 19:28	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*84.8*		*30 - 110*	*01/05/22 12:22*	*01/11/22 19:28*	*1*

Lab Sample ID: LCS 160-544910/2-A
Matrix: Water
Analysis Batch: 545868

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544910

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Uranium-234	12.7	12.61		1.40	1.00	0.104	pCi/L	99	75 - 125
Uranium-238	13.0	12.29		1.37	1.00	0.0937	pCi/L	94	75 - 125

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*84.2*		*30 - 110*

Lab Sample ID: 570-80241-R-1-J DU
Matrix: Water
Analysis Batch: 545874

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 544910

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Total Uranium	0.0490	U	0.1267		0.09715	1.00	0.106	pCi/L	0.50	1

Tracer	*DU %Yield*	*DU Qualifier*	*Limits*
Uranium-232	*90.1*		*30 - 110*

Rad

Prep Batch: 544496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-544496/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-544496/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-80241-R-1-B DU	Duplicate	Total/NA	Water	Fill_Geo-0	

Prep Batch: 544497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-544497/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-544497/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
160-44348-A-1-B MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	
570-80231-1 DU	Outfall018_20211228_Comp	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 544527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	PrecSep-21	
MB 160-544527/20-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-544527/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-544527/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 544530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	PrecSep_0	
MB 160-544530/20-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-544530/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-544530/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 544884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	PrecSep-7	
MB 160-544884/16-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-544884/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-544884/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Prep Batch: 544905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	Evaporation	
MB 160-544905/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-544905/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-544905/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-80145-R-1-H MS	Matrix Spike	Total/NA	Water	Evaporation	
570-80145-R-1-I MSBT	Matrix Spike	Total/NA	Water	Evaporation	
570-80145-R-1-J DU	Duplicate	Total/NA	Water	Evaporation	

Prep Batch: 544910

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80231-1	Outfall018_20211228_Comp	Total/NA	Water	ExtChrom	
MB 160-544910/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-544910/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
570-80241-R-1-J DU	Duplicate	Total/NA	Water	ExtChrom	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Client Sample ID: Outfall018_20211228_Comp
Lab Sample ID: 570-80231-1
Date Collected: 12/28/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			150.05 mL	1.0 g	544905	01/05/22 10:40	KG	TAL SL
Total/NA	Analysis	900.0		1			545199	01/07/22 08:03	MLK	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	544496	01/03/22 08:33	LTC	TAL SL
Total/NA	Analysis	901.1		1			547775	01/23/22 19:34	CAH	TAL SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	PrecSep-21			749.95 mL	1.0 g	544527	01/03/22 12:15	LPS	TAL SL
Total/NA	Analysis	903.0		1			548167	01/25/22 20:09	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			749.95 mL	1.0 g	544530	01/03/22 12:48	LPS	TAL SL
Total/NA	Analysis	904.0		1			548004	01/25/22 12:43	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-7			500.57 mL	1.0 g	544884	01/05/22 09:29	LPS	TAL SL
Total/NA	Analysis	905		1			547239	01/20/22 15:45	FLC	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	LSC_Dist_Susp			100.32 mL	1.0 g	544497	01/03/22 08:49	BAL	TAL SL
Total/NA	Analysis	906.0		1			544877	01/04/22 19:42	JLP	TAL SL
	Instrument ID: LSCBROWN									
Total/NA	Prep	ExtChrom			500.04 mL	1.0 mL	544910	01/05/22 12:22	MLO	TAL SL
Total/NA	Analysis	A-01-R		1			545872	01/11/22 19:28	CLP	TAL SL
	Instrument ID: ALPHAVISION									

Laboratory References:
TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 570-80231-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	01-01-22 *
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	TAL SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	TAL SL

Protocol References:

DOE = U.S. Department of Energy

EPA = US Environmental Protection Agency

None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-3
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80231-1	Outfall018_20211228_Comp	Water	12/28/21 09:30	12/28/21 18:00

80231

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80231 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **EC# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									R/A	R	R	R	R/A	R	R	R	A	A	R					
									ANALYSIS REQUIRED															
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- F- SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals. Mercury (E245.1)					Comments
Outfall 018	Outfall018_20211228_Comp	12/28/2021 0930	WM	500 mL Poly	1	HNO_3	80	No	X										X					
			WM	1 L Glass Amber	2	None	110	No		X														
			WM	1 L Poly	1	None	115	No			X													
			WM	500 mL Poly	2	None	120	No				X												
			WM	500 mL Poly	2	None	125	No					X											48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X										48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X								
			WM	1 L Glass Amber	2	None	250	No									X							
			WM	1 L Glass Amber	2	None	175	No										X						
			WM	1 L Poly	1	None	185	No							X									
	Outfall018_20211228_Comp_Extra	12/28/2021 0930	WM	1 L Glass Amber	2	None	110	No		H														Hold
			WM	500 mL Poly	2	None	120	No				H												Hold
			WM	500 mL Poly	2	None	125	No					H											Hold
			WM	1 L Glass Amber	2	None	250	No										H						Hold
			WM	1 L Glass Amber	2	None	175	No											H					Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12-28 2021/1445	H&A	[signature]	12/28/21 1445
[signature]	12/28/21 18:00		[signature]	12/28/21 1800

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

2 | 3.0, 1.9 | 2.8 SCS

80231

CHAIN OF CUSTODY FORM

Client Name/Address:
Haley & Aldrich
5333 Mission Center Rd Suite 300
San Diego, CA 92108

Eurofins Calscience Irvine Contact: Virendra Patel **ECI# 44024446**
17461 Derian Ave Suite #100
Irvine CA 92614
Tel 949-260-3218

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Sampler: MARK DOMINICK

Project:
Boeing-SSFL NPDES
Permit 2021
Annual Outfall [001, 002, 011, 018]
Outfall 018
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/A: Total Dissolved Metals. (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8), Ag, Cd, Cu, Pb, Sb, Se, Tl	R: Cyanide (SM4500-CN-E / E335.2)	R: Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0) Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901 0 or E901 1)	R: Chronic Toxicity - Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura, CA	A: 1 4-Dioxane (E624 (SW8260M_SIM))	A: Total Organic Carbon (415.2 (SM 5310B))	A: Monomethyl hydrazine (SW8315M/DV-WC-0077)	A: Cr (VI), Total (E218.6)	R: Total Dissolved Metals. Mercury (E245.1)	QRSW: Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Comments
Outfall 018	Outfall018_20211228_Comp_F	12/28/2021 / 0930	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall018_20211228_Comp	12/28/2021 / 0930 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~										X	~~Extract within 24-Hours of sampling at Weck Labs at OF001,002,011, of 018~~
	Outfall018_20211228_Comp_Extra	12/28/2021 / 0930	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	[illegible]	None	255	No							H				Hold

Legend. A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time	Company	Received By	Date/Time
[signature]	12.28.2021/1445	H:A	[signature] ECI	12/28/21 1445
[signature]	12/28/21 1800		[signature]	12/28/21 1800

Turn-around time: (Check)
24 Hour ______ 72 Hour ______ 10 Day X
48 Hour ______ 5 Day ______ Normal ______

Sample Integrity: (Check)
Intact: ______ On Ice. ______

Store samples for 6 months.
Data Requirements: (Check)
No Level IV ______ All Level IV: X

* Hand delivered to ABC Labs by H:A

2019-2020 Rainy Season
Version 5

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148122 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80231-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/19/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck-Hydrazine)/ Weck-Hydrazine	SUB (Weck-Hydrazine)/ Weck-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09:30 Pacific		Water			X		1	Level IV needed
Outfall18_20211228_Comp_Extra (570-80231-2)	12/28/21	09:30 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/29/21 1335				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone: 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148125 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80231-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/26/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B NaOH, C Zn Acetate, D Nitric Acid, E - NaHSO4, F MeOH, G - Amchlor, H Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900 0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09 30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
	Relinquished by:	Date/Time: 12/29/21 1422	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

1/28/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No.: 570-148141 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80231-2
Address: 880 Riverside Parkway	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09:30 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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/29/21 1609				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time.	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/28/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148135 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80231-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/10/2022			
City: Tustin	TAT Requested (days)			
State, Zip: CA 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 200 7 Outfall 001/002/011 Totals List	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	245.1/245.1_Prep Mercury	180.1/ Turbidity	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	SM5310B/ Organic Carbon, Total (TOC)	200 7/FILTRATION 200.7 Outfall 001/002/011 Diss List	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	245.1/FILTRATION Diss Mercury	SM2340B/Filtration_AC Diss hardness	Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09:30 Pacific		Water			X	X	X	X	X	X	X	X	X					9	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall18_20211228_Comp_F (570-80231-3)	12/28/21	09:30 Pacific		Water												X	X	X	X	3	Filter w/in 24 hours, Filter within 24 hours, use VOA vials from LL Hg Kit-Clean Hands

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements 1.8/1.8 IR-89

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/29/21 1552	ECI			
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
				Olga Oncias	12/29/21 1552	ECI
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No | Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience Tustin
2841 Dow Avenue
Tustin CA 92780
Phone 949-261-1022 Fax: 949-260-3297

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 440-177693 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80231-1
Address: 7440 Lincoln Way ,	Due Date Requested: 1/11/2022			
City: Garden Grove	TAT Requested (days):			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 COMP	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/ CL, SO4, F	300_ORGFMS/ Nitrate + Nitrite as N	4500_CN_E_LL/4500_CN_C Cyanide, Total (Low Level)	5540C/5540C_Prep Methylene Blue Active Substances (MBAS)	NO2NO3_Calc_IC/ Nitrate-Nitrite as N	314.0/ Perchlorate	SM5210B_BODCalc/ Biological Oxygen Demand - 5 Day	608.3_PCB_LL/608_Prep_PCB_LL PCBs	608.3_Pest_LL/608_Prep_LL Pesticides	625.1_SIM/625_Prep Priority pollutant list	8260B_SIM/5030C (MOD) 1,4-Dioxane only	218.6_CR3/ Trivalent Chromium	218.6_ORGFM/ Chromium, Hexavalent	Total Number of containers	Special Instructions/Note
			Preservation Code:																		
Outfall018_20211228_Comp (570-80231-1)	12/28/21	09.30 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	1/12/22	ECT		1/12/22 1446	ECI
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	1/12/22 1427	ECI		1-17-2022 14:27	ECI
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks
		3.1/4.6 SC 6

Ver 06/08/2021

Eurofins Calscience Tustin
2841 Dow Avenue
Tustin CA 92780
Phone 949-261-1022 Fax: 949-260-3297

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No.: 440-177693 2
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80231-1
Address: 7440 Lincoln Way, ,	Due Date Requested: 1/11/2022			
City: Garden Grove	TAT Requested (days):			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 COMP	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM5310D/ Total Organic Carbon	Total Number of containers	Special Instructions/Note
			Preservation Code:						
Outfall018_20211228_Comp (570-80231-1)	12/28/21	09 30 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		1/17/22	ECT		1/17/22 1446	EC
2		1/7/22 1427	EC		1-17-2022 14:27	ECT
3						

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.	3.1 / 4.6 SC6

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148125.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80231-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/26/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09:30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	FE [signature]	12/29/21 1422		FE		
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
				Micha Kemmings	12/30/21 11:15	ETA
	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: 570-80231-3

Login Number: 80231
List Number: 1
Creator: Patel, Jayesh

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80231-3

Login Number: 80231
List Number: 3
Creator: Korrinhizer, Micha L

List Source: Eurofins St. Louis
List Creation: 12/30/21 02:57 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 America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80231-4
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP
Revision: 1

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/8/2022 2:10:27 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Method Summary 6
Sample Summary 7
Subcontract Data 8
Chain of Custody 12
Receipt Checklists 20

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 570-80231-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-80231-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Job ID: 570-80231-4

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80231-4

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 1/30/2022. The report (revision 1) is being revised due to: The subcontract report was revised to report Monomethyl Hydrazine only..

Receipt
The samples were received on 12/28/2021 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.8º C and 3.0º C.

Receipt Exceptions

The following sample(s) was listed on the Chain-of-Custody (COC); however, due to a shipping delay, the sample was not received. Only 1 of 2 coolers were received. Missing 7756 2990 7127

The AWB and Copy ICOCs were taped on top of coolers. Cooler 2/2 - 7756 2990 7127 AWB was rolled up an attached to the back of Cooler 1/2. So the 2/2 Cooler has no Identification on the outside. So hoping it is not lost.

1. Received the 1 Liter Amber 1-H
Missing The 1-L bottle

The following samples were received at the laboratory outside the required temperature criteria at 11.9C Outfall018_20211228_Comp (570-80231-1), Outfall018_20211228_Comp_Extra (570-80231-2) and Outfall018_20211228_Comp_F (570-80231-3). The second cooler was received on 1/5/22. There were no tags on the cooler because they were attached to the first cooler.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Client Sample ID: Outfall018_20211228_Comp
Lab Sample ID: 570-80231-1

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method	Method Description	Protocol	Laboratory
Subcontract	Weck-Hydrazine	None	Weck Lab

Protocol References:

None = None

Laboratory References:

Weck Lab = Weck Laboratories, Inc., 14859 E. Clark Avenue, City of Industry, CA 91745

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-4
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80231-1	Outfall018_20211228_Comp	Water	12/28/21 09:30	12/28/21 18:00

WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Work Orders: 1L30052

Project: 570-80231-2

Attn: Virendra Patel

Client: Eurofins Calscience - Garden Grove
7440 Lincoln Way
Garden Grove, CA 92841-1432

Report Date: 2/07/2022
Received Date: 12/30/2021
Turnaround Time: Normal
Phones: (714) 895-5494
Fax: (714) 894-7501
P.O. #: 570-80231-2
Billing Code:

Dear Virendra Patel,

Enclosed are the results of analyses for samples received 12/30/21 with the Chain-of-Custody document. The samples were received in good condition, at 4.5 °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: Outfall18_20211228_Comp (570-80231-1) Sampled: 12/28/21 9:30 by Client

1L30052-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 8315M			**Instr:** LCMS03				
Batch ID: W2A0572 **Preparation:** Microextraction			**Prepared:** 01/10/22 11:10				**Analyst:** PJS
Monomethylhydrazine (MMH)	ND	0.31	2.0	ug/l	1	01/10/22	

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

Quality Control Results

Hydrazine by LCMS

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Blank (W2A0572-BLK1)					**Prepared & Analyzed: 01/10/22**						
Monomethylhydrazine (MMH)	ND	0.31	2.0	ug/l							
LCS (W2A0572-BS1)					**Prepared & Analyzed: 01/10/22**						
Monomethylhydrazine (MMH)	25.4	0.31	2.0	ug/l	20.0		127	50-150			
Matrix Spike (W2A0572-MS1)		**Source: 1L29088-01**			**Prepared & Analyzed: 01/10/22**						
Monomethylhydrazine (MMH)	20.4	0.31	2.0	ug/l	20.0	*ND*	102	50-150			
Matrix Spike Dup (W2A0572-MSD1)		**Source: 1L29088-01**			**Prepared & Analyzed: 01/10/22**						
Monomethylhydrazine (MMH)	20.6	0.31	2.0	ug/l	20.0	*ND*	103	50-150	0.8	30	

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

Notes and Definitions

Item	Definition
%REC	Percent Recovery
Dil	Dilution
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

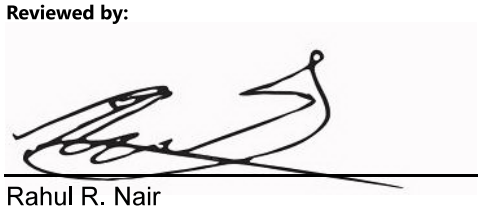
All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

Analyses Accreditation Summary

Analyte	CAS #	Not By NELAP	ANAB ISO 17025
EPA 8315M in Water			
Monomethylhydrazine (MMH)	60-34-4	✓	

Reviewed by:



Rahul R. Nair
Project Manager

ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • LACSD #10143 • NJ-DEP #CA015 • NV-DEP #NAC 445A • SCAQMD #93LA1006

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

14859 Clark Avenue,City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634
www.wecklabs.com

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

L30052

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California	
Address: 14859 E. Clark Avenue,	Due Date Requested: 1/19/2022		
City: City of Industry	TAT Requested (days):		
State, Zip: CA, 91745			
Phone:	PO #:		
Email:	WO #:		
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446		
Site:	SSOW#:		

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck-Hydrazine) Weck-Hydrazine	SUB (Weck-Hydrazine) Weck-Hydrazine (Hold)
			Preservation Code:					
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09:30 Pacific		Water			X	
Outfall18_20211228_Comp_Extra (570-80231-2)	12/28/21	09:30 Pacific		Water				X

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under 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 ac Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are r*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 12/29/21 1335	Company	Received by: Date/Time:

80231

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80231 Chain of Custody

Client Name/Address. Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Project: Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 018 Comp
Eurofins Calscience Irvine Contact: Virendra Patel **EC# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

									R/A	R	R	R	R/A	R	R	R	A	A	R					
									ANALYSIS REQUIRED															
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- F- SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals. Mercury (E245.1)					Comments
Outfall 018	Outfall018_20211228_Comp	12/28/2021 0930	WM	500 mL Poly	1	HNO_3	80	No	X										X					
			WM	1 L Glass Amber	2	None	110	No		X														
			WM	1 L Poly	1	None	115	No			X													
			WM	500 mL Poly	2	None	120	No				X												
			WM	500 mL Poly	2	None	125	No					X											48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X										48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X								
			WM	1 L Glass Amber	2	None	250	No										X						
			WM	1 L Glass Amber	2	None	175	No											X					
			WM	1 L Poly	1	None	185	No							X									
	Outfall018_20211228_Comp_Extra	12/28/2021 0930	WM	1 L Glass Amber	2	None	110	No		H														Hold
			WM	500 mL Poly	2	None	120	No				H												Hold
			WM	500 mL Poly	2	None	125	No					H											Hold
			WM	1 L Glass Amber	2	None	250	No										H						Hold
			WM	1 L Glass Amber	2	None	175	No											H					Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12-28 2021/1445	H&A	[signature]	12/28/21 1445
[signature]	12/28/21 18:00		[signature]	12/28/21 1800

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____

Store samples for 6 months.

Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

2 | 3.0, 1.9 | 2.8 SCS

80231

CHAIN OF CUSTODY FORM

Client Name/Address:
Haley & Aldrich
5333 Mission Center Rd Suite 300
San Diego, CA 92108

Eurofins Calscience Irvine Contact: Virendra Patel **ECI# 44024446**
17461 Derian Ave Suite #100
Irvine CA 92614
Tel 949-260-3218

Project:
Boeing-SSFL NPDES
Permit 2021
Annual Outfall [001, 002, 011, 018]
Outfall 018
Comp

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Project Manager: Katherine Miller
520.289.8606, 520.904.6944 (cell)

Sampler: MARK DOMINICK

Field Manager: Mark Dominick
978.234.5033, 818.599.0702 (cell)

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R/A: Total Dissolved Metals. (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8) Ag, Cd, Cu, Pb, Sb, Se, Tl	R: Cyanide (SM4500-CN-E / E335.2)	R: Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0) Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901 0 or E901 1)	R: Chronic Toxicity - Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura, CA	A: 1 4-Dioxane (E624 (SW8260M_SIM))	A: Total Organic Carbon (415.2 (SM 5310B))	A: Monomethyl hydrazine (SW8315M/DV-WC-0077)	A: Cr (VI), Total (E218.6)	R: Total Dissolved Metals. Mercury (E245.1)	QRSW: Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Comments
Outfall 018	Outfall018_20211228_Comp_F	12/28/2021 / 0930	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall018_20211228_Comp	12/28/2021 / 0930 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis, Separate RAD onto another workorder Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~										~~X~~	~~Extract within 24-Hours of sampling at Weck Labs at OF001,002,011, of 018~~
	Outfall018_20211228_Comp_Extra	12/28/2021 / 0930	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	[illegible]	None	255	No							H				Hold

Legend. A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12/28/2021/1445	H:A	[signature] ECI	12/28/21 1445
[signature]	12/28/21 18:00		[signature]	12/28/21 1800
			[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__

* Hand delivered to ABC Labs by H:A

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148122 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80231-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/19/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck-Hydrazine)/ Weck-Hydrazine	SUB (Weck-Hydrazine)/ Weck-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09:30 Pacific		Water			X		1	Level IV needed
Outfall18_20211228_Comp_Extra (570-80231-2)	12/28/21	09:30 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	12/29/21 1335				
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone: 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148125 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80231-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/26/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B NaOH, C Zn Acetate, D Nitric Acid, E - NaHSO4, F MeOH, G - Amchlor, H Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900 0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09 30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
	Relinquished by:	Date/Time: 12/29/21 1422	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No.: 570-148141 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80231-2
Address: 880 Riverside Parkway	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09:30 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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/29/21 1609				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time.	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148135 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80231-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/10/2022			
City: Tustin	TAT Requested (days)			
State, Zip: CA 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 200 7 Outfall 001/002/011 Totals List	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	245.1/245.1_Prep Mercury	180.1/ Turbidity	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	SM5310B/ Organic Carbon, Total (TOC)	200 7/FILTRATION 200.7 Outfall 001/002/011 Diss List	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	245.1/FILTRATION Diss Mercury	SM2340B/Filtration_AC Diss hardness	Total Number of containers	Special Instructions/Note:
				Preservation Code:																	
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09:30 Pacific		Water			X	X	X	X	X	X	X	X	X					9	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall18_20211228_Comp_F (570-80231-3)	12/28/21	09:30 Pacific		Water												X	X	X	X	3	Filter w/in 24 hours, Filter within 24 hours, use VOA vials from LL Hg Kit-Clean Hands

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements 1.8/1.8 IR-89

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/29/21 1552	ECL			
2	Relinquished by	Date/Time	Company	Received by	Date/Time 12/29/21 1552	Company ECL
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience Tustin
2841 Dow Avenue
Tustin CA 92780
Phone 949-261-1022 Fax: 949-260-3297

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 440-177693 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80231-1
Address: 7440 Lincoln Way ,	Due Date Requested: 1/11/2022			
City: Garden Grove	TAT Requested (days):			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 COMP	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/ CL, SO4, F	300_ORGFMS/ Nitrate + Nitrite as N	4500_CN_E_LL/4500_CN_C Cyanide, Total (Low Level)	5540C/5540C_Prep Methylene Blue Active Substances (MBAS)	NO2NO3_Calc_IC/ Nitrate-Nitrite as N	314.0/ Perchlorate	SM5210B_BODCalc/ Biological Oxygen Demand - 5 Day	608.3_PCB_LL/608_Prep_PCB_LL PCBs	608.3_Pest_LL/608_Prep_LL Pesticides	625.1_SIM/625_Prep Priority pollutant list	8260B_SIM/5030C (MOD) 1,4-Dioxane only	218.6_CR3/ Trivalent Chromium	218.6_ORGFM/ Chromium, Hexavalent	Total Number of containers	Special Instructions/Note
			Preservation Code:																		
Outfall018_20211228_Comp (570-80231-1)	12/28/21	09.30 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
1		1/12/22	ECT		1/12/22 1446	ECI
2		1/12/22 1427	ECI		1-17-2022 14:27	ECI
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks	3.1/4.6 SC 6

Ver 06/08/2021

Eurofins Calscience Tustin
2841 Dow Avenue
Tustin CA 92780
Phone 949-261-1022 Fax: 949-260-3297

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No.: 440-177693 2
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80231-1
Address: 7440 Lincoln Way, ,	Due Date Requested: 1/11/2022			
City: Garden Grove	TAT Requested (days):			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 COMP	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM5310D/ Total Organic Carbon	Total Number of containers	Special Instructions/Note
			Preservation Code:						
Outfall018_20211228_Comp (570-80231-1)	12/28/21	09 30 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		1/17/22	ECT		1/17/22 1446	EC
2		1/7/22 1427	EC		1-17-2022 14:27	ECT
3						

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.	3.1 / 4.6 SC6

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80231-4

Login Number: 80231
List Number: 1
Creator: Patel, Jayesh

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80231-5
Client Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/4/2022 11:52:39 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Method Summary 5
Sample Summary 6
Subcontract Data 7
Chain of Custody 24
Receipt Checklists 32

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: Haley & Aldrich, Inc. Job ID: 570-80231-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Job ID: 570-80231-5

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80231-5

Comments
No additional comments.

Receipt
The samples were received on 12/28/2021 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.8º C and 3.0º C.

Receipt Exceptions

The following sample(s) was listed on the Chain-of-Custody (COC); however, due to a shipping delay, the sample was not received. Only 1 of 2 coolers were received. Missing 7756 2990 7127

The AWB and Copy ICOCs were taped on top of coolers. Cooler 2/2 - 7756 2990 7127 AWB was rolled up an attached to the back of Cooler 1/2. So the 2/2 Cooler has no Identification on the outside. So hoping it is not lost.

1. Received the 1 Liter Amber 1-H
Missing The 1-L bottle

The following samples were received at the laboratory outside the required temperature criteria at 11.9C Outfall018_20211228_Comp (570-80231-1), Outfall018_20211228_Comp_Extra (570-80231-2) and Outfall018_20211228_Comp_F (570-80231-3). The second cooler was received on 1/5/22. There were no tags on the cooler because they were attached to the first cooler.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method Chronic-Selenestrum: This method was subcontracted to Aquatic Bioassay & Consulting. The subcontract laboratory certification is different from that of the facility issuing the final report.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Method	Method Description	Protocol	Laboratory
EPA	Bioassay	EPA	Aquatic

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

Aquatic = Aquatic Bioassay & Consulting, 29 North Olive Street, Ventura, CA 93001

Sample Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80231-5
Project/Site: Boeing NPDES SSFL Outfall - Outfall 018 COMP

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80231-1	Outfall018_20211228_Comp	Water	12/28/21 09:30	12/28/21 18:00

aquatic bioassay & consulting laboratories, inc

January 26, 2022

Mr. Virendra Patel
Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841-1432

Dear Mr. Patel:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013.* Results were as follows:

CLIENT:	Eurofins Calscience
SAMPLE I.D.:	Outfall 018
DATE RECEIVED:	28 Dec - 2021
ABC LAB. NO.:	CSE1221.256

CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY

IWC = 100.00 %

TST RESULT

GROWTH = PASS % EFFECT = -0.63 %

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	00-9998-0650	**Test Type:**	Cell Growth	**Analyst:**		
Start Date:	28 Dec-21 18:15	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water	
Ending Date:	01 Jan-22 16:20	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable	
Test Length:	94h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:** 5d
Sample ID:	13-6606-8183	**Code:**	CSE1221.256	**Project:**	Boeing-SSFL NPDES	
Sample Date:	28 Dec-21 09:30	**Material:**	Sample Water	**Source:**	Bioassay Report	
Receipt Date:	28 Dec-21 16:20	**CAS (PC):**		**Station:**	Outfall 018	
Sample Age:	9h (0.5 °C)	**Client:**	Eurofins Calscience			

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result	S
21-4052-9895	Cell Density	TST-Welch's t Test	<1.0E-05	100% passed cell density	1

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
21-4052-9895	Cell Density	Control CV	0.03237	<<	0.2	Yes	Passes Criteria
21-4052-9895	Cell Density	Control Resp	1.16E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	8	1.157E+6	1.126E+6	1.188E+6	1.107E+6	1.219E+6	1.324E+4	3.744E+4	3.24%	0.00%
100		8	1.164E+6	1.090E+6	1.238E+6	1.065E+6	1.302E+6	3.139E+4	8.878E+4	7.63%	-0.63%

Cell Density Detail — MD5: 40DEB2867BF2266A22F3F77FD197BFF5

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.156E+6	1.203E+6	1.133E+6	1.107E+6	1.130E+6	1.150E+6	1.219E+6	1.157E+6
100		1.114E+6	1.065E+6	1.267E+6	1.302E+6	1.117E+6	1.130E+6	1.229E+6	1.089E+6

CETIS Analytical Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	21-4052-9895	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:40	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:	23 Jan-22 16:39	**MD5 Hash:**	32FC030B05BF2767E4E28263909982AE	**Editor ID:**	000-189-126-0
Batch ID:	00-9998-0650	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	28 Dec-21 18:15	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	01 Jan-22 16:20	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	94h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 5d
Sample ID:	13-6606-8183	**Code:**	CSE1221.256	**Project:**	Boeing-SSFL NPDES
Sample Date:	28 Dec-21 09:30	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	28 Dec-21 16:20	**CAS (PC):**		**Station:**	Outfall 018
Sample Age:	9h (0.5 °C)	**Client:**	Eurofins Calscience		

Data Transform	Alt Hyp	TST_b	Comparison Result
Untransformed	C*b < T	0.75	100% passed cell density endpoint

TST-Welch's t Test

Control	vs	Conc-%	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:25%)
Negative Control		100*	9.006	0.7064	8	CDF	<1.0E-05	Non-Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.03237	<<	0.2	Yes	Passes Criteria
Control Resp	1.16E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	210250000	210250000	1	0.0453	0.8345	Non-Significant Effect
Error	6.498E+10	4.642E+09	14			
Total	6.519E+10		15			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Levene Equality of Variance Test	10.98	8.862	0.0051	Unequal Variances
	Mod Levene Equality of Variance Test	2.639	8.862	0.1266	Equal Variances
	Variance Ratio F Test	5.621	8.885	0.0366	Equal Variances
Distribution	Anderson-Darling A2 Test	0.4744	3.878	0.2451	Normal Distribution
	D'Agostino Skewness Test	1.217	2.576	0.2235	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1867	0.2471	0.1435	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9459	0.8408	0.4279	Normal Distribution

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	8	1.157E+6	1.126E+6	1.188E+6	1.153E+6	1.107E+6	1.219E+6	1.324E+4	3.24%	0.00%
100		8	1.164E+6	1.090E+6	1.238E+6	1.124E+6	1.065E+6	1.302E+6	3.139E+4	7.63%	-0.63%

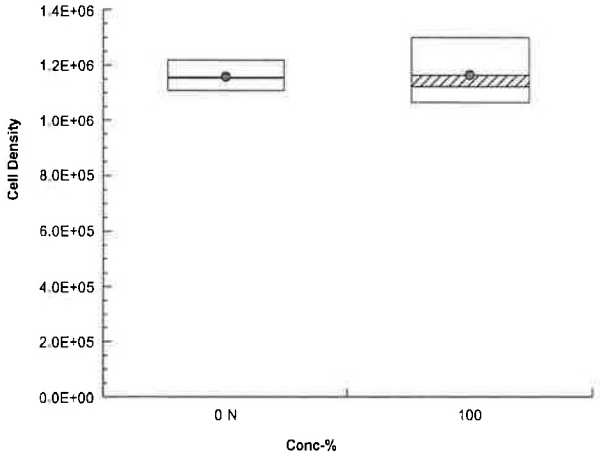
Cell Density Detail

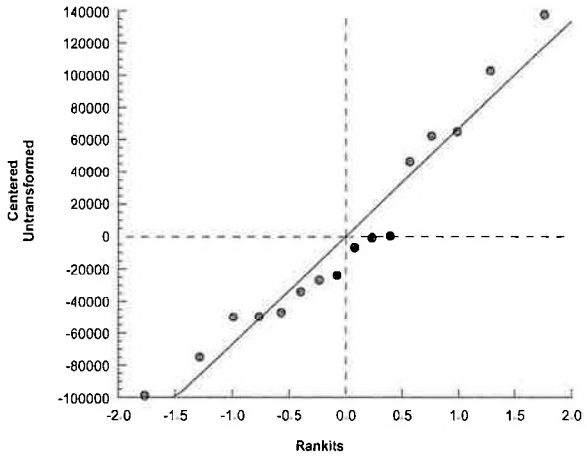
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.156E+6	1.203E+6	1.133E+6	1.107E+6	1.130E+6	1.150E+6	1.219E+6	1.157E+6
100		1.114E+6	1.065E+6	1.267E+6	1.302E+6	1.117E+6	1.130E+6	1.229E+6	1.089E+6

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	21-4052-9895	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	23 Jan-22 16:40	**Analysis:**	Parametric Bioequivalence-Two Sample	**Status Level:**	1
Edit Date:	23 Jan-22 16:39	**MD5 Hash:**	32FC030B05BF2767E4E28263909982AE	**Editor ID:**	000-189-126-0

Graphics





CETIS Measurement Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	00-9998-0650	**Test Type:**	Cell Growth	**Analyst:**		
Start Date:	28 Dec-21 18:15	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water	
Ending Date:	01 Jan-22 16:20	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable	
Test Length:	94h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:** 5d

Sample ID:	13-6606-8183	**Code:**	CSE1221.256	**Project:**	Boeing-SSFL NPDES
Sample Date:	28 Dec-21 09:30	**Material:**	Sample Water	**Source:**	Bioassay Report
Receipt Date:	28 Dec-21 16:20	**CAS (PC):**		**Station:**	Outfall 018
Sample Age:	9h (0.5 °C)	**Client:**	Eurofins Calscience		

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	62	---	---	62	62	---	0	---	0
100		1	37	---	---	37	37	---	0	---	0
Overall		2	49.5	-109.3	208.3	37	62	12.5	17.68	35.71%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	450.4	440.4	460.4	437	458	1.616	8.081	1.79%	0
100		5	503.2	497.7	508.7	496	507	0.8877	4.438	0.88%	0
Overall		10	476.8	456.4	497.2	437	507	9.012	28.5	5.98%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	100	---	---	100	100	---	0	---	0
100		1	68	---	---	68	68	---	0	---	0
Overall		2	84	-119.3	287.3	68	100	16	22.63	26.94%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	8.14	7.998	8.282	8	8.3	0.0228	0.114	1.40%	0
100		5	7.98	7.758	8.202	7.9	8.3	0.03578	0.1789	2.24%	0
Overall		10	8.06	7.942	8.178	7.9	8.3	0.05207	0.1647	2.04%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.08	24.94	25.22	25	25.2	0.02191	0.1095	0.44%	0
100		5	25.04	24.93	25.15	25	25.2	0.01789	0.08944	0.36%	0
Overall		10	25.06	24.99	25.13	25	25.2	0.03055	0.09661	0.39%	0 (0%)

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		62					
100				37					

Conductivity-µmhos

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		437					
100				496					
0	N	2		450					
100				506					
0	N	3		458					
100				505					
0	N	4		455					
100				502					
0	N	5		452					
100				507					

Hardness (CaCO3)-mg/L

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		100					
100				68					

pH-Units

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		8.3					
100				8.3					
0	N	2		8.2					
100				7.9					
0	N	3		8.1					
100				7.9					
0	N	4		8.1					
100				7.9					
0	N	5		8					
100				7.9					

Temperature-°C

Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		25					
100				25					
0	N	2		25					
100				25					
0	N	3		25					
100				25					
0	N	4		25.2					
100				25					
0	N	5		25.2					
100				25.2					

Client Name/Address: Haley & Aldrich, 5333 Mission Center Rd Suite 300, San Diego, CA 92108	Project: Boeing-SSFL NPDES, Permit 2021, Annual Outfall [001, 002, 011, 018], Outfall 018, Comp
Eurofins Calscience Irvine Contact: Virendra Patel **ECI# 44024446**, 17461 Derian Ave Suite #100, Irvine CA 92614, Tel: 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller, 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	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/A: Total Dissolved Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn, Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	R: Cyanide (SM4500-CN-E / E335.2)	R: Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	R: Chronic Toxicity - Selenastrum (EPA-821-R-02-013) ABC Labs in Ventura CA	A: 1,4-Dioxane (E624 (SW8260M_SIM))	A: Total Organic Carbon (415.2 (SM 5310B))	A: Monomethyl hydrazine (SW8315M/DV-WC-0077)	A: Cr (VI), Total (E218.6)	R: Total Dissolved Metals: Mercury (E245.1)	QRSW: Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights CA	Comments
Outfall 018	Outfall018_20211228_Comp_F	12/28/2021 0930	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall018_20211228_Comp	12/28/2021 0930 *	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No		\	X								Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No											
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~											~~Extract within 24 Hours of sampling at Weck... at OF001,002,011, 018~~
	Outfall018_20211228_Comp_Extra	12/28/2021 0930	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	[illegible]	None	256	No							H				Hold

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
M Dominick	12.28.2021 / 1620	H:A	Victor M	12.28.21 1620
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
Relinquished By	Date/Time:	Company:	Received By	Date/Time:
			Temp. deg. C = 0.5	

Turn-around time: (Check)
24 Hour: ____ 72 Hour: ____ 10 Day: __X__
48 Hour: ____ 5 Day: ____ Normal: ____

Sample Integrity: (Check)
Intact: ____ On Ice: ____

Store samples for 6 months.
Data Requirements: (Check)
No Level IV: ____ All Level IV: __X__

* Hand delivered to ABC Labs by H:A

Chlorine (mg/L) = <0.1

.35

NH3 (mg/L) = <0.1

2019-2020 Rainy Season
Version 5

aquatic bioassay & consulting laboratories, inc

CHRONIC SELENASTRUM GROWTH BIOASSAY

DATE: 1 December - 2021

STANDARD TOXICANT: Cadmium Chloride

NOEC = 40.00 ug/l

IC25 = 80.10 ug/l
IC50 = >180.00 ug/l

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 22 Dec-21 10:29 (p 1 of 1)
Test Code/ID: SEL120121 / 12-8398-6744

Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**			
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable		
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:**	6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX		
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant		
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX		
Sample Age:	---	**Client:**	Internal Lab				

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	S
12-9938-5833	Cell Density	Steel Many-One Rank Sum Test		40	80	56.57	20.9%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	µg/L	95% LCL	95% UCL	S
05-8956-0180	Cell Density	Linear Interpolation (ICPIN)		IC10	38.71	19.34	68.85	1
				IC15	52.07	16.61	76.06	
				IC20	66.06	13.49	90.22	
				IC25	80.1	10.35	112.7	
				IC40	151.3	133.7	175.1	
				IC50	>180	---	---	

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
05-8956-0180	Cell Density	Control CV	0.05263	<<	0.2	Yes	Passes Criteria
12-9938-5833	Cell Density	Control CV	0.05263	<<	0.2	Yes	Passes Criteria
05-8956-0180	Cell Density	Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria
12-9938-5833	Cell Density	Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.713E+6	1.570E+6	1.856E+6	1.597E+6	1.814E+6	4.508E+4	9.015E+4	5.26%	0.00%
20		4	1.859E+6	1.635E+6	2.082E+6	1.689E+6	2.023E+6	7.027E+4	1.405E+5	7.56%	-8.51%
40		4	1.595E+6	8.516E+5	2.338E+6	8.980E+5	1.869E+6	2.336E+5	4.672E+5	29.29%	6.89%
80		4	1.340E+6	1.213E+6	1.466E+6	1.235E+6	1.428E+6	3.976E+4	7.952E+4	5.94%	21.79%
140		4	1.132E+6	1.037E+6	1.226E+6	1.092E+6	1.219E+6	2.971E+4	5.941E+4	5.25%	33.95%
180		4	9.200E+5	7.681E+5	1.072E+6	7.860E+5	9.900E+5	4.774E+4	9.549E+4	10.38%	46.29%

Cell Density Detail — MD5: A31AFF07134985287B29E5F730798522

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.738E+6	1.597E+6	1.703E+6	1.814E+6
20		1.903E+6	1.689E+6	1.820E+6	2.023E+6
40		1.854E+6	1.759E+6	8.980E+5	1.869E+6
80		1.342E+6	1.428E+6	1.235E+6	1.354E+6
140		1.092E+6	1.118E+6	1.097E+6	1.219E+6
180		9.870E+5	9.900E+5	9.170E+5	7.860E+5

CETIS Analytical Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	12-9938-5833	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0
Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	40	80	56.57	---	357800	20.89%

Steel Many-One Rank Sum Test

Control	vs	Conc-µg/L	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		20	23	10	0	6	CDF	0.9966	Non-Significant Effect
		40	21	10	0	6	CDF	0.9778	Non-Significant Effect
		80*	10	10	0	6	CDF	0.0417	Significant Effect
		140*	10	10	0	6	CDF	0.0417	Significant Effect
		180*	10	10	0	6	CDF	0.0417	Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.05263	<<	0.2	Yes	Passes Criteria
Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2.594E+12	5.187E+11	5	11.74	3.7E-05	Significant Effect
Error	7.954E+11	4.419E+10	18			
Total	3.389E+12		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	18.46	15.09	0.0024	Unequal Variances
	Levene Equality of Variance Test	4.633	4.248	0.0068	Unequal Variances
	Mod Levene Equality of Variance Test	0.8699	4.248	0.5203	Equal Variances
Distribution	Anderson-Darling A2 Test	1.388	3.878	0.0008	Non-Normal Distribution
	D'Agostino Kurtosis Test	3.63	2.576	0.0003	Non-Normal Distribution
	D'Agostino Skewness Test	3.782	2.576	0.0002	Non-Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	27.48	9.21	<1.0E-05	Non-Normal Distribution
	Kolmogorov-Smirnov D Test	0.2076	0.2056	0.0089	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.7996	0.884	0.0003	Non-Normal Distribution

Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.713E+6	1.570E+6	1.856E+6	1.720E+6	1.597E+6	1.814E+6	4.508E+4	5.26%	0.00%
20		4	1.859E+6	1.635E+6	2.082E+6	1.862E+6	1.689E+6	2.023E+6	7.027E+4	7.56%	-8.51%
40		4	1.595E+6	8.516E+5	2.338E+6	1.806E+6	8.980E+5	1.869E+6	2.336E+5	29.29%	6.89%
80		4	1.340E+6	1.213E+6	1.466E+6	1.348E+6	1.235E+6	1.428E+6	3.976E+4	5.94%	21.79%
140		4	1.132E+6	1.037E+6	1.226E+6	1.108E+6	1.092E+6	1.219E+6	2.971E+4	5.25%	33.95%
180		4	9.200E+5	7.681E+5	1.072E+6	9.520E+5	7.860E+5	9.900E+5	4.774E+4	10.38%	46.29%

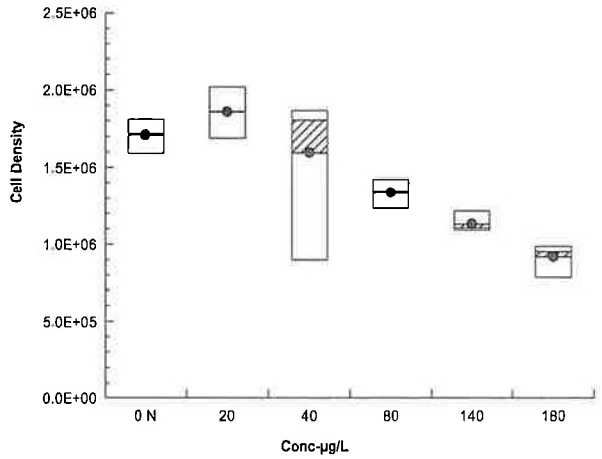
Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

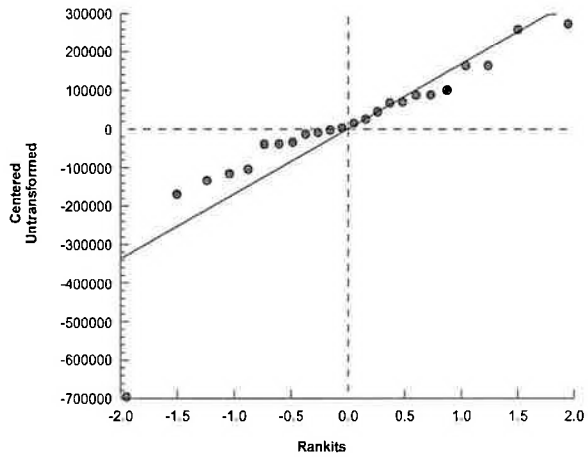
Analysis ID:	12-9938-5833	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0

Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.738E+6	1.597E+6	1.703E+6	1.814E+6
20		1.903E+6	1.689E+6	1.820E+6	2.023E+6
40		1.854E+6	1.759E+6	8.980E+5	1.869E+6
80		1.342E+6	1.428E+6	1.235E+6	1.354E+6
140		1.092E+6	1.118E+6	1.097E+6	1.219E+6
180		9.870E+5	9.900E+5	9.170E+5	7.860E+5

Graphics





CETIS Analytical Report

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	05-8956-0180	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0
Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**	
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO **Age:** 6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX
Sample Age:	---	**Client:**	Internal Lab		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.05263	<<	0.2	Yes	Passes Criteria
Control Resp	1.71E+6	1000000	>>	Yes	Passes Criteria

Point Estimates

Level	µg/L	95% LCL	95% UCL
IC10	38.71	19.34	68.85
IC15	52.07	16.61	76.06
IC20	66.06	13.49	90.22
IC25	80.1	10.35	112.7
IC40	151.3	133.7	175.1
IC50	>180	---	---

Cell Density Summary

			Calculated Variate						Isotonic Variate	
Conc-µg/L	**Code**	**Count**	**Mean**	**Median**	**Min**	**Max**	**CV%**	**%Effect**	**Mean**	**%Effect**
0	N	4	1.713E+6	1.720E+6	1.597E+6	1.814E+6	5.26%	0.00%	1.786E+6	0.00%
20		4	1.859E+6	1.862E+6	1.689E+6	2.023E+6	7.56%	-8.51%	1.786E+6	0.00%
40		4	1.595E+6	1.806E+6	8.980E+5	1.869E+6	29.29%	6.89%	1.595E+6	10.69%
80		4	1.340E+6	1.348E+6	1.235E+6	1.428E+6	5.94%	21.79%	1.340E+6	24.98%
140		4	1.132E+6	1.108E+6	1.092E+6	1.219E+6	5.25%	33.95%	1.132E+6	36.64%
180		4	9.200E+5	9.520E+5	7.860E+5	9.900E+5	10.38%	46.29%	9.200E+5	48.48%

Cell Density Detail

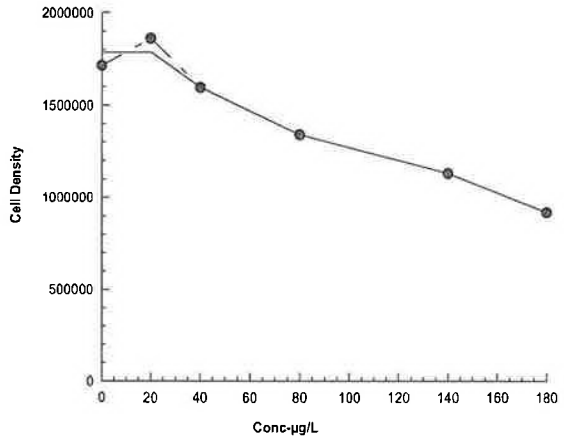
Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.738E+6	1.597E+6	1.703E+6	1.814E+6
20		1.903E+6	1.689E+6	1.820E+6	2.023E+6
40		1.854E+6	1.759E+6	8.980E+5	1.869E+6
80		1.342E+6	1.428E+6	1.235E+6	1.354E+6
140		1.092E+6	1.118E+6	1.097E+6	1.219E+6
180		9.870E+5	9.900E+5	9.170E+5	7.860E+5

Analyst: QA: 2/4/2022

Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID:	05-8956-0180	**Endpoint:**	Cell Density	**CETIS Version:**	CETISv1.9.7
Analyzed:	22 Dec-21 10:29	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	22 Dec-21 10:25	**MD5 Hash:**	5B0B73029BDDDBBADB4D1FAF1C5179B	**Editor ID:**	000-189-126-0

Graphics



Selenastrum Growth Test — **Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID:	20-3466-7739	**Test Type:**	Cell Growth	**Analyst:**		
Start Date:	01 Dec-21 12:11	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Laboratory Water	
Ending Date:	05 Dec-21 12:00	**Species:**	Selenastrum capricornutum	**Brine:**	Not Applicable	
Test Length:	96h	**Taxon:**	Chlorophyta	**Source:**	Aquatic Biosystems, CO	**Age:** 6d
Sample ID:	02-9191-0622	**Code:**	SEL120121	**Project:**	REF TOX	
Sample Date:	01 Dec-21 12:11	**Material:**	Cadmium chloride	**Source:**	Reference Toxicant	
Receipt Date:		**CAS (PC):**		**Station:**	REF TOX	
Sample Age:	---	**Client:**	Internal Lab			

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	60	---	---	60	60	---	0	---	0
20		1	59	---	---	59	59	---	0	---	0
40		1	64	---	---	64	64	---	0	---	0
80		1	57	---	---	57	57	---	0	---	0
140		1	57	---	---	57	57	---	0	---	0
180		1	60	---	---	60	60	---	0	---	0
Overall		6	59.5	56.78	62.22	57	64	1.057	2.588	4.35%	0 (0%)

Conductivity-µmhos

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	475.2	468.4	482	466	480	1.09	5.45	1.15%	0
20		5	574.6	516	633.2	500	612	9.438	47.19	8.21%	0
40		5	463.6	442.9	484.3	447	482	3.33	16.65	3.59%	0
80		5	432	429	435	429	435	0.4899	2.449	0.57%	0
140		5	412	405.9	418.1	406	418	0.9798	4.899	1.19%	0
180		5	402	391.1	412.9	389	410	1.755	8.775	2.18%	0
Overall		30	459.9	436.9	482.9	389	612	11.23	61.51	13.37%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	115	---	---	115	115	---	0	---	0
20		1	110	---	---	110	110	---	0	---	0
40		1	110	---	---	110	110	---	0	---	0
80		1	115	---	---	115	115	---	0	---	0
140		1	110	---	---	110	110	---	0	---	0
180		1	110	---	---	110	110	---	0	---	0
Overall		6	111.7	109	114.4	110	115	1.054	2.582	2.31%	0 (0%)

pH-Units

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.84	7.516	8.164	7.4	8	0.05215	0.2608	3.33%	0
20		5	8.16	8.018	8.302	8	8.3	0.0228	0.114	1.40%	0
40		5	8.18	8.076	8.284	8.1	8.3	0.01673	0.08367	1.02%	0
80		5	8.18	8.076	8.284	8.1	8.3	0.01673	0.08367	1.02%	0
140		5	8.22	8.164	8.276	8.2	8.3	0.008944	0.04472	0.54%	0
180		5	8.22	8.164	8.276	8.2	8.3	0.008944	0.04472	0.54%	0
Overall		30	8.133	8.067	8.2	7.4	8.3	0.03264	0.1788	2.20%	0 (0%)

Temperature-°C

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
20		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
40		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
80		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
140		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
180		5	25.54	25.1	25.98	25	25.9	0.07014	0.3507	1.37%	0
Overall		30	25.54	25.42	25.66	25	25.9	0.05825	0.3191	1.25%	0 (0%)

Selenastrum Growth Test
Aquatic Bioassay & Consulting Labs, Inc.

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		60					
20				59					
40				64					
80				57					
140				57					
180				60					

Conductivity-µmhos

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		466					
20				500					
40				447					
80				429					
140				408					
180				389					
0	N	2		480					
20				556					
40				449					
80				430					
140				406					
180				397					
0	N	3		475					
20				607					
40				460					
80				435					
140				418					
180				410					
0	N	4		477					
20				612					
40				482					
80				433					
140				414					
180				407					
0	N	5		478					
20				598					
40				480					
80				433					
140				414					
180				407					

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		115					
20				110					
40				110					
80				115					
140				110					
180				110					

Selenastrum Growth Test
Aquatic Bioassay & Consulting Labs, Inc.

pH-Units

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.4					
20				8.2					
40				8.2					
80				8.2					
140				8.2					
180				8.2					
0	N	2		7.8					
20				8.2					
40				8.2					
80				8.2					
140				8.2					
180				8.2					
0	N	3		8					
20				8.3					
40				8.3					
80				8.3					
140				8.3					
180				8.3					
0	N	4		8					
20				8.1					
40				8.1					
80				8.1					
140				8.2					
180				8.2					
0	N	5		8					
20				8					
40				8.1					
80				8.1					
140				8.2					
180				8.2					

Selenastrum Growth Test — Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-µg/L	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		25					
20				25					
40				25					
80				25					
140				25					
180				25					
0	N	2		25.8					
20				25.8					
40				25.8					
80				25.8					
140				25.8					
180				25.8					
0	N	3		25.9					
20				25.9					
40				25.9					
80				25.9					
140				25.9					
180				25.9					
0	N	4		25.5					
20				25.5					
40				25.5					
80				25.5					
140				25.5					
180				25.5					
0	N	5		25.5					
20				25.5					
40				25.5					
80				25.5					
140				25.5					
180				25.5					

80231

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

570-80231 Chain of Custody

R/A R R R R/A R R R A A R

Client Name/Address.	Project:	ANALYSIS REQUIRED
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108	Boeing-SSFL NPDES Permit 2021 Annual Outfall [001, 002, 011, 018] Outfall 018 Comp	
Eurofins Calscience Irvine Contact: Virendra Patel **EC# 44024446** 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218		
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)	
Sampler: MARK DOMINICK	Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)	

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.7): As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn Hardness as CaCO3 (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Tl	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1 (SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- F- SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (E350.2)	Priority Pollutants-Pesticides+PCBs (E608)	Priority Pollutants-SVOCs (E625)	Total Recoverable Metals. Mercury (E245.1)				Comments
Outfall 018	Outfall018_20211228_Comp	12/28/2021 0930	WM	500 mL Poly	1	HNO_3	80	No	X											X				
			WM	1 L Glass Amber	2	None	110	No		X														
			WM	1 L Poly	1	None	115	No			X													
			WM	500 mL Poly	2	None	120	No				X												
			WM	500 mL Poly	2	None	125	No					X											48 hours Holding Time NO_3 & NO_2
			WM	500 mL Poly	1	None	150	No						X									48 hour holding time for turbidity
			WM	500 mL Poly	1	H_2SO_4	160	No								X							
			WM	1 L Glass Amber	2	None	250	No										X					
			WM	1 L Glass Amber	2	None	175	No											X				
			WM	1 L Poly	1	None	185	No							X								
	Outfall018_20211228_Comp_Extra	12/28/2021 0930	WM	1 L Glass Amber	2	None	110	No		H													Hold
			WM	500 mL Poly	2	None	120	No				H											Hold
			WM	500 mL Poly	2	None	125	No					H										Hold
			WM	1 L Glass Amber	2	None	250	No										H					Hold
			WM	1 L Glass Amber	2	None	175	No											H				Hold

Legend: A=Annual, R=Routine

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12-28 2021/1445	H&A	[signature]	12/28/21 1445
[signature]	12/28/21 18:00		[signature]	12/28/21 1800

Turn-around time: (Check)
24 Hour _____ 72 Hour _____ 10 Day: __X__
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____
Store samples for 6 months.

Data Requirements: (Check)
No Level IV: _____ All Level IV: __X__

2 1/3.0, 1.9/2.8 SCS

Page 24 of 32

2/4/2022

2019-2020 Rainy Season
Version 5

80231

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 2021, Annual Outfall [001, 002, 011, 018], Outfall 018, Comp
Eurofins Calscience Irvine Contact: Virendra Patel **ECI# 44024446**, 17461 Derian Ave Suite #100, Irvine CA 92614, Tel 949-260-3218	
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.	Project Manager: Katherine Miller, 520.289.8606, 520.904.6944 (cell)
Sampler: MARK DOMINICK	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/A: Total Dissolved Metals. (E200.7) As, Ba, B, Be, Co, Cr Fe, Mn, Ni, V Zn, Hardness as CaCO3 (E200.8). Ag, Cd, Cu, Pb, Sb, Se, Tl	R: Cyanide (SM4500-CN-E / E335.2)	R: Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0) Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901 0 or E901 1)	R: Chronic Toxicity - Selenastrum (EPA-821 R-02-013) ABC Labs in Ventura, CA	A: 1 4-Dioxane (E624 (SW8260M_SIM))	A: Total Organic Carbon (415.2 (SM 5310B))	A: Monomethyl hydrazine (SW8315M/DV-WC-0077)	A: Cr (VI), Total (E218.6)	R: Total Dissolved Metals. Mercury (E245.1)	QRSW: Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Comments
Outfall 018	Outfall018_20211228_Comp_F	12/28/2021 / 0930	WM	1 L Poly	1	None	190	No	X										Filter and preserve w/in 24hrs of receipt at lab.
			WM	borosilicate vials	1	None	320	No									X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
	Outfall018_20211228_Comp	12/28/2021 / 0930 *	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
			WM	1 L Glass Amber	1	None	230	No											Analyze duplicate, not MS/MSD.
			WM	1 Gal Cube	6	None	235	No				X							Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA
			WM	40 mL VOA	3	HCl	240	No					X						
			WM	1 L Glass Amber	1	HCl	245	No						X					
			WM	8 oz. glass amber	1	H_2SO_4	255	No							X				
			WM	500 mL Poly	1	None	260	No								X			
			~~WM~~	~~1L Glass Amber~~	~~2~~	~~None~~	~~275~~	~~No~~										X	~~Extract within 24-Hours of sampling at Weck Labs at OF001,002,011, of 018~~
	Outfall018_20211228_Comp_Extra	12/28/2021 / 0930	WM	40 mL VOA	3	HCl	240	No					H						Hold
			WM	1 L Glass Amber	[illegible]	None	255	No							H				Hold

Legend. A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By	Date/Time:	Company:	Received By	Date/Time:
[signature]	12.28.2021/1445	H:A	[signature] ECI	12/28/21 1445
[signature]	12/28/21 1800		[signature]	12/28/21 1800

Turn-around time: (Check)
24 Hour: ______ 72 Hour: ______ 10 Day: __X__
48 Hour: ______ 5 Day: ______ Normal ______

Sample Integrity: (Check)
Intact: ______ On Ice. ______
Store samples for 6 months.
Data Requirements: (Check)
No Level IV: ______ All Level IV: __X__

* Hand delivered to ABC Labs by H:A

2019-2020 Rainy Season
Version 5

2/4/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148122 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80231-2
Address: 14859 E Clark Avenue, ,	Due Date Requested: 1/19/2022			
City: City of Industry	TAT Requested (days):			
State, Zip: CA, 91745				
Phone:	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck-Hydrazine)/ Weck-Hydrazine	SUB (Weck-Hydrazine)/ Weck-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09:30 Pacific		Water			X		1	Level IV needed
Outfall18_20211228_Comp_Extra (570-80231-2)	12/28/21	09:30 Pacific		Water				X	1	Level IV needed

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/29/21 1335				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone: 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148125 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80231-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/26/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B NaOH, C Zn Acetate, D Nitric Acid, E - NaHSO4, F MeOH, G - Amchlor, H Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900 0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of containers	Special Instructions/Note:
				Preservation Code:											
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09 30 Pacific		Water			X	X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
	12/29/21 1422				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No.: 570-148141 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80231-2
Address: 880 Riverside Parkway	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09:30 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 out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/29/21 1609				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time:	Company	Received by	Date/Time.	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148135 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80231-1
Address: 2841 Dow Avenue, ,	Due Date Requested: 1/10/2022			
City: Tustin	TAT Requested (days)			
State, Zip: CA 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing NPDES SSFL Outfalls	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 200 7 Outfall 001/002/011 Totals List	200.8/200.2 (MOD) Cd,Cu,Pb,Se,Sb,Tl	SM2340B/Auto_TotalRec (MOD) Local Method	245.1/245.1_Prep Mercury	180.1/ Turbidity	2540C_Calcd/ Solids, Total Dissolved (TDS)	2540D/ Solids, Total Suspended (TSS)	SM4500NH3_G/ Ammonia	SM5310B/ Organic Carbon, Total (TOC)	200 7/FILTRATION 200.7 Outfall 001/002/011 Diss List	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb,Se,Sb,Tl	245.1/FILTRATION Diss Mercury	SM2340B/Filtration_AC Diss hardness	Total Number of containers	Special Instructions/Note:
				Preservation Code:																	
Outfall18_20211228_Comp (570-80231-1)	12/28/21	09:30 Pacific		Water			X	X	X	X	X	X	X	X	X					9	, use VOA vials from LL Hg Kit-Clean Hands procedure
Outfall18_20211228_Comp_F (570-80231-3)	12/28/21	09:30 Pacific		Water												X	X	X	X	3	Filter w/in 24 hours, Filter within 24 hours, use VOA vials from LL Hg Kit-Clean Hands

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements 1.8/1.8 IR-89

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/29/21 1552	ECI			
2	Relinquished by	Date/Time	Company	Received by	Date/Time: 12/29/21 1552	Company ECI
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience Tustin
2841 Dow Avenue
Tustin CA 92780
Phone 949-261-1022 Fax: 949-260-3297

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 440-177693 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80231-1
Address: 7440 Lincoln Way ,	Due Date Requested: 1/11/2022			
City: Garden Grove	TAT Requested (days):			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 COMP	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/ CL, SO4, F	300_ORGFMS/ Nitrate + Nitrite as N	4500_CN_E_LL/4500_CN_C Cyanide, Total (Low Level)	5540C/5540C_Prep Methylene Blue Active Substances (MBAS)	NO2NO3_Calc_IC/ Nitrate-Nitrite as N	314.0/ Perchlorate	SM5210B_BODCalc/ Biological Oxygen Demand - 5 Day	608.3_PCB_LL/608_Prep_PCB_LL PCBs	608.3_Pest_LL/608_Prep_LL Pesticides	625.1_SIM/625_Prep Priority pollutant list	8260B_SIM/5030C (MOD) 1,4-Dioxane only	218.6_CR3/ Trivalent Chromium	218.6_ORGFM/ Chromium, Hexavalent	Total Number of containers	Special Instructions/Note
			Preservation Code:																		
Outfall018_20211228_Comp (570-80231-1)	12/28/21	09.30 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Level 1 radioactive	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
1		1/12/22	ECT		1/12/22 1446	ECI
2		1/12/22 1427	ECI		1-17-2022 14:27	ECI
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks	3.1/4.6 SC 6

Ver 06/08/2021

Eurofins Calscience Tustin
2841 Dow Avenue
Tustin CA 92780
Phone 949-261-1022 Fax: 949-260-3297

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No.: 440-177693 2
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80231-1
Address: 7440 Lincoln Way, ,	Due Date Requested: 1/11/2022			
City: Garden Grove	TAT Requested (days):			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing NPDES SSFL Outfall - Outfall 018 COMP	Project #: 44024446			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM5310D/ Total Organic Carbon	Total Number of containers	Special Instructions/Note
			Preservation Code:						
Outfall018_20211228_Comp (570-80231-1)	12/28/21	09 30 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Level 1 radioactive	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		1/17/22	ECT		1/17/22 1446	EC
2		1/7/22 1427	EC		1-17-2022 14:27	ECT
3						

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.	3.1 / 4.6 SC6

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80231-5

Login Number: 80231

List Source: Eurofins Calscience

List Number: 1

Creator: Patel, Jayesh

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	

Haley & Aldrich, Inc.
600 South Meyer Ave
Suite 100
Tucson, AZ 85701
520.289.8621

Data Usability Summary Report

Project Name: Boeing NPDES SSFL

Project Description: Fourth Quarter 2021

Sample Date(s): 15 through 30 December 2021

Analytical Laboratory: Eurofins TestAmerica Laboratories, Inc. – Garden Grove, CA

Validation Performed by: Sean Fischer

Validation Date: 26 January 2022

Haley & Aldrich, Inc. prepared this Data Usability Summary Report (DUSR) to summarize the review and validation of the analytical results for Sample Delivery Group(s) (SDG) listed in Section 1.1.

This data validation and usability assessment was performed per the guidance and requirements established by the U.S. Environmental Protection Agency's (USEPA) *National Functional Guidelines (NFG) for Inorganic Data Review*; *USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Chlorinated Dibenzo-p-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs) Data Review;* and the project-specific Quality Assurance Project Plan (QAPP), herein referred to as the specified limits (see references section below).

Data reported in this sampling quarter were reported to the laboratory reporting limit (RL). Results found between the method detection limit (MDL) and RL are flagged "J" as estimated.

Sample data were qualified in accordance with the laboratory's standard operating procedures (SOP). The results presented in each laboratory report were found to be compliant with the data quality objectives for the project and therefore usable; any exceptions are noted in the following pages.

For more detailed quality control (QC) information see Section 2.0 Explanations section. For glossary and qualifier explanation, see Sections 3.0 and 4.0, respectively.

1. Fourth Quarter 2021

1.1 SAMPLE MANAGEMENT

This DUSR summarizes the review of SDG numbers:

- 570-78854-1, dated 25 January 2022
- 570-78864-1, dated 14 January 2022
- 570-78864-2, dated 09 January 2022
- 570-80124-1, dated 24 January 2022
- 570-80124-2, dated 2 February 2022
- 570-80129-1, dated 19 January 2022
- 570-80132-1, dated 24 January 2022
- 570-80132-2, dated 2 February 2022
- 570-80133-1, dated 25 January 2022
- 570-80140-1, dated 25 January 2022
- 570-80141-1, dated 19 January 2022
- 570-80142-1, dated 24 January 2022
- 570-80142-2, dated 1 February 2022
- 570-80145-2, dated 2 February 2022
- 570-80231-1, dated 24 January 2022
- 570-80231-2, dated 30 January 2022
- 570-80241-2, dated 2 February 2022
- 570-80406-1, dated 25 January 2022
- 570-80408-1, dated 24 January 2022
- 570-80408-2, dated 28 January 2022
- 570-80412-1, dated 15 January 2022

Samples were collected, preserved, and shipped following standard chain of custody (COC) protocol. Samples were also received appropriately, identified correctly, and analyzed according to the COC. Issues noted with sample management are listed below:

- Custody seals were not used when samples were transported between subcontracted laboratories.

Analyses were performed on the following samples:

Sample ID	Sample Type	Lab ID	Sample Date	Matrix	Methods
Outfall001_20211224_Grab	N	570-80141-1	12/24/2021	WM	SM9223B
Outfall001_20211226_Comp	N	570-80124-1	12/26/2021	WM	E1613B, E200.7, E200.8
Outfall001_20211226_Comp_F	N	570-80124-3	12/26/2021	WM	E200.7, E200.8
Outfall002_20211224_Grab	N	570-80129-1	12/24/2021	WM	SM9223B
Outfall002_20211226_Comp	N	570-80132-1	12/26/2021	WM	E1613B, E200.7, E200.8
Outfall002_20211226_Comp_F	N	570-80132-3	12/26/2021	WM	E200.7, E200.8
Outfall002_20211228_Comp	N	570-80241-1	12/28/2021	WM	E1613B
Outfall002_20211230_Grab	N	570-80412-1	12/30/2021	WM	SM9223B
Outfall008_20211224_Grab	N	570-80133-1	12/24/2021	WM	SM9223B
Outfall008_20211226_Comp	N	570-80145-1	12/26/2021	WM	E1613B

Sample ID	Sample Type	Lab ID	Sample Date	Matrix	Methods
OUTFALL009_20211215_COMP	N	570-78864-1	12/15/2021	WM	E1613B, E200.7, E200.8, E218.6
OUTFALL009_20211215_COMP_F	N	570-78864-2	12/15/2021	WM	E200.7, E200.8
OUTFALL009_20211215_GRAB	N	570-78854-1	12/15/2021	WM	SM9223B
Outfall009_20211226_Comp	N	570-80142-1	12/26/2021	WM	E1613B, E200.7, E200.8
Outfall009_20211226_Comp_F	N	570-80142-2	`12/26/2021	WM	E200.7, E200.8, EPA 821
Outfall011_20211230_Comp	N	570-80408-1	12/30/2021	WM	E1613B, E200.7, E200.8
Outfall011_20211230_Comp_F	N	570-80408-3	12/30/2021	WM	E200.7, E200.8
Outfall011_20211230_Grab	N	570-80406-1	12/30/2021	WM	SM9223B
Outfall018_20211226_Grab	N	570-80140-1	12/26/2021	WM	SM9223B
Outfall018_20211228_Comp	N	570-80231-1	12/28/2021	WM	E1613B, SM5210B

Method		Holding Times
E200.7	Metals, total or dissolved	180 days for liquid, preserved
E200.8	Metals, total or dissolved	180 days for liquid, preserved
E218.6	Hexavalent Chromium	24 hours for liquid, unpreserved 28 days for liquid, preserved
E1613B	Dioxins/Furans	1 year, preserved
SM5210B	Biochemical Oxygen Demand	48 hours, unpreserved
SM9223B	Escherichia coli (E. coli)	6 hours for liquid (compliance), preserved
EPA 821	Algae Growth Bioassay	48 hours

1.2 HOLDING TIMES/PRESERVATION

The samples arrived at the laboratory at the proper temperature and were prepared and analyzed within the holding time and preservation criteria specified per method protocol with the following exceptions:

Method	Matrix	Holding Time	Preservation	Sample ID, Violation, Qualification
SM5210B	Water	Test takes 5 days to process, from that point 48 hours, unpreserved	Cool to ≤ 6 °C	Outfall018_20211228_Comp was analyzed outside of analytical holding time due to system outages; qualified "J"
SM9223B	Water	6 hours for liquid (compliance), preserved	Cool to ≤ 6 °C; Na2S2O3; No Headspace	Outfall001_20211224_Grab, OUTFALL009_20211215_GRAB, Outfall008_20211224_Grab, and Outfall002_20211224_Grab were received outside the holding time; qualified "J/UJ"

Method	Matrix	Holding Time	Preservation	Sample ID, Violation, Qualification
E1613B	Water	1 year for liquid, preserved	Cool to ≤ 6 °C; Na2S2O3	Cooler containing Outfall002_20211228_Comp was received outside required temperature criteria at 11.9°C; qualified "J/UJ"
EPA 821	Water	36 Hours	Cool to ≤ 6 °C	Outfall009_20211226_Comp_F was analyzed outside the holding time; qualified "J"

1.3 SURROGATE RECOVERY COMPLIANCE

Refer to section E 1.2. The percent recovery (%Rec) for each surrogate compound added to each project sample were determined to be within the laboratory specified QC limits.

1.4 LABORATORY CONTROL SAMPLES

Refer to section E 1.3. Compounds associated with the laboratory control samples/laboratory control sample duplicates (LCS/LCSD) analyses exhibited recoveries and Relative Percent Difference (RPDs) within the specified limits.

1.5 MATRIX SPIKE SAMPLES

Refer to section E 1.4. The sample(s) below were used for matrix spike/matrix spike duplicate (MS/MSD):

Lab Sample Number	Matrix Spike/ Matrix Spike Duplicate Sample Client ID	Method(s)
570-78864-2 MS/MSD	Outfall009_20211215_Comp_F	E200.7, E200.8
570-80142-1 MS/MSD	Outfall009_20211226_Comp	E200.7
570-80142-2 MS/MSD	Outfall009_20211226_Comp_F	E200.7, E200.8
570-80408-1 MS/MSD	Outfall011_20211230_Comp	E200.7

The MS/MSD recoveries and the RPD between the MS and MSD results were within the specified limits with the following exception:

Sample Type	Method	Parent Sample	Analyte	%Rec/RPD	Qualifier	Affected Samples
MS/MSD	E200.7	Outfall011_20211230_Comp	Iron	298%/328%, RPD = 2	NA	None, native sample >4x the spike added

1.6 BLANK SAMPLE ANALYSIS

Refer to section E 1.5. Method blank samples had no detections, indicating that no contamination from laboratory activities occurred with the following exceptions:

Batch ID	Analyte Detected in Blank	Concentration (µg/L)	Qualifier	Affected Samples
664169	Chromium	**2.8 J,DX**	NA	None, samples are ND
663658	Nickel	**9.00 J,DX**	NA	None, samples are ND
664833	Copper	**0.904 J,DX**	NA	None, samples are >10x blank
204680	Biochemical Oxygen Demand	**1590**	NA	None, samples are >10x blank
555655	1,2,3,4,7,8-HxCDD	**0.00000320 J,DX**	Result U	OUTFALL009_20211215_COMP
555655	1,2,3,7,8,9-HxCDF	**0.000000939 J,DX**	Result U	OUTFALL009_20211215_COMP
555655	2,3,4,6,7,8-HxCDF	**0.000000570 J,DX**	Result U	OUTFALL009_20211215_COMP
555655	1,2,3,4,6,7,8-HpCDD	**0.00000293 J,DX**	Result U	OUTFALL009_20211215_COMP
555655	1,2,3,4,6,7,8-HpCDF	**0.00000160 J,DX**	Result U	OUTFALL009_20211215_COMP
555655	OCDD	**0.00000683 J,DX**	NA	None, samples are >10x blank
555655	OCDF	**0.00000233 J,DX**	Result U	OUTFALL009_20211215_COMP
557344	1,2,3,4,7,8-HxCDD	**0.00000183 J,DXq**	Result U	Outfall001_20211226_Comp, Outfall002_20211226_Comp, Outfall009_20211226_Comp, Outfall008_20211226_Comp
557344	1,2,3,4,6,7,8-HpCDD	**0.00000158 J,DXq**	Result U	Outfall008_20211226_Comp
557344	1,2,3,4,6,7,8-HpCDF	**0.000000872 J,DXq**	Result U	Outfall008_20211226_Comp
557344	1,2,3,4,7,8,9-HpCDF	**0.000000423 J,DXq**	Result U	Outfall001_20211226_Comp
557344	OCDD	**0.00000603 J,DX**	Result U	Outfall008_20211226_Comp
558744	1,2,3,4,7,8-HxCDD	**0.00000516 J,DX**	Result U	Outfall002_20211228_Comp

Batch ID	Analyte Detected in Blank	Concentration (µg/L)	Qualifier	Affected Samples
558744	1,2,3,6,7,8-HxCDD	**0.00000297 J,DX**	Result U	Outfall002_20211228_Comp
558744	1,2,3,7,8,9-HxCDD	**0.00000627 J,DX**	Result U	Outfall002_20211228_Comp
558744	1,2,3,4,7,8-HxCDF	**0.00000375 J,DX**	NA	None, samples are ND
558744	1,2,3,6,7,8-HxCDF	**0.00000404 J,DX**	NA	None, samples are ND
558744	1,2,3,7,8,9-HxCDF	**0.00000321 J,DXq**	Result U	Outfall002_20211228_Comp
558744	2,3,4,6,7,8-HxCDF	**0.00000361 J,DX**	Result U	Outfall002_20211228_Comp
558744	1,2,3,4,6,7,8-HpCDD	**0.00000746 J,DX**	Result U	Outfall002_20211228_Comp
558744	1,2,3,4,6,7,8-HpCDF	**0.00000528 J,DX**	Result U	Outfall002_20211228_Comp
558744	1,2,3,4,7,8,9-HpCDF	**0.00000428 J,DX**	Result U	Outfall002_20211228_Comp
558744	OCDD	**0.0000121 J,DXq**	Result U	Outfall002_20211228_Comp
558744	OCDF	**0.00000701 J,DX**	Result U	Outfall002_20211228_Comp
558745	1,2,3,4,7,8-HxCDD	**0.00000320 J,DX**	Result U	Outfall018_20211228_Comp
558745	1,2,3,6,7,8-HxCDD	**0.00000275 J,DXq**	Result U	Outfall018_20211228_Comp
558745	1,2,3,7,8,9-HxCDD	**0.00000249 J,DXq**	NA	None, samples are ND
558745	1,2,3,4,7,8-HxCDF	**0.00000187 J,DXq**	NA	None, samples are ND
558745	1,2,3,6,7,8-HxCDF	**0.00000228 J,DX**	NA	None, samples are ND
558745	1,2,3,7,8,9-HxCDF	**0.00000260 J,DXq**	Result U	Outfall018_20211228_Comp
558745	2,3,4,6,7,8-HxCDF	**0.00000199 J,DX**	NA	None, samples are ND
558745	1,2,3,4,6,7,8-HpCDD	**0.00000548 J,DX**	Result U	Outfall018_20211228_Comp
558745	1,2,3,4,6,7,8-HpCDF	**0.00000353 J,DX**	NA	None, samples are ND
558745	1,2,3,4,7,8,9-HpCDF	**0.00000266 J,DX**	NA	None, samples are ND
558745	OCDD	**0.00000907 J,DX**	Result U	Outfall018_20211228_Comp
558745	OCDF	**0.00000533 J,DX**	NA	None, samples are ND
558766	1,2,3,7,8-PeCDD	**0.00000467 J,DX**	NA	None, samples are ND
558766	1,2,3,7,8-PeCDF	**0.00000401 J,DX**	NA	None, samples are ND
558766	2,3,4,7,8-PeCDF	**0.00000412 J,DX**	NA	None, samples are ND
558766	1,2,3,4,7,8-HxCDD	**0.00000550 J,DXq**	Result U	Outfall011_20211230_Comp
558766	1,2,3,6,7,8-HxCDD	**0.00000657 J,DX**	Result U	Outfall011_20211230_Comp
558766	1,2,3,7,8,9-HxCDD	**0.00000690 J,DXq**	Result U	Outfall011_20211230_Comp
558766	1,2,3,4,7,8-HxCDF	**0.00000382 J,DXq**	NA	None, samples are ND
558766	1,2,3,6,7,8-HxCDF	**0.00000445 J,DXq**	NA	None, samples are ND
558766	1,2,3,7,8,9-HxCDF	**0.00000579 J,DX**	NA	None, samples are ND
558766	2,3,4,6,7,8-HxCDF	**0.00000499 J,DX**	NA	None, samples are ND
558766	1,2,3,4,6,7,8-HpCDD	**0.00000880 J,DX**	NA	None, samples are >5x blank
558766	1,2,3,4,6,7,8-HpCDF	**0.00000623 J,DX**	Result U	Outfall011_20211230_Comp
558766	1,2,3,4,7,8,9-HpCDF	**0.00000709 J,DX**	NA	None, samples are ND
558766	OCDD	**0.0000172 J,DX**	NA	None, samples are >10x blank
558766	OCDF	**0.0000123 J,DX**	Result U	Outfall011_20211230_Comp
663858	Nickel	**9 J,DX**	NA	None, samples are ND

1.7 DUPLICATE SAMPLE ANALYSIS

Refer to section E 1.6. No client samples were used for laboratory duplicate analysis in this SDG.

1.8 DIOXIN/FURAN ESTIMATED MAXIMUM POSSIBLE CONCENTRATION (EMPC)

Refer to section E 1.9. A result previously qualified as a non-detect for method blank contamination was not further qualified as an EMPC. The laboratory reported the following EMPC flags:

Method	Lab ID	Analyte	Concentration	Qualifier	Affected Samples
E1613B	570-78864-1	2,3,4,7,8-PeCDF	0.0000011 J,DXq	Result UJ	OUTFALL009_20211215_ COMP
		1,2,3,6,7,8-HxCDF	0.0000015 J,DXq	Result UJ	
		1,2,3,4,7,8,9-HpCDF	0.0000012 J,DXq	Result UJ	
	570-80124-1	1,2,3,7,8-PeCDD	0.00000045 J,DXq	Result UJ	Outfall001_20211226_Comp
E1613B	570-80132-1	2,3,4,7,8-PeCDF	0.00000058 J,DXq	Result UJ	Outfall002_20211226_Comp
		1,2,3,7,8-PeCDF	0.00000095 J,DXq	Result UJ	
		1,2,3,6,7,8-HxCDD	0.00000096 J,DXq	Result UJ	
		1,2,3,7,8,9-HxCDF	0.00000073 J,DXq	Result UJ	
	570-80142-1	1,2,3,6,7,8-HxCDF	0.00000046 J,DXq	Result UJ	Outfall009_20211226_Comp
		1,2,3,4,7,8-HxCDF	0.00000063 J,DXq	Result UJ	
	570-80145-1	1,2,3,4,6,7,8,9- OCDF	0.00000072 J,DXq	Result UJ	Outfall008_20211226_Comp
		2,3,4,6,7,8-HxCDF	0.00000024 J,DXq	Result UJ	
		1,2,3,4,7,8-HxCDF	0.00000028 J,DXq	Result UJ	

1.9 COMPOUND IDENTIFICATION

The second-column confirmation analysis for isomer 2,3,7,8-TCDF did not confirm the initial result for samples from 12/26 including Outfalls 001, 002, 008, and 009. As the confirmation column is more specific for the detection of 2,3,7,8-TCDF, the confirmation results were retained and the initial result rejected (R) as duplicate data.

1.10 SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

The results presented in this report were found to comply with the data quality objectives for the project and the guidelines specified by the analytical method. Based on the review of this report, the data are useable and acceptable. A summary of qualifiers applied to these SDGs are shown in Table 1.

2. Explanations

The following explanations include more detailed information regarding each of the sections in the DUSR above. Not all sections in the Explanations are represented:

- E 1.2 Surrogate Recovery Compliance
  - Surrogates, also known as system monitoring compounds, are compounds added to each sample prior to sample preparation to determine the efficiency of the extraction procedure by evaluating the percent recovery (%Rec) of the compounds.
- E 1.3 Laboratory Control Samples
  - The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analyses are used to assess the precision and accuracy of the analytical method independent of matrix interferences.
- E 1.4 Matrix Spike Samples
  - Matrix spike/matrix spike duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method and evaluate the effects of the sample matrix on the sample preparation procedures and measurement methodologies.
  - For inorganic methods, when a matrix spike recovery falls outside of the control limits and the sample result is less than four times the spike added, a post digestion spike (PDS) is performed.
- E 1.5 Blank Sample Analysis
  - Method blanks are prepared by the analytical laboratory and analyzed concurrently with the project samples to assess possible laboratory contamination.
- E 1.6 Laboratory and Field Duplicate Sample Analysis
  - The laboratory duplicate sample analysis is used by the laboratory at the time of the analysis to demonstrate acceptable method precision. The RPD or absolute difference was evaluated for each duplicate sample pair to monitor the reproducibility of the data.
- E 1.7 Precision and Accuracy
  - Precision measures the reproducibility of repetitive measurements. In a laboratory environment, this will be measured by determining the relative percent difference (%RPD) found between a primary and a duplicate sample. This can be an LCS/LCSD pair, a MS/MSD pair, a laboratory duplicate performed on a site sample, or a field duplicate collected and analyzed concurrently with a site sample.
  - Accuracy is a statistical measurement of the correctness of a measured value and includes components of random error (variability caused by imprecision) and systematic error. In a laboratory environment, this will be measured by determining the percent recovery (%Rec) of certain spiked compounds. This can be assessed using LCS, BS, MS, and/or surrogate recoveries.
- E 1.9 Dioxin/Furan Estimated Maximum Possible Concentration
  - An Estimated Maximum Possible Concentration (EMPC) is a worst-case estimate of the concentration for a dioxin/furan based on all identification criteria being met except the ion abundance ratio criteria, or if a peak representing a chlorinated diphenyl ether was detected.

3. Glossary

Not all of the following symbols, acronyms, or qualifiers occur in this document.

- Sample Types:
  - N — Primary Sample
- Units:
  - µg/L — microgram per liter
  - mg/L — milligram per liter
  - mpn/100mL — Most probable number per 100 milliliters
- Fraction
  - N — Not applicable
  - T — Total
  - D — Dissolved
- Matrices:
  - WM — Stormwater
- Table Footnotes
  - NA — Not applicable
  - ND — Non-detect
  - NR — Not reported
- Abbreviations
  - %Rec — Percent Recovery
  - BS — Blank Spike
  - COC — Chain of Custody
  - DUSR — Data Usability Summary Report
  - EMPC — Estimated Maximum Possible Concentration
  - LCS/LCSD — Laboratory Control Sample/Laboratory Control Sample Duplicate
  - MDL — Laboratory Method Detection Limit
  - MS/MSD — Matrix Spike/Matrix Spike Duplicate
  - ND — Non-Detect
  - NFG — National Functional Guidelines
  - PDS — Post Digestion Spike
  - QC — Quality Control
  - RL — Laboratory Reporting Limit
  - RPD — Relative Percent Difference
  - RRF — Relative Response Factors
  - SDG — Sample Delivery Group
  - SOP — Laboratory Standard Operating Procedures
  - USEPA — U.S. Environmental Protection Agency
- Validation Note:
  - *III — Unusual problems found with the data that have been described in the validation report.
  - B — Laboratory method blank contamination.
  - D — The analysis with this flag should not be used because another more technically sound analysis is available.
  - DNQ — Detected but not quantified (constituent value greater than or equal to the laboratory method detection limit and less than the laboratory reporting limit).
  - H — Holding time was exceeded.

4. Qualifiers

The qualifiers below are from the USEPA National Functional Guidelines and the data in the DUSR may contain these qualifiers:

- Validation Qualifiers
  - 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”.
  - J — The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - 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.
  - R — The sample results were rejected as unusable; the compound may or may not be present in the sample.
  - = — No Qualifier

References

1. Haley & Aldrich, Inc, 2015. Quality Assurance Project Field Plan for Santa Susana Field Laboratory Stormwater Sampling Program. December.
2. United States Environmental Protection Agency, 2011. USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Chlorinated Dibenzo-p-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs) Data Review. EPA-540-R-11-016. September.
3. United State Environmental Protection Agency, 2020. National Functional Guidelines for Inorganic Superfund Methods Data Review. EPA-542-R-20-006. November.

Outfall	Sample ID	Sample Date	Lab ID	Method	Fraction	Analyte	Result	Laboratory Qualifier	Final Validated Qualifier	Validation Note	Unit	Notes
OUTFALL 001	Outfall001_20211224_Grab	12/24/2021	456044-001	SM9223B	N	Escherichia coli	150	H	J	H	mpn/100mL	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	0.000042	J,DX	J	DNQ	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	0.00061	MB	=	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.000014	J,DXMB	J	DNQ	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	0.000057	MB	=	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E1613B	N	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	0.00000092	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	0.00000078	J,DX	J	DNQ	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000021	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.0000012	J,DX	J	DNQ	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000026	J,DX	J	DNQ	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	0.00000062	J,DX	J	DNQ	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000018	J,DX	J	DNQ	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	0.00000045	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E1613B	N	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.00000056	J,DX	J	DNQ	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E1613B	N	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0.00000056	J,DXMB	R	D	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E1613B	N	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E200.7	T	Arsenic	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp_F	12/26/2021	570-80124-3	E200.7	D	Arsenic	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E200.7	T	Barium	66		=	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp_F	12/26/2021	570-80124-3	E200.7	D	Barium	20		=	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E200.7	T	Beryllium	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp_F	12/26/2021	570-80124-3	E200.7	D	Beryllium	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E200.7	T	Boron	65		=	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp_F	12/26/2021	570-80124-3	E200.7	D	Boron	59		=	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E200.7	T	Chromium	7.0		=	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp_F	12/26/2021	570-80124-3	E200.7	D	Chromium	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E200.7	T	Cobalt	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp_F	12/26/2021	570-80124-3	E200.7	D	Cobalt	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E200.7	T	Iron	7100		=	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp_F	12/26/2021	570-80124-3	E200.7	D	Iron	200		=	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E200.7	T	Manganese	110		=	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp_F	12/26/2021	570-80124-3	E200.7	D	Manganese	7.7	J,DX	J	DNQ	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E200.7	T	Nickel	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp_F	12/26/2021	570-80124-3	E200.7	D	Nickel	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E200.7	T	Vanadium	16		=	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp_F	12/26/2021	570-80124-3	E200.7	D	Vanadium	2.7	J,DX	J	DNQ	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E200.7	T	Zinc	21		=	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp_F	12/26/2021	570-80124-3	E200.7	D	Zinc	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E200.8	T	Antimony	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp_F	12/26/2021	570-80124-3	E200.8	D	Antimony	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E200.8	T	Cadmium	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp_F	12/26/2021	570-80124-3	E200.8	D	Cadmium	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E200.8	T	Copper	6.7		=	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp_F	12/26/2021	570-80124-3	E200.8	D	Copper	3.3		=	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E200.8	T	Lead	3.0		=	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp_F	12/26/2021	570-80124-3	E200.8	D	Lead	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E200.8	T	Selenium	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp_F	12/26/2021	570-80124-3	E200.8	D	Selenium	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E200.8	T	Silver	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp_F	12/26/2021	570-80124-3	E200.8	D	Silver	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp	12/26/2021	570-80124-1	E200.8	T	Thallium	ND	U	U	--	ug/L	
OUTFALL 001	Outfall001_20211226_Comp_F	12/26/2021	570-80124-3	E200.8	D	Thallium	ND	U	U	--	ug/L	

Outfall	Sample ID	Sample Date	Lab ID	Method	Fraction	Analyte	Result	Laboratory Qualifier	Final Validated Qualifier	Validation Note	Unit	Notes
OUTFALL 002	Outfall002_20211224_Grab	12/24/2021	456046-001	SM9223B	N	Escherichia coli	96	H	J	H	mpn/100mL	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	0.0000079	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	0.000092	J,DXMB	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.0000047	J,DXMB	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	0.000014	J,DXMB	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E1613B	N	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	0.00000086	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000024	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.00000073	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.00000096	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	0.00000073	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000011	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	0.00000095	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	0.0000011	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E1613B	N	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.00000065	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E1613B	N	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	0.00000058	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0.00000056	J,DXMB	R	D	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E1613B	N	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E200.7	T	Arsenic	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp_F	12/26/2021	570-80132-3	E200.7	D	Arsenic	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E200.7	T	Barium	28		=	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp_F	12/26/2021	570-80132-3	E200.7	D	Barium	16		=	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E200.7	T	Beryllium	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp_F	12/26/2021	570-80132-3	E200.7	D	Beryllium	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E200.7	T	Boron	65		=	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp_F	12/26/2021	570-80132-3	E200.7	D	Boron	63		=	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E200.7	T	Chromium	4.2	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20211226_Comp_F	12/26/2021	570-80132-3	E200.7	D	Chromium	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E200.7	T	Cobalt	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp_F	12/26/2021	570-80132-3	E200.7	D	Cobalt	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E200.7	T	Iron	2500		=	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp_F	12/26/2021	570-80132-3	E200.7	D	Iron	480		=	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E200.7	T	Manganese	37		=	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp_F	12/26/2021	570-80132-3	E200.7	D	Manganese	9.9	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E200.7	T	Nickel	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp_F	12/26/2021	570-80132-3	E200.7	D	Nickel	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E200.7	T	Vanadium	6.4	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20211226_Comp_F	12/26/2021	570-80132-3	E200.7	D	Vanadium	3.2	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E200.7	T	Zinc	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp_F	12/26/2021	570-80132-3	E200.7	D	Zinc	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E200.8	T	Antimony	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp_F	12/26/2021	570-80132-3	E200.8	D	Antimony	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E200.8	T	Cadmium	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp_F	12/26/2021	570-80132-3	E200.8	D	Cadmium	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E200.8	T	Copper	4.6		=	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp_F	12/26/2021	570-80132-3	E200.8	D	Copper	3.7		=	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E200.8	T	Lead	1.4		=	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp_F	12/26/2021	570-80132-3	E200.8	D	Lead	0.54	J,DX	J	DNQ	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E200.8	T	Selenium	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp_F	12/26/2021	570-80132-3	E200.8	D	Selenium	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E200.8	T	Silver	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp_F	12/26/2021	570-80132-3	E200.8	D	Silver	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp	12/26/2021	570-80132-1	E200.8	T	Thallium	ND	U	U	--	ug/L	
OUTFALL 002	Outfall002_20211226_Comp_F	12/26/2021	570-80132-3	E200.8	D	Thallium	ND	U	U	--	ug/L	

Outfall	Sample ID	Sample Date	Lab ID	Method	Fraction	Analyte	Result	Laboratory Qualifier	Final Validated Qualifier	Validation Note	Unit	Notes
OUTFALL 002	Outfall002_20211228_Comp	12/28/2021	570-80241-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	0.000013	J,DXMB	UJ	B*III	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20211228_Comp	12/28/2021	570-80241-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	0.000068	J,DXMB	UJ	B*III	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20211228_Comp	12/28/2021	570-80241-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.0000064	J,DXMB	UJ	B*III	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20211228_Comp	12/28/2021	570-80241-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	0.000016	J,DXMB	UJ	B*III	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20211228_Comp	12/28/2021	570-80241-1	E1613B	N	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	0.0000017	J,DXMBq	UJ	B*III	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20211228_Comp	12/28/2021	570-80241-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	ND	U	UJ	*III	ug/L	
OUTFALL 002	Outfall002_20211228_Comp	12/28/2021	570-80241-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000036	J,DXMBq	UJ	B*III	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20211228_Comp	12/28/2021	570-80241-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	ND	U	UJ	*III	ug/L	
OUTFALL 002	Outfall002_20211228_Comp	12/28/2021	570-80241-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000030	J,DXMB	UJ	B*III	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20211228_Comp	12/28/2021	570-80241-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	0.0000025	J,DXMB	UJ	B*III	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20211228_Comp	12/28/2021	570-80241-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000028	J,DXMBq	UJ	B*III	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20211228_Comp	12/28/2021	570-80241-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	UJ	*III	ug/L	
OUTFALL 002	Outfall002_20211228_Comp	12/28/2021	570-80241-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	ND	U	UJ	*III	ug/L	
OUTFALL 002	Outfall002_20211228_Comp	12/28/2021	570-80241-1	E1613B	N	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.0000017	J,DXMBq	UJ	B*III	ug/L	Report ND at sample concentration
OUTFALL 002	Outfall002_20211228_Comp	12/28/2021	570-80241-1	E1613B	N	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	UJ	*III	ug/L	
OUTFALL 002	Outfall002_20211228_Comp	12/28/2021	570-80241-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	UJ	*III	ug/L	
OUTFALL 002	Outfall002_20211228_Comp	12/28/2021	570-80241-1	E1613B	N	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	UJ	*III	ug/L	
OUTFALL 002	Outfall002_20211230_Grab	12/30/2021	456203-001	SM9223B	N	Escherichia coli	210		=	--	mpn/100mL	
OUTFALL 008	Outfall008_20211224_Grab	12/24/2021	456049-001	SM9223B	N	Escherichia coli	3.1	H	J	H	mpn/100mL	
OUTFALL 008	Outfall008_20211226_Comp	12/26/2021	570-80145-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	0.00000072	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 008	Outfall008_20211226_Comp	12/26/2021	570-80145-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	0.0000070	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 008	Outfall008_20211226_Comp	12/26/2021	570-80145-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.00000069	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 008	Outfall008_20211226_Comp	12/26/2021	570-80145-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	0.0000018	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 008	Outfall008_20211226_Comp	12/26/2021	570-80145-1	E1613B	N	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	ND	U	U	--	ug/L	
OUTFALL 008	Outfall008_20211226_Comp	12/26/2021	570-80145-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	0.00000028	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 008	Outfall008_20211226_Comp	12/26/2021	570-80145-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000017	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 008	Outfall008_20211226_Comp	12/26/2021	570-80145-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	ND	U	U	--	ug/L	
OUTFALL 008	Outfall008_20211226_Comp	12/26/2021	570-80145-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	ND	U	U	--	ug/L	
OUTFALL 008	Outfall008_20211226_Comp	12/26/2021	570-80145-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	0.00000052	J,DX	J	DNQ	ug/L	
OUTFALL 008	Outfall008_20211226_Comp	12/26/2021	570-80145-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	ND	U	U	--	ug/L	
OUTFALL 008	Outfall008_20211226_Comp	12/26/2021	570-80145-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	0.00000050	J,DX	J	DNQ	ug/L	
OUTFALL 008	Outfall008_20211226_Comp	12/26/2021	570-80145-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	ND	U	U	--	ug/L	
OUTFALL 008	Outfall008_20211226_Comp	12/26/2021	570-80145-1	E1613B	N	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.00000024	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 008	Outfall008_20211226_Comp	12/26/2021	570-80145-1	E1613B	N	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
OUTFALL 008	Outfall008_20211226_Comp	12/26/2021	570-80145-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	U	--	ug/L	
OUTFALL 008	Outfall008_20211226_Comp	12/26/2021	570-80145-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0.00000040	J,DXMB	R	D	ug/L	
OUTFALL 008	Outfall008_20211226_Comp	12/26/2021	570-80145-1	E1613B	N	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_GRAB	12/15/2021	455369-001	SM9223B	N	Escherichia coli	280	H	J	H	mpn/100mL	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	0.0000096	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	0.000099	J,DXMB	J	DNQ	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.0000044	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	0.000014	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E1613B	N	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	0.0000012	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	0.0000019	J,DX	J	DNQ	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000031	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.0000015	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000019	J,DX	J	DNQ	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	0.0000024	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000026	J,DX	J	DNQ	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E1613B	N	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.0000016	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E1613B	N	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	0.0000011	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E1613B	N	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	U	--	ug/L	

Outfall	Sample ID	Sample Date	Lab ID	Method	Fraction	Analyte	Result	Laboratory Qualifier	Final Validated Qualifier	Validation Note	Unit	Notes
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E200.7	T	Aluminum	280		=	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP_	12/15/2021	570-78864-2	E200.7	D	Aluminum	260		=	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E200.7	T	Boron	61		=	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP_	12/15/2021	570-78864-2	E200.7	D	Boron	55		=	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E200.7	T	Chromium	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP_	12/15/2021	570-78864-2	E200.7	D	Chromium	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E200.7	T	Iron	310		=	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP_	12/15/2021	570-78864-2	E200.7	D	Iron	200		=	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E200.7	T	Nickel	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP_	12/15/2021	570-78864-2	E200.7	D	Nickel	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E200.7	T	Vanadium	2.1	J,DX	J	DNQ	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP_	12/15/2021	570-78864-2	E200.7	D	Vanadium	2.4	J,DX	J	DNQ	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E200.7	T	Zinc	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP_	12/15/2021	570-78864-2	E200.7	D	Zinc	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E200.8	T	Antimony	0.91	J,DX	J	DNQ	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E200.8	T	Antimony	2.2		=	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP_	12/15/2021	570-78864-2	E200.8	D	Antimony	0.81	J,DX	J	DNQ	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E200.8	T	Cadmium	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E200.8	T	Cadmium	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP_	12/15/2021	570-78864-2	E200.8	D	Cadmium	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E200.8	T	Copper	15		=	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E200.8	T	Copper	6.5		=	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP_	12/15/2021	570-78864-2	E200.8	D	Copper	5.9		=	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E200.8	T	Lead	0.81	J,DX	J	DNQ	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E200.8	T	Lead	0.87	J,DX	J	DNQ	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP_	12/15/2021	570-78864-2	E200.8	D	Lead	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E200.8	T	Selenium	0.54	J,DX	J	DNQ	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E200.8	T	Selenium	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP_	12/15/2021	570-78864-2	E200.8	D	Selenium	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E200.8	T	Silver	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E200.8	T	Silver	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP_	12/15/2021	570-78864-2	E200.8	D	Silver	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E200.8	T	Thallium	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E200.8	T	Thallium	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP_	12/15/2021	570-78864-2	E200.8	D	Thallium	ND	U	U	--	ug/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E218.6	T	Chromium III (Trivalent)	ND	U	U	--	mg/L	
OUTFALL 009	OUTFALL009_20211215_COMP	12/15/2021	570-78864-1	E218.6	T	Chromium VI (Hexavalent)	0.043	J,DX	J	DNQ	ug/L	
OUTFALL 009	Outfall009_20211226_Comp_F	12/26/2021	570-80142-2	EPA 821	N	Chronic Toxicity, Selenastrum	Fail, 57.52%		J	H	%	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	0.0000099	J,DX	J	DNQ	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	0.00019	MB	=	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.0000046	J,DXMB	J	DNQ	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	0.000027	J,DXMB	J	DNQ	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E1613B	N	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	0.00000063	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000020	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.00000046	J,DXq	UJ	*III	ug/L	Report ND at sample concentration
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000018	J,DX	J	DNQ	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	0.00000050	J,DX	J	DNQ	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000012	J,DX	J	DNQ	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E1613B	N	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.00000047	J,DX	J	DNQ	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E1613B	N	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0.0000014	J,DXMB	R	D	ug/L	

Outfall	Sample ID	Sample Date	Lab ID	Method	Fraction	Analyte	Result	Laboratory Qualifier	Final Validated Qualifier	Validation Note	Unit	Notes
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E1613B	N	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E200.7	T	Nickel	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp_F	12/26/2021	570-80142-2	E200.7	D	Nickel	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E200.7	T	Zinc	14	J,DX	J	DNQ	ug/L	
OUTFALL 009	Outfall009_20211226_Comp_F	12/26/2021	570-80142-2	E200.7	D	Zinc	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E200.8	T	Antimony	0.64	J,DX	J	DNQ	ug/L	
OUTFALL 009	Outfall009_20211226_Comp_F	12/26/2021	570-80142-2	E200.8	D	Antimony	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E200.8	T	Cadmium	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp_F	12/26/2021	570-80142-2	E200.8	D	Cadmium	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E200.8	T	Copper	3.6		=	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp_F	12/26/2021	570-80142-2	E200.8	D	Copper	2.8		=	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E200.8	T	Lead	2.0		=	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp_F	12/26/2021	570-80142-2	E200.8	D	Lead	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E200.8	T	Selenium	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp_F	12/26/2021	570-80142-2	E200.8	D	Selenium	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E200.8	T	Silver	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp_F	12/26/2021	570-80142-2	E200.8	D	Silver	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp	12/26/2021	570-80142-1	E200.8	T	Thallium	ND	U	U	--	ug/L	
OUTFALL 009	Outfall009_20211226_Comp_F	12/26/2021	570-80142-2	E200.8	D	Thallium	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Grab	12/30/2021	456202-001	SM9223B	N	Escherichia coli	140		=	--	mpn/100mL	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	0.000046	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	0.00045	MB	=	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.000023	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	0.000078	MB	=	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E1613B	N	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000034	J,DXMBq	U	B	ug/L	Report ND at sample concentration
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E1613B	N	1,2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000036	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000042	J,DXMBq	U	B	ug/L	Report ND at sample concentration
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E1613B	N	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E1613B	N	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E1613B	N	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E200.7	T	Arsenic	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp_F	12/30/2021	570-80408-3	E200.7	D	Arsenic	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E200.7	T	Barium	43		=	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp_F	12/30/2021	570-80408-3	E200.7	D	Barium	9.9	J,DX	J	DNQ	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E200.7	T	Beryllium	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp_F	12/30/2021	570-80408-3	E200.7	D	Beryllium	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E200.7	T	Boron	53		=	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp_F	12/30/2021	570-80408-3	E200.7	D	Boron	46	J,DX	J	DNQ	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E200.7	T	Chromium	6.1		=	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp_F	12/30/2021	570-80408-3	E200.7	D	Chromium	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E200.7	T	Cobalt	2.9	J,DX	J	DNQ	ug/L	
OUTFALL 011	Outfall011_20211230_Comp_F	12/30/2021	570-80408-3	E200.7	D	Cobalt	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E200.7	T	Iron	5100		=	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp_F	12/30/2021	570-80408-3	E200.7	D	Iron	140		=	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E200.7	T	Manganese	100		=	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp_F	12/30/2021	570-80408-3	E200.7	D	Manganese	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E200.7	T	Nickel	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp_F	12/30/2021	570-80408-3	E200.7	D	Nickel	ND	U	U	--	ug/L	

Outfall	Sample ID	Sample Date	Lab ID	Method	Fraction	Analyte	Result	Laboratory Qualifier	Final Validated Qualifier	Validation Note	Unit	Notes
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E200.7	T	Vanadium	17		=	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp_F	12/30/2021	570-80408-3	E200.7	D	Vanadium	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E200.7	T	Zinc	28		=	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp_F	12/30/2021	570-80408-3	E200.7	D	Zinc	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E200.8	T	Antimony	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp_F	12/30/2021	570-80408-3	E200.8	D	Antimony	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E200.8	T	Cadmium	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp_F	12/30/2021	570-80408-3	E200.8	D	Cadmium	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E200.8	T	Copper	4.6		=	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp_F	12/30/2021	570-80408-3	E200.8	D	Copper	2.6		=	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E200.8	T	Lead	3.5		=	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp_F	12/30/2021	570-80408-3	E200.8	D	Lead	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E200.8	T	Selenium	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp_F	12/30/2021	570-80408-3	E200.8	D	Selenium	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E200.8	T	Silver	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp_F	12/30/2021	570-80408-3	E200.8	D	Silver	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp	12/30/2021	570-80408-1	E200.8	T	Thallium	ND	U	U	--	ug/L	
OUTFALL 011	Outfall011_20211230_Comp_F	12/30/2021	570-80408-3	E200.8	D	Thallium	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20211226_Grab	12/26/2021	456052-001	SM9223B	N	Escherichia coli	ND	H	UJ	H	mpn/100mL	
OUTFALL 018	Outfall018_20211228_Comp	12/28/2021	570-80231-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20211228_Comp	12/28/2021	570-80231-1	E1613B	N	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	0.000025	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 018	Outfall018_20211228_Comp	12/28/2021	570-80231-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20211228_Comp	12/28/2021	570-80231-1	E1613B	N	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	0.0000041	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 018	Outfall018_20211228_Comp	12/28/2021	570-80231-1	E1613B	N	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20211228_Comp	12/28/2021	570-80231-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20211228_Comp	12/28/2021	570-80231-1	E1613B	N	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000022	J,DXqMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 018	Outfall018_20211228_Comp	12/28/2021	570-80231-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20211228_Comp	12/28/2021	570-80231-1	E1613B	N	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0000014	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 018	Outfall018_20211228_Comp	12/28/2021	570-80231-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	0.0000019	J,DXMB	U	B	ug/L	Report ND at sample concentration
OUTFALL 018	Outfall018_20211228_Comp	12/28/2021	570-80231-1	E1613B	N	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20211228_Comp	12/28/2021	570-80231-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20211228_Comp	12/28/2021	570-80231-1	E1613B	N	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20211228_Comp	12/28/2021	570-80231-1	E1613B	N	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20211228_Comp	12/28/2021	570-80231-1	E1613B	N	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20211228_Comp	12/28/2021	570-80231-1	E1613B	N	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20211228_Comp	12/28/2021	570-80231-1	E1613B	N	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	U	--	ug/L	
OUTFALL 018	Outfall018_20211228_Comp	12/28/2021	570-80231-1	SM5210B	N	Biochemical Oxygen Demand (BOD)	66	BU	J	H	mg/L	

APPENDIX F

Fourth Quarter 2021 Reasonable Potential Analysis Tables

APPENDIX F

TABLE OF CONTENTS

Reasonable Potential Analysis Summary Notes

Table F1 – Reasonable Potential Analysis – Priority Pollutants
(Outfalls 001, 002, 011 and 018)

Table F2 – Reasonable Potential Analysis – Priority Pollutants
(Outfalls 003-007, 009, and 010)

Table F3 – Reasonable Potential Analysis – Non-priority Pollutants
(Outfalls 003-007, 009, and 010)

Table F4 – Reasonable Potential Analysis – Priority Pollutants
(Outfall 008)

Table F5 – Reasonable Potential Analysis – Non-priority Pollutants
(Outfall 008)

REASONABLE POTENTIAL ANALYSIS SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Notes:

1. The following Reasonable Potential Analysis (RPA) provides the analytical results as performed by the procedures outlined in *Reasonable Potential Analysis Methodology Technical Memo* (MWH and Flow Science, 2006).

2. The monitoring data set utilized to conduct the RPA consists of all applicable and relevant data from the present reporting quarter.

3. As directed by the CTR and the Regional Water Control Board 2,3,7,8-TCDD (Dioxin) values are to be expressed in NPDES permitting and this RPA as TCDD Total Equivalence units (TEQs). A TCDD TEQ is determined by multiplying each of the seventeen dioxin and furan congeners by their respective toxicity equivalency factor (TEF) and bioaccumulation equivalency factor (BEF) then summing the results of those products. For the purposes of this RPA, the resulting TCDD TEQ does not include those congener concentrations that are reported as DNQ, as specified on Page 26, of the NPDES Permit Effective April 1, 2015 (Water Board, 2015).

4. Data reported with qualifiers (e.g., J [DNQ] or R) are considered estimated or rejected and are not used in this RPA.

5. All of the following abbreviations and/or notes may not occur on every table.

6. Based on ORDER NO. R4-2015-0033, page E-2, Section I.C, only pollutants which do not have a final effluent limitation in the NPDES permit are included in this RPA analysis.

Definition of Acronyms, Abbreviations, and Terminology Used

>=	Greater than or equal to
*	Freshwater aquatic life criteria for metals are expressed as a function of total hardness (mg/L) in the water body. The equations are provided in the CTR, (US EPA, 2011). Values displayed correspond to a total hardness of 100 mg/l.
‡	Available data are below detection limits; detection limit is assigned for maximum effluent concentration (MEC) and is not applicable to compare against lowest water quality criteria concentration (C)
µg/L	Concentration units, micrograms per liter
All Data Qualified	All available monitoring data are qualified and no statistical analysis is performed.
Annual	The 2015 NPDES Permit requires annual monitoring.
ANR	Analysis not required; e.g., constituent or outfall was not required by the NPDES permit to be sampled and analyzed.
Available Data < DL	All available monitoring data that are not qualified are below detection limits.
B	Background
C	Concentration
CCC	Criterion Continuous Concentration
CMC	Criterion Maximum Concentration
CTR	California Toxics Rule
CV	Coefficient of Variation
DL	Detection Limit
EPA TSD	EPA's Technical Support Document for Water Quality Based Toxics Control, (see references).

REASONABLE POTENTIAL ANALYSIS SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Definition of Acronyms, Abbreviations, and Terminology Used (Continued)

Fibers/L	Units for asbestos concentration, fibers per liter
HH O	Human Health criteria for consumption of Organisms only
HH W&OMEC	Maximum Observed Effluent Concentration
mg/L	Concentration units, milligrams per liter
Min	Minimum
MPN/100ml	Most probable number per 100 milliliters
NA	Not Applicable
Narrative	Water quality criteria are expressed as a narrative objective rather than a numeric objective, and therefore are not part of the statistical RPA calculations.
None	No available CTR or Basin Plan criteria.
pH Dependent	CTR Criteria are based on pH.
Discharge	The 2015 NPDES Permit requires monitoring once per discharge event.
Qualified Data	Data qualifier definitions are: (a) J- The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL), (b) UJ- The analyte was not detected in the sample at the detection limit /estimated detection limit (EDL), (c) Nondetect U with blank qualifier(B, F, T) - Analyte found in sample and associated blank, and (d) DNQ- Detected Not Quantified (sample results less than the RL, but great than or equal to the laboratory's MDL)
Reserved	EPA has reserved the CTR criteria.
RPA	Reasonable Potential Analysis
SIP	The State Water Resources Control Board "Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California," (see references).
Tot	Total

Priority Pollutant RPA Column Explanation

OUTFALL	Outfall (or group of outfalls) with sampling data used in RPA.
CTR	Provides CTR constituent reference number.
Constituent	Provides CTR constituent common name.
Units	Provides the data set's concentration units as referenced by 2015 NPDES Permit.
MEC	Provides the outfall monitoring group's maximum value from the applicable data set.
CV	Equal to the standard deviation divided by the average of the applicable data set. If the number of samples is less than 10, the CV is assumed to be 0.6.
Step 1 identifies all applicable water quality criteria.	
CTR Criteria	Concentration criteria as listed in the CTR.
CMC = Acute	The Freshwater CMC is listed as the acute concentration criterion.
CCC = Chronic	The Freshwater CCC is listed as the chronic concentration criterion.
HH W&O (Not App)	The HH W&O is deemed not applicable based on past Regional Board RPAs.
HH O = HH	The HH O is listed as the CTR human health concentration criterion.

REASONABLE POTENTIAL ANALYSIS SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Priority Pollutant RPA Column Explanation (Continued)

Basin Plan Criteria	Applicable Basin Plan Criteria are listed for the Los Angeles River and/or Calleguas Creek watersheds.
C = Lowest Criteria	The comparison concentration (C) is equal to the lowest criterion for a constituent based on the CMC, CCC, HH O, and Basin Plan Criteria listed.
Step 2 defines the applicable data set.	
Is Effluent Data Available	If all data is qualified, then NO. If not, then YES.
Step 3 determines the maximum observed effluent concentration.	
Was Constituent Detected in Effluent Data	If the constituent was detected, then YES. If all monitoring data are non-detect or qualified then NO.
Are all Detection Limits >C	If constituent was detected in effluent data then not applicable (NA). If constituent was not detected and all analysis detection limits are greater than the comparison concentration, then YES, if not then NO.
If DL > C, MEC = Min (DL)	If the previous cell answer was yes, then the MEC is equal to the minimum detection limit. If not, then NA.
Step 4 compares the MEC to the lowest applicable water quality criteria.	
MEC >= C	If the MEC is greater than or equal to the comparison concentration then YES, if not then NO.

Note: Steps 5 and 6 of the Priority Pollutant RPA do not apply to the Santa Susana Site because the Regional Board gives no consideration for receiving water background constituent concentrations. Furthermore, Boeing defers the application of best professional judgment in Step 7 and final determination of reasonable potential in Step 8 to the Regional Board Staff.

Non-priority Pollutant RPA Column Explanation

Constituent	Provides the Non-Priority Pollutant constituent common name
Monitoring	Provides the 2015 NPDES Permit directed monitoring frequency
Units	Provides the data set's concentration units
Number of Samples	Provides the number of available samples that are not qualified
MEC	Provides the outfall monitoring group's maximum value from the applicable data set
CV	Equal to the standard deviation divided by the average of the applicable data set. If the number of samples is less than 10, the CV is assumed to be 0.6.
Multiplier	Utilizes the EPA's TSD calculation to determine multiplier for which the maximum effluent concentration is calculated. (MWH and Flow Science, 2006, or EPA TSD, 1991)
Projected Maximum Effluent Concentration	Utilizes the product of the multiplier and the MEC as an estimate for the projected maximum effluent concentration.
99/99	Statistical technique used in the Environmental Protection Agency's Technical Support Document RPA to compute the upper 99th confidence range of the 99th % value of the log normal distribution of monitoring data.
Dilution Ratio	The Regional Board allocates no dilution ratio to the Santa Susana Site (NA).
Background Concentration	The Regional Board allocates no background concentration to the Santa Susana Site (NA).
Projected Maximum Receiving Water Concentration	The Regional Board estimates the projected maximum receiving water concentration as equal to the projected maximum effluent concentration.

REASONABLE POTENTIAL ANALYSIS SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Non-priority Pollutant RPA Column Explanation (Continued)

Step 1, Determine Water Quality Objectives	The water quality objective is based on appropriate Basin Plan criteria as noted in the Reasonable Potential Analysis Methodology Technical Memo.
BU – Beneficial Use Protection, NC – Human Non-carcinogen, AP- Aquatic Life Protection, TMDL – Total Maximum Daily Load	This is the Regional Board's Basis for determining if reasonable potential should be evaluated for a non-priority pollutant.

Note: Boeing has completed appropriate statistical calculations but defers the application of best professional judgment and the final determination of reasonable potential to the Regional Board Staff.

REASONABLE POTENTIAL ANALYSIS SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

References:

1. Los Angeles Regional Water Quality Control Board, “Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, (Basin Plan).” June 13, 1994.

2. MWH and Flow Science, “Reasonable Potential Analysis Methodology Technical Memo- Version 1, Final, Santa Susan Field Laboratory, Ventura County, California.” April 28, 2006.

3. State Water Resources Control Board, “Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, (SIP)” Resolution No. 2005-0019, February 24, 2005.

4. US EPA, *40CFR part 131, Water Quality Standards; Establishment of numeric Criteria for Priority Toxic Pollutants for the State of California*, (CTR) Federal Registry, 2011, pp. 496 - 507.

5. US EPA, “Technical Support Document for Water Quality-based Toxics Control.” EPA/505/2-90-001, PB-91-127415, March 1991.

TABLE F-1
REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 001, 002, 011, AND 018)

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

						Step 1: Water Quality Criteria, Determine C						Step 2	Step 3			Step 4
						CTR CRITERIA				Basin Plan	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
						Freshwater		Human Health								
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
1, 2, 11, 18	15	Asbestos	Fibers/L	ANR	0.6	NONE	NONE	7,000,000	NONE	7,000,000	7,000,000	No	NA	NA	NA	NA
1, 2, 11, 18	17	Acrolein	µg/L	Available Data <DL	0.6	NONE	NONE	320	780	NONE	780	Yes	No	No	NA	No
1, 2, 11, 18	18	Acrylonitrile	µg/L	Available Data <DL	0.6	NONE	NONE	0.059	0.66	NONE	0.66	Yes	No	Yes	1.4	NA[‡]
1, 2, 11, 18	19	Benzene	µg/L	Available Data <DL	0.6	NONE	NONE	1.2	71	1	1	Yes	No	No	NA	No
1, 2, 11, 18	20	Bromoform	µg/L	Available Data <DL	0.6	NONE	NONE	4.3	360	NONE	360	Yes	No	No	NA	No
1, 2, 11, 18	21	Carbon Tetrachloride	µg/L	Available Data <DL	0.6	NONE	NONE	0.25	4.4	0.5	0.5	Yes	No	No	NA	No
1, 2, 11, 18	22	Chlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	680	21,000	70	70	Yes	No	No	NA	No
1, 2, 11, 18	23	Dibromochloromethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.401	34	NONE	34	Yes	No	No	NA	No
1, 2, 11, 18	24	Chloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	25	2-Chloroethyl vinyl ether	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	26	Chloroform (Trichloromethane)	µg/L	Available Data <DL	0.6	NONE	NONE	Reserved	Reserved	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	27	Dichlorobromomethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.56	46	NONE	46	Yes	No	No	NA	No
1, 2, 11, 18	28	1,1-Dichloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	5	5	Yes	No	No	NA	No
1, 2, 11, 18	31	1,2-Dichloropropane	µg/L	Available Data <DL	0.6	NONE	NONE	0.52	39	5	5	Yes	No	No	NA	No
1, 2, 11, 18	32	cis-1,3-Dichloropropene	µg/L	Available Data <DL	0.6	NONE	NONE	10	1,700	0.5	0.5	Yes	No	No	NA	No
1, 2, 11, 18	32a	trans-1,3-Dichloropropene	µg/L	Available Data <DL	0.6	NONE	NONE	10	1,700	0.5	0.5	Yes	No	No	NA	No
1, 2, 11, 18	33	Ethylbenzene	µg/L	Available Data <DL	0.6	NONE	NONE	3,100	29,000	700	700	Yes	No	No	NA	No
1, 2, 11, 18	34	Bromomethane	µg/L	Available Data <DL	0.6	NONE	NONE	48	4,000	NONE	4,000	Yes	No	No	NA	No
1, 2, 11, 18	35	Chloromethane (Methyl Chloride)	µg/L	Available Data <DL	0.6	NONE	NONE	Narrative	Narrative	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	36	Methylene chloride	µg/L	Available Data <DL	0.6	NONE	NONE	4.7	1,600	NONE	1,600	Yes	No	No	NA	No
1, 2, 11, 18	37	1,1,2,2-Tetrachloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.17	11	1	1	Yes	No	No	NA	No
1, 2, 11, 18	38	Tetrachloroethene	µg/L	Available Data <DL	0.6	NONE	NONE	0.8	8.85	5	5	Yes	No	No	NA	No
1, 2, 11, 18	39	Toluene	µg/L	Available Data <DL	0.6	NONE	NONE	6,800	200,000	150	150	Yes	No	No	NA	No
1, 2, 11, 18	40	trans-1,2-Dichloroethene	µg/L	Available Data <DL	0.6	NONE	NONE	700	140,000	10	10	Yes	No	No	NA	No
1, 2, 11, 18	41	1,1,1-Trichloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	Narrative	Narrative	200	200	Yes	No	No	NA	No
1, 2, 11, 18	42	1,1,2-Trichloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.60	42	5	5	Yes	No	No	NA	No
1, 2, 11, 18	44	Vinyl chloride	µg/L	Available Data <DL	0.6	NONE	NONE	2	525	0.5	0.5	Yes	No	No	NA	No
1, 2, 11, 18	45	2-Chlorophenol	µg/L	Available Data <DL	0.6	NONE	NONE	120	400	NONE	400	Yes	No	No	NA	No
1, 2, 11, 18	46	2,4-Dichlorophenol	µg/L	Available Data <DL	0.6	NONE	NONE	93	790	NONE	790	Yes	No	No	NA	No
1, 2, 11, 18	47	2,4-Dimethylphenol	µg/L	Available Data <DL	0.6	NONE	NONE	540	2,300	NONE	2,300	Yes	No	No	NA	No
1, 2, 11, 18	48	2-Methyl-4,6-dinitrophenol	µg/L	Available Data <DL	0.6	NONE	NONE	13.4	765	NONE	765	Yes	No	No	NA	No
1, 2, 11, 18	49	2,4-Dinitrophenol	µg/L	Available Data <DL	0.6	NONE	NONE	70	14,000	NONE	14,000	Yes	No	No	NA	No
1, 2, 11, 18	50	2-Nitrophenol	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	51	4-Nitrophenol	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	52	4-Chloro-3-methylphenol	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	54	Phenol	µg/L	Available Data <DL	0.6	NONE	NONE	21,000	4,600,000	NONE	4,600,000	Yes	No	No	NA	No
1, 2, 11, 18	56	Acenaphthene	µg/L	Available Data <DL	0.6	NONE	NONE	1,200	2,700	NONE	2,700	Yes	No	No	NA	No
1, 2, 11, 18	57	Acenaphthylene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	58	Anthracene	µg/L	Available Data <DL	0.6	NONE	NONE	9,600	110,000	NONE	110,000	Yes	No	No	NA	No
1, 2, 11, 18	59	Benzidine	µg/L	Available Data <DL	0.6	NONE	NONE	0.00012	0.00054	NONE	0.00054	Yes	No	Yes	2.7	NA[‡]
1, 2, 11, 18	60	Benzo(a)Anthracene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.084	NA[‡]
1, 2, 11, 18	61	Benzo(a)Pyrene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	0.2	0.049	Yes	No	Yes	0.087	NA[‡]
1, 2, 11, 18	62	Benzo(b)Fluoranthene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.12	NA[‡]
1, 2, 11, 18	63	Benzo(g,h,i)Perylene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	64	Benzo(k)Fluoranthene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.093	NA[‡]
1, 2, 11, 18	65	Bis (2-Chloroethoxy) methane	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	66	Bis (2-Chloroethyl) ether	µg/L	Available Data <DL	0.6	NONE	NONE	0.0310	1.4	NONE	1.4	Yes	No	No	NA	No
1, 2, 11, 18	67	Bis (2-Chloroisopropyl) Ether	µg/L	Available Data <DL	0.6	NONE	NONE	1,400	170,000	NONE	170,000	Yes	No	No	NA	No
1, 2, 11, 18	69	4-Bromophenyl phenyl ether	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

TABLE F-1
REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 001, 002, 011, AND 018)

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

						Step 1: Water Quality Criteria, Determine C						Step 2	Step 3			Step 4
						CTR CRITERIA				Basin Plan	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
						Freshwater		Human Health								
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
1, 2, 11, 18	70	Butyl benzylphthalate	µg/L	Available Data <DL	0.6	NONE	NONE	3,000	5,200	NONE	5,200	Yes	No	No	NA	No
1, 2, 11, 18	71	2-Chloronaphthalene	µg/L	Available Data <DL	0.6	NONE	NONE	1,700	4,300	NONE	4,300	Yes	No	No	NA	No
1, 2, 11, 18	72	4-Chlorophenyl phenyl ether	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	73	Chrysene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.07	NA‡
1, 2, 11, 18	74	Dibenz(a,h)anthracene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.17	NA‡
1, 2, 11, 18	75	1,2-Dichlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	2,700	17,000	600	600	Yes	No	No	NA	No
1, 2, 11, 18	76	1,3-Dichlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	400	2,600	NONE	2,600	Yes	No	No	NA	No
1, 2, 11, 18	77	1,4-Dichlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	400	2,600	5	5	Yes	No	No	NA	No
1, 2, 11, 18	78	3,3'-Dichlorobenzidine	µg/L	Available Data <DL	0.6	NONE	NONE	0.04	0.077	NONE	0.077	Yes	No	Yes	1.9	NA‡
1, 2, 11, 18	79	Diethyl phthalate	µg/L	Available Data <DL	0.6	NONE	NONE	23,000	120,000	NONE	120,000	Yes	No	No	NA	No
1, 2, 11, 18	80	Dimethyl phthalate	µg/L	Available Data <DL	0.6	NONE	NONE	313,000	2,900,000	NONE	2,900,000	Yes	No	No	NA	No
1, 2, 11, 18	81	Di-n-butyl phthalate	µg/L	Available Data <DL	0.6	NONE	NONE	2,700	12,000	NONE	12,000	Yes	No	No	NA	No
1, 2, 11, 18	83	2,6-Dinitrotoluene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	84	Di-n-octyl phthalate	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	85	1,2-Diphenylhydrazine/Azobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	0.040	0.54	NONE	0.54	Yes	No	No	NA	No
1, 2, 11, 18	86	Fluoranthene	µg/L	Available Data <DL	0.6	NONE	NONE	300	370	NONE	370	Yes	No	No	NA	No
1, 2, 11, 18	87	Fluorene	µg/L	Available Data <DL	0.6	NONE	NONE	1,300	14,000	NONE	14,000	Yes	No	No	NA	No
1, 2, 11, 18	88	Hexachlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	0.00075	0.00077	1	0.00077	Yes	No	Yes	0.11	NA‡
1, 2, 11, 18	89	Hexachlorobutadiene	µg/L	Available Data <DL	0.6	NONE	NONE	0.44	50	NONE	50	Yes	No	No	NA	No
1, 2, 11, 18	90	Hexachlorocyclopentadiene	µg/L	Available Data <DL	0.6	NONE	NONE	240	17,000	50	50	Yes	No	No	NA	No
1, 2, 11, 18	91	Hexachloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	1.9	8.9	NONE	8.9	Yes	No	No	NA	No
1, 2, 11, 18	92	Indeno(1,2,3-cd)Pyrene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.15	NA‡
1, 2, 11, 18	93	Isophorone	µg/L	Available Data <DL	0.6	NONE	NONE	8.4	600	NONE	600	Yes	No	No	NA	No
1, 2, 11, 18	94	Naphthalene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	95	Nitrobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	17	1,900	NONE	1,900	Yes	No	No	NA	No
1, 2, 11, 18	97	n-Nitroso-di-n-propylamine	µg/L	Available Data <DL	0.6	NONE	NONE	0.005	1.4	NONE	1.4	Yes	No	No	NA	No
1, 2, 11, 18	98	N-Nitrosodiphenylamine	µg/L	Available Data <DL	0.6	NONE	NONE	5.0	16	NONE	16	Yes	No	No	NA	No
1, 2, 11, 18	99	Phenanthrene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	100	Pyrene	µg/L	Available Data <DL	0.6	NONE	NONE	960	11,000	NONE	11,000	Yes	No	No	NA	No
1, 2, 11, 18	101	1,2,4-Trichlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	70	70	Yes	No	No	NA	No
1, 2, 11, 18	102	Aldrin	µg/L	Available Data <DL	0.6	3	NONE	0.00013	0.00014	NONE	0.00014	Yes	No	Yes	0.0007	NA‡
1, 2, 11, 18	104	beta-BHC	µg/L	Available Data <DL	0.6	NONE	NONE	0.014	0.046	NONE	0.046	Yes	No	No	NA	No
1, 2, 11, 18	105	gamma-BHC (Lindane)	µg/L	Available Data <DL	0.6	0.95	NONE	0.019	0.063	0.2	0.063	Yes	No	No	NA	No
1, 2, 11, 18	106	delta-BHC	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
1, 2, 11, 18	107	Chlordane	µg/L	Available Data <DL	0.6	2.4	0.0043	0.00057	0.00059	0.1	0.00059	Yes	No	Yes	0.0065	NA‡
1, 2, 11, 18	108	4,4'-DDT	µg/L	Available Data <DL	0.6	1.1	0.001	0.00059	0.00059	NONE	0.00059	Yes	No	Yes	0.0016	NA‡
1, 2, 11, 18	109	4,4'-DDE	µg/L	Available Data <DL	0.6	NONE	NONE	0.00059	0.00059	NONE	0.00059	Yes	No	No	NA	No
1, 2, 11, 18	110	4,4'-DDD	µg/L	Available Data <DL	0.6	NONE	NONE	0.00083	0.00084	NONE	0.00084	Yes	No	No	NA	No
1, 2, 11, 18	111	Dieldrin	µg/L	Available Data <DL	0.6	0.24	0.056	0.00014	0.00014	NONE	0.00014	Yes	No	Yes	0.0005	NA‡
1, 2, 11, 18	112	alpha-Endosulfan	µg/L	Available Data <DL	0.6	0.22	0.056	110	240	NONE	0.056	Yes	No	No	NA	No
1, 2, 11, 18	113	beta-Endosulfan	µg/L	Available Data <DL	0.6	0.22	0.056	110	240	NONE	0.056	Yes	No	No	NA	No
1, 2, 11, 18	114	Endosulfan Sulfate	µg/L	Available Data <DL	0.6	NONE	NONE	110	240	NONE	240	Yes	No	No	NA	No
1, 2, 11, 18	115	Endrin	µg/L	Available Data <DL	0.6	0.086	0.036	0.76	0.81	2	0.036	Yes	No	No	NA	No
1, 2, 11, 18	116	Endrin Aldehyde	µg/L	Available Data <DL	0.6	NONE	NONE	0.76	0.81	NONE	0.81	Yes	No	No	NA	No
1, 2, 11, 18	117	Heptachlor	µg/L	Available Data <DL	0.6	0.52	0.0038	0.00021	0.00021	0.01	0.00021	Yes	No	Yes	0.0007	NA‡
1, 2, 11, 18	118	Heptachlor Epoxide	µg/L	Available Data <DL	0.6	0.52	0.0038	0.00010	0.00011	0.01	0.00011	Yes	No	Yes	0.0004	NA‡
1, 2, 11, 18	119	Aroclor 1016	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.044	NA‡
1, 2, 11, 18	120	Aroclor 1221	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.044	NA‡
1, 2, 11, 18	121	Aroclor 1232	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.044	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)

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

						Step 1: Water Quality Criteria, Determine C						Step 2	Step 3			Step 4
						CTR CRITERIA										
						Freshwater		Human Health		Basin Plan	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
1, 2, 11, 18	122	Aroclor 1242	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.044	NA[‡]
1, 2, 11, 18	123	Aroclor 1248	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.044	NA[‡]
1, 2, 11, 18	124	Aroclor 1254	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.052	NA[‡]
1, 2, 11, 18	125	Aroclor 1260	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.052	NA[‡]
1, 2, 11, 18	126	Toxaphene	µg/L	Available Data <DL	0.6	0.73	0.0002	0.00073	0.00075	3	0.0002	Yes	No	Yes	0.013	NA[‡]
1, 2, 11, 18	127	E. Coli	MPN/100ml	210	0.6	NA	NA	NA	NA	235	235	Yes	Yes	NA	NA	No

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

TABLE F-2
REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 003-007, 009, AND 010)

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

						Step 1: Water Quality Criteria, Determine C						Step 2	Step 3			Step 4
						CTR CRITERIA										
						Freshwater		Human Health		Basin Plan	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
3-7, 9, 10	2	Arsenic	µg/L	Available Data <DL	0.6	340	150	NONE	NONE	50	50	Yes	No	No	NA	No
3-7, 9, 10	3	Beryllium	µg/L	Available Data <DL	0.6	NONE	NONE	Narrative	Narrative	4	4	Yes	No	No	NA	No
3-7, 9, 10	5a	Chromium III	µg/L	Available Data <DL	0.6	550	180	Narrative	Narrative	50	50	Yes	No	No	NA	No
3-7, 9, 10	5b	Chromium VI (Hexavalent)	µg/L	All Data Qualified	0.6	16	11	Narrative	Narrative	NONE	11	No	No	No	NA	No
3-7, 9, 10	10	Selenium	µg/L	Available Data <DL	0.6	Reserved	5	Narrative	Narrative	50	5	Yes	No	No	NA	No
3-7, 9, 10	11	Silver	µg/L	Available Data <DL	0.6	3.4	NONE	NONE	NONE	NONE	3.4	Yes	No	No	NA	No
3-7, 9, 10	15	Asbestos	Fibers/L	Available Data <DL	0.6	NONE	NONE	7,000,000	NONE	7,000,000	7,000,000	Yes	No	No	NA	No
3-7, 9, 10	17	Acrolein	µg/L	Available Data <DL	0.6	NONE	NONE	320	780	NONE	780	Yes	No	No	NA	No
3-7, 9, 10	18	Acrylonitrile	µg/L	Available Data <DL	0.6	NONE	NONE	0.059	0.66	NONE	0.66	Yes	No	Yes	1.0	NA[‡]
3-7, 9, 10	19	Benzene	µg/L	Available Data <DL	0.6	NONE	NONE	1.2	71	1	1	Yes	No	No	NA	No
3-7, 9, 10	20	Bromoform	µg/L	Available Data <DL	0.6	NONE	NONE	4.3	360	NONE	360	Yes	No	No	NA	No
3-7, 9, 10	21	Carbon Tetrachloride	µg/L	Available Data <DL	0.6	NONE	NONE	0.25	4.4	0.5	0.5	Yes	No	No	NA	No
3-7, 9, 10	22	Chlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	680	21,000	70	70	Yes	No	No	NA	No
3-7, 9, 10	23	Dibromochloromethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.401	34	NONE	34	Yes	No	No	NA	No
3-7, 9, 10	24	Chloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
3-7, 9, 10	25	2-Chloroethyl vinyl ether	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
3-7, 9, 10	26	Chloroform	µg/L	Available Data <DL	0.6	NONE	NONE	Reserved	Reserved	NONE	NONE	Yes	No	NA	NA	NA
3-7, 9, 10	27	Dichlorobromomethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.56	46	NONE	46	Yes	No	No	NA	No
3-7, 9, 10	28	1,1-Dichloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	5	5	Yes	No	No	NA	No
3-7, 9, 10	29	1,2-Dichloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.38	99	0.5	0.5	Yes	No	No	NA	No
3-7, 9, 10	30	1,1-Dichloroethene	µg/L	Available Data <DL	0.6	NONE	NONE	0.057	3.2	6	3.2	Yes	No	No	NA	No
3-7, 9, 10	31	1,2-Dichloropropane	µg/L	Available Data <DL	0.6	NONE	NONE	0.52	39	5	5	Yes	No	No	NA	No
3-7, 9, 10	32	cis-1,3-Dichloropropene	µg/L	Available Data <DL	0.6	NONE	NONE	10	1,700	0.5	0.5	Yes	No	No	NA	No
3-7, 9, 10	32a	trans-1,3-Dichloropropene	µg/L	Available Data <DL	0.6	NONE	NONE	10	1,700	0.5	0.5	Yes	No	No	NA	No
3-7, 9, 10	33	Ethylbenzene	µg/L	Available Data <DL	0.6	NONE	NONE	3,100	29,000	700	700	Yes	No	No	NA	No
3-7, 9, 10	34	Bromomethane	µg/L	Available Data <DL	0.6	NONE	NONE	48	4,000	NONE	4,000	Yes	No	No	NA	No
3-7, 9, 10	35	Chloromethane (Methyl Chloride)	µg/L	Available Data <DL	0.6	NONE	NONE	Narrative	Narrative	NONE	NONE	Yes	No	NA	NA	NA
3-7, 9, 10	36	Methylene chloride	µg/L	Available Data <DL	0.6	NONE	NONE	4.7	1,600	NONE	1,600	Yes	No	No	NA	No
3-7, 9, 10	37	1,1,2,2-Tetrachloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.17	11	1	1	Yes	No	No	NA	No
3-7, 9, 10	38	Tetrachloroethene	µg/L	Available Data <DL	0.6	NONE	NONE	0.8	8.85	5	5	Yes	No	No	NA	No
3-7, 9, 10	39	Toluene	µg/L	Available Data <DL	0.6	NONE	NONE	6,800	200,000	150	150	Yes	No	No	NA	No
3-7, 9, 10	40	trans-1,2-Dichloroethene	µg/L	Available Data <DL	0.6	NONE	NONE	700	140,000	10	10	Yes	No	No	NA	No
3-7, 9, 10	41	1,1,1-Trichloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	Narrative	Narrative	200	200	Yes	No	No	NA	No
3-7, 9, 10	42	1,1,2-Trichloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.6	42	5	5	Yes	No	No	NA	No
3-7, 9, 10	43	Trichloroethene	µg/L	Available Data <DL	0.6	NONE	NONE	2.7	81	5	5	Yes	No	No	NA	No
3-7, 9, 10	44	Vinyl chloride	µg/L	Available Data <DL	0.6	NONE	NONE	2	525	0.5	0.5	Yes	No	No	NA	No
3-7, 9, 10	45	2-Chlorophenol	µg/L	Available Data <DL	0.6	NONE	NONE	120	400	NONE	400	Yes	No	No	NA	No
3-7, 9, 10	46	2,4-Dichlorophenol	µg/L	Available Data <DL	0.6	NONE	NONE	93	790	NONE	790	Yes	No	No	NA	No
3-7, 9, 10	47	2,4-Dimethylphenol	µg/L	Available Data <DL	0.6	NONE	NONE	540	2,300	NONE	2,300	Yes	No	No	NA	No
3-7, 9, 10	48	2-Methyl-4,6-dinitrophenol	µg/L	Available Data <DL	0.6	NONE	NONE	13.4	765	NONE	765	Yes	No	No	NA	No
3-7, 9, 10	49	2,4-Dinitrophenol	µg/L	Available Data <DL	0.6	NONE	NONE	70	14,000	NONE	14,000	Yes	No	No	NA	No
3-7, 9, 10	50	2-Nitrophenol	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
3-7, 9, 10	51	4-Nitrophenol	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
3-7, 9, 10	52	4-Chloro-3-methylphenol	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
3-7, 9, 10	53	Pentachlorophenol	µg/L	Available Data <DL	0.6	pH dependent	pH dependent	0.28	8.2	1	1	Yes	No	No	NA	No
3-7, 9, 10	54	Phenol	µg/L	Available Data <DL	0.6	NONE	NONE	21,000	4,600,000	NONE	4,600,000	Yes	No	No	NA	No

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)

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

						Step 1: Water Quality Criteria, Determine C						Step 2	Step 3			Step 4
						CTR CRITERIA				Basin Plan	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
						Freshwater		Human Health								
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
3-7, 9, 10	55	2,4,6-Trichlorophenol	µg/L	Available Data <DL	0.6	NONE	NONE	2.1	6.5	NONE	6.5	Yes	No	No	NA	No
3-7, 9, 10	56	Acenaphthene	µg/L	Available Data <DL	0.6	NONE	NONE	1,200	2,700	NONE	2,700	Yes	No	No	NA	No
3-7, 9, 10	57	Acenaphthylene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
3-7, 9, 10	58	Anthracene	µg/L	Available Data <DL	0.6	NONE	NONE	9,600	110,000	NONE	110,000	Yes	No	No	NA	No
3-7, 9, 10	59	Benzidine	µg/L	Available Data <DL	0.6	NONE	NONE	0.00012	0.00054	NONE	0.00054	Yes	No	Yes	2.4	NA[‡]
3-7, 9, 10	60	Benzo(a)Anthracene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.074	NA[‡]
3-7, 9, 10	61	Benzo(a)Pyrene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	0.2	0.049	Yes	No	Yes	0.076	NA[‡]
3-7, 9, 10	62	Benzo(b)Fluoranthene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.11	NA[‡]
3-7, 9, 10	63	Benzo(g,h,i)Perylene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
3-7, 9, 10	64	Benzo(k)Fluoranthene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.081	NA[‡]
3-7, 9, 10	65	Bis (2-Chloroethoxy) methane	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
3-7, 9, 10	66	Bis (2-Chloroethyl) ether	µg/L	Available Data <DL	0.6	NONE	NONE	0.031	1.4	NONE	1.4	Yes	No	No	NA	No
3-7, 9, 10	67	Bis (2-Chloroisopropyl) Ether	µg/L	Available Data <DL	0.6	NONE	NONE	1,400	170,000	NONE	170,000	Yes	No	No	NA	No
3-7, 9, 10	68	Bis (2-ethylhexyl) Phthalate	µg/L	Available Data <DL	0.6	NONE	NONE	1.8	5.9	4	4	Yes	No	No	NA	No
3-7, 9, 10	69	4-Bromophenyl phenyl ether	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
3-7, 9, 10	70	Butyl benzylphthalate	µg/L	Available Data <DL	0.6	NONE	NONE	3,000	5,200	NONE	5,200	Yes	No	No	NA	No
3-7, 9, 10	71	2-Chloronaphthalene	µg/L	Available Data <DL	0.6	NONE	NONE	1,700	4,300	NONE	4,300	Yes	No	No	NA	No
3-7, 9, 10	72	4-Chlorophenyl phenyl ether	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
3-7, 9, 10	73	Chrysene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.061	NA[‡]
3-7, 9, 10	74	Dibenz(a,h)anthracene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.15	NA[‡]
3-7, 9, 10	75	1,2-Dichlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	2,700	17,000	600	600	Yes	No	No	NA	No
3-7, 9, 10	76	1,3-Dichlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	400	2,600	NONE	2,600	Yes	No	No	NA	No
3-7, 9, 10	77	1,4-Dichlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	400	2,600	5	5	Yes	No	No	NA	No
3-7, 9, 10	78	3,3'-Dichlorobenzidine	µg/L	Available Data <DL	0.6	NONE	NONE	0.04	0.077	NONE	0.077	Yes	No	Yes	1.7	NA[‡]
3-7, 9, 10	79	Diethyl phthalate	µg/L	Available Data <DL	0.6	NONE	NONE	23,000	120,000	NONE	120,000	Yes	No	No	NA	No
3-7, 9, 10	80	Dimethyl phthalate	µg/L	Available Data <DL	0.6	NONE	NONE	313,000	2,900,000	NONE	2,900,000	Yes	No	No	NA	No
3-7, 9, 10	81	Di-n-butyl phthalate	µg/L	Available Data <DL	0.6	NONE	NONE	2,700	12,000	NONE	12,000	Yes	No	No	NA	No
3-7, 9, 10	82	2,4-Dinitrotoluene	µg/L	Available Data <DL	0.6	NONE	NONE	0.11	9.1	NONE	9.1	Yes	No	No	NA	No
3-7, 9, 10	83	2,6-Dinitrotoluene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
3-7, 9, 10	84	Di-n-octyl phthalate	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
3-7, 9, 10	85	1,2-Diphenylhydrazine/Azobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	0.04	0.54	NONE	0.54	Yes	No	No	NA	No
3-7, 9, 10	86	Fluoranthene	µg/L	Available Data <DL	0.6	NONE	NONE	300	370	NONE	370	Yes	No	No	NA	No
3-7, 9, 10	87	Fluorene	µg/L	Available Data <DL	0.6	NONE	NONE	1,300	14,000	NONE	14,000	Yes	No	No	NA	No
3-7, 9, 10	88	Hexachlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	0.00075	0.00077	1	0.00077	Yes	No	Yes	0.099	NA[‡]
3-7, 9, 10	89	Hexachlorobutadiene	µg/L	Available Data <DL	0.6	NONE	NONE	0.44	50	NONE	50	Yes	No	No	NA	No
3-7, 9, 10	90	Hexachlorocyclopentadiene	µg/L	Available Data <DL	0.6	NONE	NONE	240	17,000	50	50	Yes	No	No	NA	No
3-7, 9, 10	91	Hexachloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	1.9	8.9	NONE	8.9	Yes	No	No	NA	No
3-7, 9, 10	92	Indeno(1,2,3-cd)Pyrene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.13	NA[‡]
3-7, 9, 10	93	Isophorone	µg/L	Available Data <DL	0.6	NONE	NONE	8.4	600	NONE	600	Yes	No	No	NA	No
3-7, 9, 10	94	Naphthalene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
3-7, 9, 10	95	Nitrobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	17	1,900	NONE	1,900	Yes	No	No	NA	No
3-7, 9, 10	96	N-Nitrosodimethylamine	µg/L	Available Data <DL	0.6	NONE	NONE	0.00069	8.1	NONE	8.1	Yes	No	No	NA	No
3-7, 9, 10	97	n-Nitroso-di-n-propylamine	µg/L	Available Data <DL	0.6	NONE	NONE	0.005	1.4	NONE	1.4	Yes	No	No	NA	No
3-7, 9, 10	98	N-Nitrosodiphenylamine	µg/L	Available Data <DL	0.6	NONE	NONE	5	16	NONE	16	Yes	No	No	NA	No
3-7, 9, 10	99	Phenanthrene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
3-7, 9, 10	100	Pyrene	µg/L	Available Data <DL	0.6	NONE	NONE	960	11,000	NONE	11,000	Yes	No	No	NA	No
3-7, 9, 10	101	1,2,4-Trichlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	70	70	Yes	No	No	NA	No
3-7, 9, 10	102	Aldrin	µg/L	Available Data <DL	0.6	3	NONE	0.00013	0.00014	NONE	0.00014	Yes	No	Yes	0.0007	NA[‡]
3-7, 9, 10	103	alpha-BHC	µg/L	Available Data <DL	0.6	NONE	NONE	0.0039	0.013	NONE	0.013	Yes	No	No	NA	No

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

TABLE F-2
REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 003-007, 009, AND 010)

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

						Step 1: Water Quality Criteria, Determine C						Step 2	Step 3			Step 4
						CTR CRITERIA				Basin Plan	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
						Freshwater		Human Health								
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
3-7, 9, 10	104	beta-BHC	µg/L	Available Data <DL	0.6	NONE	NONE	0.014	0.046	NONE	0.046	Yes	No	No	NA	No
3-7, 9, 10	105	gamma-BHC (Lindane)	µg/L	Available Data <DL	0.6	0.95	NONE	0.019	0.063	0.2	0.063	Yes	No	No	NA	No
3-7, 9, 10	106	delta-BHC	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
3-7, 9, 10	107	Chlordane	µg/L	Available Data <DL	0.6	2.4	0.0043	0.00057	0.00059	0.1	0.00059	Yes	No	Yes	0.0065	NA‡
3-7, 9, 10	108	4,4'-DDT	µg/L	Available Data <DL	0.6	1.1	0.001	0.00059	0.00059	NONE	0.00059	Yes	No	Yes	0.0016	NA‡
3-7, 9, 10	109	4,4'-DDE	µg/L	Available Data <DL	0.6	NONE	NONE	0.00059	0.00059	NONE	0.00059	Yes	No	No	NA	No
3-7, 9, 10	110	4,4'-DDD	µg/L	Available Data <DL	0.6	NONE	NONE	0.00083	0.00084	NONE	0.00084	Yes	No	No	NA	No
3-7, 9, 10	111	Dieldrin	µg/L	Available Data <DL	0.6	0.24	0.056	0.00014	0.00014	NONE	0.00014	Yes	No	Yes	0.0005	NA‡
3-7, 9, 10	112	alpha-Endosulfan	µg/L	Available Data <DL	0.6	0.22	0.056	110	240	NONE	0.056	Yes	No	No	NA	No
3-7, 9, 10	113	beta-Endosulfan	µg/L	Available Data <DL	0.6	0.22	0.056	110	240	NONE	0.056	Yes	No	No	NA	No
3-7, 9, 10	114	Endosulfan Sulfate	µg/L	Available Data <DL	0.6	NONE	NONE	110	240	NONE	240	Yes	No	No	NA	No
3-7, 9, 10	115	Endrin	µg/L	Available Data <DL	0.6	0.086	0.036	0.76	0.81	2	0.036	Yes	No	No	NA	No
3-7, 9, 10	116	Endrin Aldehyde	µg/L	Available Data <DL	0.6	NONE	NONE	0.76	0.81	NONE	0.81	Yes	No	No	NA	No
3-7, 9, 10	117	Heptachlor	µg/L	Available Data <DL	0.6	0.52	0.0038	0.00021	0.00021	0.01	0.00021	Yes	No	Yes	0.0007	NA‡
3-7, 9, 10	118	Heptachlor Epoxide	µg/L	Available Data <DL	0.6	0.52	0.0038	0.0001	0.00011	0.01	0.00011	Yes	No	Yes	0.0004	NA‡
3-7, 9, 10	119	Aroclor 1016	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.044	NA‡
3-7, 9, 10	120	Aroclor 1221	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.044	NA‡
3-7, 9, 10	121	Aroclor 1232	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.044	NA‡
3-7, 9, 10	122	Aroclor 1242	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.044	NA‡
3-7, 9, 10	123	Aroclor 1248	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.044	NA‡
3-7, 9, 10	124	Aroclor 1254	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.052	NA‡
3-7, 9, 10	125	Aroclor 1260	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.052	NA‡
3-7, 9, 10	126	Toxaphene	µg/L	Available Data <DL	0.6	0.73	0.0002	0.00073	0.00075	3	0.0002	Yes	No	Yes	0.013	NA‡
3-7, 9, 10	127	E. Coli	MPN/100ml	280	0.6	NA	NA	NA	NA	235	235	Yes	Yes	NA	NA	Yes

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

TABLE F-3
REASONABLE POTENTIAL ANALYSIS - NONPRIORITY POLLUTANTS (OUTFALLS 003-007,009, AND 010)

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Outfall	Constituent	Monitoring	Units	Number of Samples	MEC	CV	Multiplier	Projected Maximum Effluent Concentration (99/99)	Dilution Ratio	Background Concentration	Projected Maximum Receiving Water Concentration	Step 1, Determine Water Quality Objectives	BU - Beneficial use protection NC - Human noncarcinogen AP - Aquatic life protection TMDL - Total Maximum Daily Load
3-7, 9, 10	Total Suspended Solids	Discharge	mg/L	1	31.0	0.6	13.20	409.10	NA	NA	409.10	45	BU

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

TABLE F-4
REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALL 008)

FOURTH QUARTER 2021
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	Title 22 GWR						
8	002	Arsenic	µg/L	Available Data <DL	0.6	340	150	NONE	NONE	50	50	Yes	No	No	NA	No
8	003	Beryllium	µg/L	Available Data <DL	0.6	NONE	NONE	Narrative	Narrative	4	4	Yes	No	No	NA	No
8	005a	Chromium III	µg/L	Available Data <DL	0.6	550	180	Narrative	Narrative	50	50	Yes	No	No	NA	No
8	005b	Chromium VI	µg/L	Available Data <DL	0.6	16	11	Narrative	Narrative	NONE	11	Yes	No	No	NA	No
8	011	Silver	µg/L	Available Data <DL	0.6	3.4	NONE	NONE	NONE	NONE	3.4	Yes	No	No	NA	No
8	015	Asbestos	Fibers/L	Available Data <DL	0.6	NONE	NONE	7,000,000	NONE	7,000,000	7,000,000	Yes	No	No	NA	No
8	017	Acrolein	µg/L	Available Data <DL	0.6	NONE	NONE	320	780	NONE	780	Yes	No	No	NA	No
8	018	Acrylonitrile	µg/L	Available Data <DL	0.6	NONE	NONE	0.059	0.66	NONE	0.66	Yes	No	Yes	1.4	NA[‡]
8	019	Benzene	µg/L	Available Data <DL	0.6	NONE	NONE	1.2	71	1	1	Yes	No	No	NA	No
8	020	Bromoform	µg/L	Available Data <DL	0.6	NONE	NONE	4.3	360	NONE	360	Yes	No	No	NA	No
8	021	Carbon Tetrachloride	µg/L	Available Data <DL	0.6	NONE	NONE	0.25	4.4	0.5	0.5	Yes	No	No	NA	No
8	022	Chlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	680	21,000	70	70	Yes	No	No	NA	No
8	023	Dibromochloromethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.401	34	NONE	34	Yes	No	No	NA	No
8	024	Chloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
8	025	2-Chloroethyl vinyl ether	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
8	026	Chloroform	µg/L	Available Data <DL	0.6	NONE	NONE	Reserved	Reserved	NONE	NONE	Yes	No	NA	NA	NA
8	027	Dichlorobromomethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.56	46	NONE	46	Yes	No	No	NA	No
8	028	1,1-Dichloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	5	5	Yes	No	No	NA	No
8	029	1,2-Dichloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.38	99	0.5	0.5	Yes	No	No	NA	No
8	030	1,1-Dichloroethene	µg/L	Available Data <DL	0.6	NONE	NONE	0.057	3.2	6	3.2	Yes	No	No	NA	No
8	031	1,2-Dichloropropane	µg/L	Available Data <DL	0.6	NONE	NONE	0.52	39	5	5	Yes	No	No	NA	No
8	032	cis-1,3-Dichloropropene	µg/L	Available Data <DL	0.6	NONE	NONE	10	1,700	0.5	0.5	Yes	No	No	NA	No
8	032a	trans-1,3-Dichloropropene	µg/L	Available Data <DL	0.6	NONE	NONE	10	1,700	0.5	0.5	Yes	No	No	NA	No
8	033	Ethylbenzene	µg/L	Available Data <DL	0.6	NONE	NONE	3,100	29,000	700	700	Yes	No	No	NA	No
8	034	Bromomethane	µg/L	Available Data <DL	0.6	NONE	NONE	48	4,000	NONE	4,000	Yes	No	No	NA	No
8	035	Chloromethane (Methyl Chloride)	µg/L	Available Data <DL	0.6	NONE	NONE	Narrative	Narrative	NONE	NONE	Yes	No	NA	NA	NA
8	036	Methylene chloride	µg/L	Available Data <DL	0.6	NONE	NONE	4.7	1,600	NONE	1,600	Yes	No	No	NA	No
8	037	1,1,2,2-Tetrachloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.17	11	1	1	Yes	No	No	NA	No
8	038	Tetrachloroethene	µg/L	Available Data <DL	0.6	NONE	NONE	0.8	8.85	5	5	Yes	No	No	NA	No
8	039	Toluene	µg/L	Available Data <DL	0.6	NONE	NONE	6,800	200,000	150	150	Yes	No	No	NA	No
8	040	trans-1,2-Dichloroethene	µg/L	Available Data <DL	0.6	NONE	NONE	700	140,000	10	10	Yes	No	No	NA	No
8	041	1,1,1-Trichloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	Narrative	Narrative	200	200	Yes	No	No	NA	No
8	042	1,1,2-trichloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.6	42	5	5	Yes	No	No	NA	No
8	043	Trichloroethene	µg/L	Available Data <DL	0.6	NONE	NONE	2.7	81	5	5	Yes	No	No	NA	No
8	044	Vinyl chloride	µg/L	Available Data <DL	0.6	NONE	NONE	2	525	0.5	0.5	Yes	No	No	NA	No
8	045	2-chlorophenol	µg/L	Available Data <DL	0.6	NONE	NONE	120	400	NONE	400	Yes	No	No	NA	No
8	046	2,4-Dichlorophenol	µg/L	Available Data <DL	0.6	NONE	NONE	93	790	NONE	790	Yes	No	No	NA	No
8	047	2,4-dimethylphenol	µg/L	Available Data <DL	0.6	NONE	NONE	540	2,300	NONE	2,300	Yes	No	No	NA	No
8	048	2-Methyl-4,6-dinitrophenol	µg/L	Available Data <DL	0.6	NONE	NONE	13.4	765	NONE	765	Yes	No	No	NA	No
8	049	2,4-dinitrophenol	µg/L	Available Data <DL	0.6	NONE	NONE	70	14,000	NONE	14,000	Yes	No	No	NA	No
8	050	2-nitrophenol	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
8	051	4-nitrophenol	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
8	052	4-Chloro-3-methylphenol	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
8	053	Pentachlorophenol	µg/L	Available Data <DL	0.6	pH dependent	pH dependent	0.28	8.2	1	1	Yes	No	No	NA	No
8	054	Phenol	µg/L	Available Data <DL	0.6	NONE	NONE	21,000	4,600,000	NONE	4,600,000	Yes	No	No	NA	No
8	055	2,4,6-Trichlorophenol	µg/L	Available Data <DL	0.6	NONE	NONE	2.1	6.5	NONE	6.5	Yes	No	No	NA	No
8	056	Acenaphthene	µg/L	Available Data <DL	0.6	NONE	NONE	1,200	2,700	NONE	2,700	Yes	No	No	NA	No
8	057	Acenaphthylene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
8	058	Anthracene	µg/L	Available Data <DL	0.6	NONE	NONE	9,600	110,000	NONE	110,000	Yes	No	No	NA	No

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

TABLE F-4
REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALL 008)

FOURTH QUARTER 2021
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	Title 22 GWR						
8	059	Benzidine	µg/L	Available Data <DL	0.6	NONE	NONE	0.00012	0.00054	NONE	0.00054	Yes	No	Yes	2.4	NA‡
8	060	Benzo(a)Anthracene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.074	NA‡
8	061	Benzo(a)Pyrene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	0.2	0.049	Yes	No	Yes	0.077	NA‡
8	062	Benzo(b)Fluoranthene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.11	NA‡
8	063	Benzo(g,h,i)Perylene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
8	064	Benzo(k)Fluoranthene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.082	NA‡
8	065	Bis(2-Chloroethoxy) methane	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
8	066	bis (2-Chloroethyl) ether	µg/L	Available Data <DL	0.6	NONE	NONE	0.031	1.4	NONE	1.4	Yes	No	No	NA	No
8	067	Bis(2-Chloroisopropyl) Ether	µg/L	Available Data <DL	0.6	NONE	NONE	1,400	170,000	NONE	170,000	Yes	No	No	NA	No
8	068	bis (2-ethylhexyl) Phthalate	µg/L	Available Data <DL	0.6	NONE	NONE	1.8	5.9	4	4	Yes	No	No	NA	No
8	069	4-Bromophenylphenylether	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
8	070	Butylbenzylphthalate	µg/L	Available Data <DL	0.6	NONE	NONE	3,000	5,200	NONE	5,200	Yes	No	No	NA	No
8	071	2-Chloronaphthalene	µg/L	Available Data <DL	0.6	NONE	NONE	1,700	4,300	NONE	4,300	Yes	No	No	NA	No
8	072	4-Chlorophenylphenylether	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
8	073	Chrysene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.061	NA‡
8	074	Dibenzo(a,h)Anthracene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.15	NA‡
8	075	1,2-Dichlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	2,700	17,000	600	600	Yes	No	No	NA	No
8	076	1,3-Dichlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	400	2,600	NONE	2,600	Yes	No	No	NA	No
8	077	1,4-Dichlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	400	2,600	5	5	Yes	No	No	NA	No
8	078	3,3'-Dichlorobenzidine	µg/L	Available Data <DL	0.6	NONE	NONE	0.04	0.077	NONE	0.077	Yes	No	Yes	1.7	NA‡
8	079	Diethyl phthalate	µg/L	Available Data <DL	0.6	NONE	NONE	23,000	120,000	NONE	120,000	Yes	No	No	NA	No
8	080	Dimethylphthalate	µg/L	Available Data <DL	0.6	NONE	NONE	313,000	2,900,000	NONE	2,900,000	Yes	No	No	NA	No
8	081	Di-n-butylphthalate	µg/L	Available Data <DL	0.6	NONE	NONE	2,700	12,000	NONE	12,000	Yes	No	No	NA	No
8	082	2,4-Dinitrotoluene	µg/L	Available Data <DL	0.6	NONE	NONE	0.11	9.1	NONE	9.1	Yes	No	No	NA	No
8	083	2,6-Dinitrotoluene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
8	084	Di-n-octylphthalate	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
8	085	1,2-Diphenylhydrazine	µg/L	Available Data <DL	0.6	NONE	NONE	0.04	0.54	NONE	0.54	Yes	No	No	NA	No
8	086	Fluoranthene	µg/L	Available Data <DL	0.6	NONE	NONE	300	370	NONE	370	Yes	No	No	NA	No
8	087	Fluorene	µg/L	Available Data <DL	0.6	NONE	NONE	1,300	14,000	NONE	14,000	Yes	No	No	NA	No
8	088	Hexachlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	0.00075	0.00077	1	0.00077	Yes	No	Yes	0.1	NA‡
8	089	Hexachlorobutadiene	µg/L	Available Data <DL	0.6	NONE	NONE	0.44	50	NONE	50	Yes	No	No	NA	No
8	090	Hexachlorocyclopentadiene	µg/L	Available Data <DL	0.6	NONE	NONE	240	17,000	50	50	Yes	No	No	NA	No
8	091	Hexachloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	1.9	8.9	NONE	8.9	Yes	No	No	NA	No
8	092	Indeno(1,2,3-cd)Pyrene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.13	NA‡
8	093	Isophorone	µg/L	Available Data <DL	0.6	NONE	NONE	8.4	600	NONE	600	Yes	No	No	NA	No
8	094	Naphthalene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
8	095	Nitrobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	17	1,900	NONE	1,900	Yes	No	No	NA	No
8	096	N-Nitrosodimethylamine	µg/L	Available Data <DL	0.6	NONE	NONE	0.00069	8.1	NONE	8.1	Yes	No	No	NA	No
8	097	n-Nitroso-di-n-propylamine	µg/L	Available Data <DL	0.6	NONE	NONE	0.005	1.4	NONE	1.4	Yes	No	No	NA	No
8	098	N-Nitrosodiphenylamine	µg/L	Available Data <DL	0.6	NONE	NONE	5	16	NONE	16	Yes	No	No	NA	No
8	099	Phenanthrene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
8	100	Pyrene	µg/L	Available Data <DL	0.6	NONE	NONE	960	11,000	NONE	11,000	Yes	No	No	NA	No
8	101	1,2,4-Trichlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	70	70	Yes	No	No	NA	No
8	102	Aldrin	µg/L	Available Data <DL	0.6	3	NONE	0.00013	0.00014	NONE	0.00014	Yes	No	Yes	0.0007	NA‡
8	103	alpha-BHC	µg/L	Available Data <DL	0.6	NONE	NONE	0.0039	0.013	NONE	0.013	Yes	No	No	NA	No
8	104	beta-BHC	µg/L	Available Data <DL	0.6	NONE	NONE	0.014	0.046	NONE	0.046	Yes	No	No	NA	No
8	105	gamma-BHC (Lindane)	µg/L	Available Data <DL	0.6	0.95	NONE	0.019	0.063	0.2	0.063	Yes	No	No	NA	No
8	106	delta-BHC	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	NA	NA	NA
8	107	Chlordane	µg/L	Available Data <DL	0.6	2.4	0.0043	0.00057	0.00059	0.1	0.00059	Yes	No	Yes	0.0065	NA‡

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

TABLE F-4
REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALL 008)

FOURTH QUARTER 2021
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	Title 22 GWR						
8	108	4,4'-DDT	µg/L	Available Data <DL	0.6	1.1	0.001	0.00059	0.00059	NONE	0.00059	Yes	No	Yes	0.0016	NA‡
8	109	4,4'-DDE	µg/L	Available Data <DL	0.6	NONE	NONE	0.00059	0.00059	NONE	0.00059	Yes	No	No	NA	No
8	110	4,4'-DDD	µg/L	Available Data <DL	0.6	NONE	NONE	0.00083	0.00084	NONE	0.00084	Yes	No	No	NA	No
8	111	Dieldrin	µg/L	Available Data <DL	0.6	0.24	0.056	0.00014	0.00014	NONE	0.00014	Yes	No	Yes	0.0005	NA‡
8	112	Endosulfan I	µg/L	Available Data <DL	0.6	0.22	0.056	110	240	NONE	0.056	Yes	No	No	NA	No
8	113	Endosulfan II	µg/L	Available Data <DL	0.6	0.22	0.056	110	240	NONE	0.056	Yes	No	No	NA	No
8	114	Endosulfan Sulfate	µg/L	Available Data <DL	0.6	NONE	NONE	110	240	NONE	240	Yes	No	No	NA	No
8	115	Endrin	µg/L	Available Data <DL	0.6	0.086	0.036	0.76	0.81	2	0.036	Yes	No	No	NA	No
8	116	Endrin Aldehyde	µg/L	Available Data <DL	0.6	NONE	NONE	0.76	0.81	NONE	0.81	Yes	No	No	NA	No
8	117	Heptachlor	µg/L	Available Data <DL	0.6	0.52	0.0038	0.00021	0.00021	0.01	0.00021	Yes	No	Yes	0.0007	NA‡
8	118	Heptachlor Epoxide	µg/L	Available Data <DL	0.6	0.52	0.0038	0.0001	0.00011	0.01	0.00011	Yes	No	Yes	0.0004	NA‡
8	119	Aroclor-1016	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.044	NA‡
8	120	Aroclor-1221	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.044	NA‡
8	121	Aroclor-1232	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.044	NA‡
8	122	Aroclor-1242	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.044	NA‡
8	123	Aroclor-1248	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.044	NA‡
8	124	Aroclor-1254	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.052	NA‡
8	125	Aroclor-1260	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.052	NA‡
8	126	Toxaphene	µg/L	Available Data <DL	0.6	0.73	0.0002	0.00073	0.00075	3	0.0002	Yes	No	Yes	0.013	NA‡
8	127	E. Coli	MPN/100ml	3.1	0.6	NA	NA	NA	NA	235	235	Yes	Yes	NA	NA	No

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

TABLE F-5
REASONABLE POTENTIAL ANALYSIS - NONPRIORITY POLLUTANTS (OUTFALL 008)

FOURTH QUARTER 2021
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
8	Total Suspended Solids	Discharge	mg/L	1	5.7	0.60	13.20	75.22	0	0	75.22	45	BU

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

APPENDIX G

Fourth Quarter 2021 Receiving Water Surveys

APPENDIX G

TABLE OF CONTENTS

Table G - Fourth Quarter 2021 Receiving Water Surveys

TABLE G
RECEIVING WATER SURVEYS

FOURTH QUARTER 2021
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

October 1 through December 31, 2021

Observation Requirements: Observations are only made during discharge on a monthly basis when Outfall 002 (Bell Creek), Outfall 008 (Dayton Creek), and Outfall 009 (Arroyo Simi) are flowing. Outfalls 002, 008, and 009 discharged in December during the Fourth Quarter 2021.

FOURTH QUARTER 2021 ARROYO SIMI OBSERVATIONS AT ARROYO SIMI			
ARROYO SIMI OBSERVATIONS	**OCTOBER**	**NOVEMBER**	**DECEMBER**
Date and time of inspection	N/A	N/A	12/16/2021, 0700
Weather conditions	N/A	N/A	Cold, clear, no breeze, 37°F
Color of water	N/A	N/A	Pale brown
Appearance of oil films or grease, or floatable materials	N/A	N/A	Minor amounts of plastic and paper trash, foam
Extent of visible turbidity or color patches	N/A	N/A	Uniform, opaque
Description of odor, if any	N/A	N/A	None
Presence or activity of California Least Tern or California Brown Pelican	N/A	N/A	No
Upstream Surface Water Temperature*	N/A	N/A	No flow at upstream location
Upstream Surface Water pH*	N/A	N/A	No flow at upstream location

Notes:
N/A = not applicable. Since Outfall 009 did not flow during the months of October and November, no monthly inspection was required at Arroyo Simi.
* = These data are collected to assist in determining compliance with receiving water limitations during the quarterly sampling. When upstream flow is present, upstream data are compared to the pH and temperature measured at Arroyo Simi sample location RSW-002 (Appendix C) to determine if sample location readings are within 0.5 pH unit and 5°F of the upstream field readings. No flow was present at the upstream location on the day of Arroyo Simi sampling.

FOURTH QUARTER 2021 BELL CREEK OBSERVATIONS AT OUTFALL 002			
BELL CREEK OBSERVATIONS	**OCTOBER**	**NOVEMBER**	**DECEMBER**
Date and time of inspection	N/A	N/A	12/24/2021, 0910
Weather conditions	N/A	N/A	Rainy, cold, 47°F
Color of water	N/A	N/A	Brown
Appearance of oil films or grease, or floatable materials	N/A	N/A	Bubbles
Extent of visible turbidity or color patches	N/A	N/A	Uniform, opaque
Description of odor, if any	N/A	N/A	None
Presence or activity of California Least Tern or California Brown Pelican	N/A	N/A	No

Notes:
N/A = not applicable. Since Outfall 002 did not flow during the months of October and November, no monthly inspection was required at Outfall 002.

FOURTH QUARTER 2021 DAYTON CANYON CREEK OBSERVATIONS AT OUTFALL 008			
DAYTON CANYON CREEK OBSERVATIONS	**OCTOBER**	**NOVEMBER**	**DECEMBER**
Date and time of inspection	N/A	N/A	12/24/2021, 1030
Weather conditions	N/A	N/A	Drizzling, cold, slight breeze, 49°F
Color of water	N/A	N/A	Pale brown
Appearance of oil films or grease, or floatable materials	N/A	N/A	None
Extent of visible turbidity or color patches	N/A	N/A	Uniform translucent
Description of odor, if any	N/A	N/A	None
Presence or activity of California Least Tern or California Brown Pelican	N/A	N/A	No

Notes:
N/A = not applicable. Since Outfall 008 did not flow during the months of October and November, no monthly inspection was required at Outfall 008.